

Reflection and the art of coaching: fostering high-performance in Olympic Ski Cross

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In preparation for the 2010 Vancouver Winter Olympic Games, the lead author engaged in systematic reflection in an attempt to implement coaching behaviours and create practice environments that promoted athlete development (psycho-social and physical performance). The research was carried out in relation to his work as head Ski Cross coach working with (primarily) three athletes in their quest for Olympic qualification and subsequent performance success in the Olympic Games. This project sought to examine coach-athlete interactions. Of particular interest were coach and athlete responses regarding the implementation of autonomy supportive coaching behaviours in a high context. Autonomy supportive coaching behaviours have previously been strongly associated with positive athlete psycho-social and performance outcomes, however, a paucity of research has examined its implementation in high-performance contexts. Through the use of participant ethnography, it was possible to gain considerable insights regarding athletes' perceptions of choice, implications of perceived athletic hierarchies, as well as cultural and experience-related influences on training and performance expectations.

Keywords: sport; ethnography; Winter Olympics; reflective practice; athlete

Introduction

High-performance sports coaching such as that associated with the Olympic Games involves the highest levels of athlete and coach involvement, public performance objectives, intensive commitment to the development and implementation of programmes, highly structured and formalised competitions, typically full-time work, heavy emphasis on decision making and data management, extensive interpersonal contact, and very demanding and restrictive athlete selection criteria (Lyle, 2002; Rynne, Mallett, & Tinning, 2010; Trudel & Gilbert, 2006). Coaches undertake this complex work in an attempt to foster the improved or sustained performance of their athletes towards identified goals such as high quality performance at an Olympic Games. This paper examines the journey leading into the Olympic Games of one high-performance coach pursuing excellence in practice. The high-performance coaching work discussed in this paper relates specifically to the Olympic sport of Ski Cross.

Ski Cross involves head-to-head racing in heats of between four to six competitors, on an undulating, downhill course incorporating rolls, jumps, dips and berms. The discipline requires traditional downhill alpine ski racing technical skills and in addition, combines terrain park and big air-type challenges, mixed in with the unique, direct competition element of racing to a 'first past the post' style finish. The Vancouver 2010 Winter Olympics was the event's Olympic debut.

Because of the somewhat related coaching and athletic requirements, the majority of the current field of Ski Cross competitors and coaches at the Olympic level have come from downhill alpine ski racing. A major issue, however, is that there are several elements of Ski Cross that are unique to the discipline (e.g. group racing, the Ski Cross start gate and a variety of course features). Furthermore, performance on these unique elements impacts upon overall performance (i.e. these elements are crucial for achieving strong outcomes). For this reason, having a back-ground as an alpine coach (or athlete), while useful, may not be sufficient in developing specific coach knowledge and skills. Consequently, coaches that transfer from the alpine disciplines have probably evolved their practice through more informal learning opportunities (Mallett, Trudel, Lyle, & Rynne, 2009).

This serendipitous and pragmatically driven approach to coach development is similar to the broader high-performance coaching context in that, despite agreement regarding the critical role of the coach in supporting and directing elite performance (see e.g. Gilbert, Côté, & Mallett, 2006; Starkes & Ericsson, 2003), in most sports and in most countries there is an absence of clear developmental pathways for high-performance coaches. So how do coaches continue to develop their craft and foster the improved performances of their athletes? Previous research has consistently shown that coaches learn through practical coaching experiences (i.e. learning in and through their coaching work) (Gilbert & Trudel, 2001; Rynne, et al., 2010). Further to this, reflection has been positioned as a key mechanism by which 'learning through experience' might be conceptualised (Cushion, Armour, & Jones, 2003; Gilbert & Trudel, 2005). To this point, no research has considered the rapidly evolving context of Ski Cross coaching.

Ski Cross athletes are required to adapt and perform 'on the run' to be successful in the dynamic environment of each competition. The more capable athletes are of directing and contributing to their own development, the more likely they will be to operate effectively on the field in practice and in successful performance outcomes during competition (Amiot, Gaudreau, & Blanchard, 2004; Beauchamp, Halliwell, Fournier, & Koestner, 1996; Kidman, 2005; Mallett & Hanrahan, 2004). For this reason, a personal orientation toward an organismic view of human development (Self-determination theory; Deci & Ryan, 1985) and the central role of others were central to the conceptualisation of this study.

