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RUNNING HEAD: Coach Assistance and Athlete Injury

Coach Strategies for Addressing Psychosocial Challenges During the Return to Sport From Injury

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Abstract

The purpose of this study was to examine coach strategies for addressing athletes' psychosocial challenges in returning to sport following injury rehabilitation. Qualitative interviews with eight elite coaches from the Western Australian Institute of Sport (WAIS) in Perth, Australia revealed that coaches facilitated athletes' return to sport from injury through a variety of means, but did not typically provide systematic forms of assistance. Coaches commented that the idiosyncratic nature of the injury experience meant that they needed to apply strategies consistent with athletes' particular psychosocial needs. Such strategies included: a) coordination of a "team approach" to rehabilitation; b) fostering open communication with athletes and treatment team members; c) social support; d) positive thinking and goal setting; and e) role models. Analysis of these strategies revealed that coaches attempted to address competence, autonomy and relatedness needs in facilitating athletes' return from injury. These findings suggest that self-determination theory may be a valuable approach for examining coach forms of assistance regarding athletes' return to competition following injury. Findings are discussed in regards to the extant injury literature and self-determination theory. Suggestions for future research are also presented.

Introduction

Athletes returning to sport following serious injury may commonly experience competence, autonomy and relatedness based concerns (Podlog & Eklund, 2007). Competence concerns regarding one's ability to remain uninjured (Walker, Thatcher, Lavallee & Golby, 2004), concerns over a lack of physical fitness (Andersen, 2001), or doubts over an inability to reach future performance goals (Taylor, Stone, Mullin, Ellenbecker, & Walgenbach, 2003) may be prominent. Self-presentational concerns about appearing athletically incapable, lacking in composure or being unskilled upon the return to sport further attest to the importance of competence issues among returning athletes (Podlog & Eklund, 2006; Taylor et al., 2003). In addition, pressures associated with meeting return deadlines (Bianco, 2001) suggest that autonomy needs may be relevant among returning athletes. Finally, relatedness or affiliation concerns in the form of feelings of estrangement and separation from one's teammates as well as a loss of social identity have been commonly reported (Mainwaring, 1999). Coaches play a potentially key role in assisting athletes to address these psychosocial concerns associated with a return to sport following injury. Research examining the strategies coaches use to assist athletes returning from injury is, however, surprisingly limited.

From