Self-Determination Theory

Self-Determination Theory is a multidimensional social-cognitive theory of human motivation, behaviour, development and wellness (Deci & Ryan, 2008) that evolved from the belief that humans have innate tendencies to pursue personal growth in the development of a congruent, unified self (Chatzisarantis & Hagger, 2007). This self, moreover, operates largely through autonomous, responsible behaviour. Self-Determination Theory preferences the influence of innate organismic tendencies (Deci & Ryan, 2002) in our interactions with the social world with regard to impacts on personality. The SDT concept does not deny the contextual environment with regard to its impact on an individual's psychological growth and subjective well-being (Blanchard, Amiot, Perrault, Vallerand, & Provencher, 2009). Rather, it incorporates this notion of influence to explain the "broad array of developmental outcomes" that occur (Deci & Ryan, 2002, p. 5).

While the natural, innate and constructive tendencies for inner organisation, holistic self-regulation (autonomy), and integration of oneself with others (homonomy) are key concepts behind the self-determination framework, they are by no means taken for granted as guaranteed outcomes. There are clear social-contextual factors that support or thwart these tendencies. The above factors lead to the conclusion that psychological growth is "a dynamic potential that requires nurturing" (Deci & Ryan, 2002, p. 6).

These innate components of SDT are categorised as three basic and universal human needs: autonomy, competence and relatedness. It is argued that humans will pursue these needs consciously or unconsciously (Deci & Ryan, 1985). The universality of these three basic psychological needs is demonstrated through their existence in all development stages and across cultures. They are said to be "nutriments" to psychological health and well-being (Deci & Ryan, 2002, p. 76). The satisfaction of the three universal psychological needs – autonomy, competence and relatedness – promotes personal growth. Alternatively, if these needs are not satisfied personal growth will be inhibited (Deci & Ryan, 1985). Although conceptually interrelated, each of the basic needs may be considered independently.

Autonomy reflects the need to be the origin of one's own behaviour (deCharms, 1968), to have volition, choice, self-directedness (Deci & Ryan, 1985), and be agentic (McDonough & Crocker, 2007). Behaviour becomes an expression of the self, even if other outside influences have some effect (Deci & Ryan, 2002). Competence can be defined as the need to feel as if one is acting effectively within the environment in order to produce desired outcomes and prevent undesired ones (Blanchard et al., 2009; Deci & Ryan, 1985; Hollembeak & Amorose, 2005; White, 1959). Competence involves not only the attainment of skill or capacity but also "the sense of confidence and effectance in action" (Deci & Ryan, 2002, p. 7). Relatedness is the degree to which we feel connected to those significant others around us (Deci & Ryan, 1985; Hollembeak & Amorose, 2005; Vallerand & Ratelle, 2002). It is a state of mutual caring, authenticity and involvement in the social context in which we find/place ourselves (Hodge, Lonsdale, & Ng, 2008; McDonough & Crocker, 2007). These basic psychological needs provide an

essential link between various goals and outcomes and the basis on which we organise our behaviours in order to achieve them; this being motivation.

SDT in sport

In the sport setting, motivation is considered an integral factor regarding initiation, participation, persistence, dropout, burnout, enjoyment, attitude, effort and performance (Weiss & Amorose, 2008). The type of motivation (self-determined versus non-self-determined) one experiences has important consequences for learning and perceptions of experience, and is more likely to effect outcomes and achievements. These last being particularly relevant in a high-performance sporting context (Duda & Treasure, 2001). Several studies have examined the mediating effects of the psychological needs of autonomy and competence on social contextual variables (e.g. coach behaviours) and, in turn, on different forms of motivation and related out- comes (Hollembek & Amorose, 2005; Ntoumanis, 2001). In particular, the behaviours of coaches have been examined with regard to the impact on the athletes under their guidance. Coaching behaviours encompass areas of practice, training structures and operations. They also include game structures, how decisions are made and communicated, the quality and quantity of feedback, how relationships are established and maintained, and what techniques are used to motivate and encourage (Harwood, Spray, & Keegan, 2008; Hollembek & Amorose, 2005; Mageau & Vallerand, 2003, Smoll & Smith, 2002).

Autonomy-supportive coaching behaviours have been found to have particularly beneficial impacts on the participation, enjoyment, persistence and subsequent performance of athletes in a variety of sports settings that include rugby (Ahlberg, Mallett, & Tinning, 2008), golf (Beauchamp et al., 1996), track and field (Mallett, 2005; Mallett & Hanrahan, 2004), and judo (Gillet, Vallerand, Amoura, & Baldes, 2010) amongst others (Amiot et al., 2004; Kidman, 2005). Coaches' (pedagogical) behaviours that foster satisfaction of the three psychological needs are considered to be autonomy-supportive rather than controlling (Mageau & Vallerand, 2003). This focus on autonomy-supportive behaviours and their adaptive influence on athletes have important implications for coaches in the field and suggests some practical areas for future interventions designed to better facilitate optimal functioning of athletes (Gagné, Ryan, & Bargmann, 2003; Reinboth & Duda, 2006; Vansteenkiste et al., 2004). To this point, however, there has been a relative lack of studies examining the use of an autonomy-supportive coaching approach in high-performance sporting environments.

High-performance sport can be generally considered as involving athletes and coaches who are members of a national squad or team, have represented their country at an international level, and/or those who perform at the highest level of their chosen sport (Thelwell, Weston, Greenlees & Hutchins, 2008). High-performance sporting environments' participants form a very small segment of the athletic population. The specific environments many experience are characterised by "extreme training loads, injuries, solitude, competition schedules

and travel demands ... [that] make the lifestyle extremely arduous and define the social conditions of the context" (Treasure, Lemyre, Kuczka, & Standage, 2007, p. 154). This means that the impacts and effects these particular contexts have may differ considerably based on the levels of self-determined motivation and perceived needs satisfaction. The combination of motivational orientations and levels of integration and identification may have more relevance in high-performance sport than has been seen in other contexts (Treasure et al., 2007).

Despite some limited research, further investigations in high-performance sports coaching contexts is underscored, especially given the oft-prevailing conditions and culture of high-performance sport and its emphasis on successful performance outcomes and subsequent external rewards (Amiot et al., 2004). Those concepts are seemingly at odds with the overall tenets of SDT and other motivational theories that have been well supported across varied domains. The potential impact of autonomy-supportive coaching behaviours in this highly contested performance environment on the nature of coach-athlete interactions was a key factor considered in this study. Specifically, a coach's personal orientation towards an autonomy-supportive approach to coaching was considered interdependent with athletes' preferences for this approach and subsequent adaptive psycho-social (e.g. improved self-esteem) and performance (e.g. faster times) outcomes.

Participant ethnography

The key purpose of this research was to examine a strategic approach to improving professional practice. A deliberate strategy of 'extended professionalism' (Stenhouse, 1975) was the means chosen to determine the effectiveness and desirability of the autonomy-supportive coaching approach. Extended professionalism has been characterised by: a commitment to a systematic self-study (in coaching); the need to acquire skills adequate to participate in that study process; and the willingness to test ideas of theory in practice through the use of those skills, as a basis for autonomous, professional development (Stenhouse, 1975). Participant ethnography was seen as an appropriate methodological choice in the application of this notion of extended professionalism.

Participant ethnography originated from anthropology and the ethnographic approach to the study of human cultures and the place they occupy in human affairs (Chambers, 2000; Kelley & Gibbons, 2008). Influenced by the work of Malinowski, Radcliffe-Brown, and the Chicago School of Sociology it is a process that combines various methods of research inquiry with characteristics including holism, contextuality, reflexivity, lengthy and sustained engagement, a naturalistic inquiry, and an expression of multiple meanings and perspectives (Barton, 2008; Sands, 2002). Along with more traditional forms of ethnography, participant ethnography has been found to have value in a number of applied settings. In sport, it can provide for an in-depth examination and understanding of the complexities of sport-related behaviour in context (e.g. Jones, 2009).

Participant ethnography was appropriate for the context of this research project, as it applies where the participant and practitioner are one and the same, and where the principal researcher is already an established member of the proposed sample group. Notwithstanding the criticisms that such an 'insider' approach can engender (Chambers, 2000), a key feature of value for this study was the focus on practical change and improvement, rather than description and evocation (Barton, 2008).

Method

Participants

The lead author and his practices and behaviours as a coach for a national sporting institute programme were the focus of this participant ethnographic study. The lead author's past athletic experiences and experiences as a coach in the traditional alpine ski racing environment for 17 years helped develop and inform a personal orientation toward the tenets of SDT. This interest was further strengthened from personal experience attempting to implement a more autonomy-supportive approach to coaching behaviours in previous roles and contexts (from club, through state, and into national/international level sporting environments) over a period of six years.

Integral to the unique coach-athlete environment in this study and a central component of participant data sources, were three athletes of differing ages, genders, sporting experience and performance levels. One athlete was a multiple representative at the international level, including at a previous Olympic Games (albeit in another skiing discipline). Another athlete had been a promising junior level alpine athlete with a number of representative team selections to their name, and the third athlete had been a skilled child-athlete but had moved away from the alpine disciplines and sport in general prior to accepting a position with the Ski Cross national programme. All had experienced varied coaching approaches over the years, however, the majority of the experiences were of coaching that was typically controlling in nature. The three athletes had been involved in a coach-athlete relationship with the lead author, ranging from periods between eight months to eight years.

This participant ethnographic study was based on the premise that a self-reflective approach would guide any increase in awareness and improvement in subsequent practice (Grimmett & Erickson, 1988). The major research questions for this study related to (1) whether an autonomy-supportive approach was being implemented effectively by the head coach; (2) whether the approach was in accordance with what the athletes themselves perceived they needed in order to improve and perform optimally; and (3) whether there were some observable perceived benefits in training and performance outcomes for the athletes.

In addressing these questions, multiple data collection methods were used to inform the reflective practice of the head coach over the course of the lead-in to and eventual competition in, the Olympic Games. A combination of reflective coaching journal entries (27 entries), audio recordings of coach-athlete

interactions in situ (53 recordings), questionnaires (four), and direct written athlete responses to events and circumstances as they unfolded (e.g. four emails, two letters, six training reflection forms) were collected and collated. These multiple data forms were then used to inform the design and conduct of semi-structured interviews with each of the three high-performance athletes involved.

Semi-structured interviews

The narrative interview is the most common method of qualitative data collection (Gubrium & Holstein, 1995; Sands, 2002). The inclusion of semi-structured interviews in this project was to allow for an exploration of issues that were identified in various forms throughout the course of the examined training and competition period. In addition, the semi-structured interviews provided an opportunity to delve more deeply into the notion of athlete perceptions of coaching behaviours, in relation to individual expectations and perceived needs.

As part of the conduct of these semi-structured interviews, direct audio excerpts from various coach-athlete interactions were replayed during the course of the interview to the athletes. These audio excerpts would likely assist in eliciting a more accurately remembered experience of events and circumstances and was in line with the concept of stimulated recall, used extensively and successfully in other research domains (e.g. Bloom, 1954; Lyle, 2003). Prompts to elicit clarification and elaboration were used throughout the semi-structured interviews (Patton, 2002; Wengraf, 2004).

The recordings of the interviews were then transcribed by a professional transcription service. A sound checking review of both transcriptions and the audio recordings was then undertaken to ensure the accuracy of the written format.

Data analysis

Data analyses were conducted through both a 'template approach' whereby categories are applied based on prior research and theory, and an 'editing approach' that was in keeping with the grounded theory concept (DiCicco-Bloom & Crabtree, 2006). These two approaches to analysis were combined for this research project in a form of content analysis (Elo & Kyngäs, 2008). This dual method application maintained the balance between the inductivist and deductivist methodologies described by Weber (1990) and allowed for a "units of analysis" format (Wengraf, 2004, p. 214). These units of analysis were consolidated into key findings, largely determined by information elicited from the other data collection methods used in the study, the SDT concepts of Deci and Ryan (2000), and the key research questions that formed the basis for the project from the outset. In a form of triangular consensus, each of the original interview recordings were provided to outside researchers, not associated with the project, who then detailed their own interpretations and insights. These were then compared and contrasted with the chief investigator's insights. This presented the possibility of uncovering previously un-discovered themes or emphasis that might be present in the responses of participants, while at the same time maintaining

focus on the main research questions (Elo & Kyngäs, 2008). Agreement was subsequently reached regarding key findings.

Results and discussion

Five key findings emerged from the content analysis of the data:

- (1) The presence of autonomy-supportive (AS) coaching behaviours within and throughout the specific sporting context examined was evident.
- (2) There was agreement, between the perceptions of both coach and athletes, as to whether those behaviours occurred and whether they were considered desirable – with some notable exceptions.
- (3) The distinction between control and choice in relation to coach-athlete interactions warrants further elaboration.
- (4) There were changes in the nature of coach-athlete interactions that can perhaps best be characterised as ‘shifts along the continuum’ between autonomy-supportive and controlling coaching behaviours.
- (5) The relative importance of the psychological need of relatedness within this particular context emerged quite strongly from the data.

For the primary purpose of this paper, only the first two findings will be discussed in detail. The reflective focus of the study warrants particular attention to the first two themes because the presence or otherwise of an autonomy-supportive approach, and the congruence of that approach with the perceived requirements of the athletes involved, were the central questions in the conduct of the work under investigation (the coaching behaviours and practices), and in the formulation of the study itself. The latter findings, while undoubtedly providing valuable nuances to the main questions, are less relevant in this instance.

Before proceeding, it should be noted that in order to take advantage of the ‘enhanced’ nature of this special issue, excerpts from the dataset are presented below in the form of short video ‘links’. The aim of presenting the information in this way is to give ‘voice’ to the participant(s) in this study.

Evidence of autonomy-supportive (AS) coaching behaviours

There was strong evidence of AS coaching behaviours as perceived by the coach and the Ski Cross athletes. Specifically, the (pedagogical) autonomy-supportive behaviours, which were consistent with those espoused by Mageau and Vallerand (2003) included: (1) the provision of choice in training and other areas of impact; (2) the provision of rationales for decision making to the athletes; (3) acknowledgment of athletes’ feelings and perspectives; and (4) there was limited evidence of the coach as sole decision maker, or having a unidirectional dissemination of information. In addition, the value in providing competence-based (as opposed to performance-based), task and mastery feedback (Allen & Hodge, 2006) within the high- performance sporting environment was evident. This was despite the emphasis of that high-performance environment on external goals and outcomes that potentially conflict with the task and mastery approaches to coaching.

Specifically acknowledged by all was the value of the general conversational nature of exchanges and the development and allowance for independence in the learning process: as a means of personal accountability, as a recognition and acknowledgment of experience, and as a required element of personal growth. These were present in relation to the direct, task-oriented, skill development components of coach-athlete exchanges.

Link 1: full video available online at [\[http://dx.doi.org/10.1080/14623943.2012.670629\]](http://dx.doi.org/10.1080/14623943.2012.670629)

The AS behaviours were also reported to be present in the less motor-skill based, athlete support components (planning, scheduling, resource allocation) of the role:

Link 2: full video available online at [\[http://dx.doi.org/10.1080/14623943.2012.670629\]](http://dx.doi.org/10.1080/14623943.2012.670629).

Some of the perceived benefits of this AS approach were also supported in athlete responses. The approach provided for increased understanding:

Link 3: full video available online at [\[http://dx.doi.org/10.1080/14623943.2012.670629\]](http://dx.doi.org/10.1080/14623943.2012.670629).

For perceived increases in performance:

Link 4: full video available online at [\[http://dx.doi.org/10.1080/14623943.2012.670629\]](http://dx.doi.org/10.1080/14623943.2012.670629).

For an allowance for personal growth:

Link 5: full video available online at [\[http://dx.doi.org/10.1080/14623943.2012.670629\]](http://dx.doi.org/10.1080/14623943.2012.670629).

For greater self-efficacy and confidence:

Link 6: full video available online at [\[http://dx.doi.org/10.1080/14623943.2012.670629\]](http://dx.doi.org/10.1080/14623943.2012.670629).

These perceived benefits of the AS coaching approach aligned with those put forward by Amorose (2007) with regard to areas of learning, persistence, enjoyment, and competence in self-determined activities. In addition, these behaviours also provided opportunities for athletes to perceive themselves as being valued members of the group that, in turn, reflected some of the importance of the psychological need of relatedness (SDT; Deci & Ryan, 1985) being partially satisfied through their Ski Cross participation.

Link 7: full video available online at [\[http://dl.dropbox.com/u/33001066/Link%207.mov\]](http://dl.dropbox.com/u/33001066/Link%207.mov).

The provision and focus on a competence-based, task/mastery approach to coaching was valued in developing athletes' performances, which is consistent with the findings by Allen and Hodge (2006). It was particularly interesting given that the external expectations of the high-performance sporting environment were very much acknowledged as being present by athletes and were largely considered appropriate given the context in which they were operating.

Link 8: full video available online at [\[http://dx.doi.org/10.1080/14623943.2012.670629\]](http://dx.doi.org/10.1080/14623943.2012.670629).

This acceptance, in part however, seemed to be less in relation to the outcome measures themselves, or the requirement of them by the sporting context in which they operated, but more to the fact that they saw themselves as striving for similar external goals from a primarily internally motivated perspective. The alignment of these personal aims with the institutional or organisational expectations may have had a good deal of influence over the observed levels of integrated and identified regulation (Vallerand, 1997). In some respects, the athletes took ownership over those outcome expectations by dismissing the institutional requirements as being largely irrelevant and ensuring that the personal ones held greater significance in their own stories. This source of motivation fits with the self-determined extrinsic motivation of activities outlined by Deci and Ryan (1985), Deci and Ryan (2000) in reflecting the degree of acceptance and internalisation of outside or extrinsic reasons for participation.

Agreement between the presence and desirability of behaviours

The data showed that both the coach and the athletes were primarily oriented towards a self-determined motivational profile and subsequently a preference for an AS approach to coaching.

Link 9: full video available online at [\[http://dx.doi.org/10.1080/14623943.2012.670629\]](http://dx.doi.org/10.1080/14623943.2012.670629).

These personal orientations and preferences for an AS approach are said to be relatively stable over time and have an impact on the type of motivational processes that determine individuals' choices and decision making, which is consistent with the Causality Orientation Theory within Deci and Ryan's (2000) SDT. There was evidence of the development, facilitation, encouragement and preference for self-determined learning and involvement:

Link 10: full video available online at [\[http://dx.doi.org/10.1080/14623943.2012.670629\]](http://dx.doi.org/10.1080/14623943.2012.670629).

There was also evidence of some influence from variables such as age, relative experience and varying degrees of perceived competence. While differences in

these variables is difficult to demonstrate from the semi-structured interview data without violating participant confidentiality, some of the following excerpts contain differences in language and perspective that can be interpreted as being indicative of some of the influence of relative experience, age and perceived competence:

Link 11: full video available online at [<http://dx.doi.org/10.1080/14623943.2012.670629>].

All of the above examples from both coach and athletes point to the presence, orientation and general preference for these types of AS behaviours in this specific context. This was important because it provided an element of external confirmation of both the presence of the elements of behaviours that had been deliberately implemented over time and some of the impact and reception these had from those considered to benefit the most from them: the athletes. If, as Lyle (2002) stated, the coaching process is an interpersonal phenomenon that is shaped by the value systems and personal characteristics of those involved in it, then it is important to have a clear understanding of what those values and personal characteristics comprise, in order to tailor approaches to best effect. These best effects impact on athlete well-being, satisfaction and development (Ahlberg et al., 2008; Duda & Treasure, 2001); they also impact on performance.

The data support the possibility, and indeed the desirability, of the implementation of autonomy-supportive coaching behaviours within high-performance sporting environment structures. In general, along with the stated benefits to learning and adaptation, overall athlete preference, and the clear support to personal growth, well-being and enjoyment, the performance results for all of the athletes involved were above expectations (injury status for one being taken into account). There is a strong case that these enhanced outcomes in the performance sporting environment over the qualification period and during the Olympic Games themselves might be attributable, at least in part, to the implementation of an autonomy-supportive coaching approach. At the very least, one could say that performances were not adversely affected by the introduction of such an approach. This was not to say that the implementation of such behaviours was not without its issues.

One example where the concept of AS behaviour and the implications for self-determined motivation became somewhat 'muddied' or problematic revolved around the congruency between coach and athlete perceptions of behaviours and their desirability. The perceptions of the presence of AS behaviours and their desirability did not always quite align and this was evidenced in an initial resistance to a more autonomy-supportive approach in coaching behaviour. The move to a more AS coaching approach placed some consequent demands on the athlete that did not always match the athlete's perceived requirements. In addition, it thwarted attempts by the athlete in their strategy of 'testing' the coach. This testing or challenging approach was used by the athlete in new and unfamiliar coach-athlete working environments and was a strategy used to help

determine both the extent of the coach's knowledge and the alignment in communication between athlete expectations and preferences and coach delivery. The thwarting of this ability to stand back, assess and test due to a request for active engagement by the coach, led to some conflict in the desirability of the presence of those types of AS behaviour.

Link 12: full video available online at [\[http://dx.doi.org/10.1080/14623943.2012.670629\]](http://dx.doi.org/10.1080/14623943.2012.670629).

There was also some evidence of a broader, more culturally (sport) based resistance to an autonomy-supportive coaching approach. This resistance was evidenced in some of the responses about what the role of a coach entailed and how it fitted with overall past experiences and consequent expectations developed through those lived-experiences; a form of cultural conditioning into the 'traditional' approach in a high-performance sporting environment.

Link 13: full video available online at [\[http://dx.doi.org/10.1080/14623943.2012.670629\]](http://dx.doi.org/10.1080/14623943.2012.670629).

Conclusion

The central aim of this research project was to examine the nature of the principal researcher's coach-athlete interactions. Based on the notion of a critical reflection of practice (Jones, 2009; Mallett, 2004; Schön, 1983), these interactions were examined within a high-performance sporting environment, with the focus on autonomy supportive coaching behaviours. A secondary consideration became how an autonomy-supportive coaching style may be problematic in its implementation, when faced with issues surrounding perceived value and worth.

The high-performance sporting environment of an Olympic qualification period and competition at the Games itself is one characterised by elevated levels of personal, organisational and cultural pressure and expectation. Related elements of scarce resource allocations, injury and associated rehabilitation issues, and medal expectations were all important considerations within the specific sporting context examined in this study. The traditional coaching approach to these types of environments and in these types of circumstances is often based around attempts at controlling all possible variables.

It is possible, however, as evidenced by the findings in this study, to implement a more autonomy-supportive coaching approach within the unique context of high-performance sport that can still lead to strong performances. In the specific context described here, there was a general preference and perceived value in the approach from both coach and athletes, and a consensus and recognition of its psycho-social and physical performance benefits.

Despite these benefits, it must be acknowledged that the implementation of autonomy-supportive coaching is by no means a panacea for all performance related issues in high-performance contexts. Organisational and individual

expectations and preferences can present their own complications in high-pressured Olympic environments. However, there is growing evidence of the primacy of coach-athlete interactions within the high-performance sporting context and a growing appreciation that these exchanges influence performance and psycho-social growth through the three essential human psychological needs (autonomy, competence, and relatedness).

There were a number of limiting factors regarding this study. The small sample size and the unique nature of the context means it is impossible to generalise across all high-performance sport, in all circumstances. The relatively limited timeframe of the study also presents some issues regarding more general applicability given that a longer exposure and experience with AS coaching behaviours may engender different outcomes, responses and effects. Within those restrictions and limitations, however, it must be emphasised that there is room for recognition of commonality within the uniqueness of specific contexts (Cushion, Armour, & Jones, 2006). Similarly, while there may be some perceived limitations associated with the lead researcher conducting the interviews, these are acknowledged and accepted within the broader research framework. Moreover, we contend that the reflexive processes encouraged in the literature (Jones, 2009; Mallet, 2004) and presented here, are appropriate for use in both research frameworks and in providing a useful tool for the oft-missing link in the professional development and on-going learning processes of coaches operating in high-performance contexts.

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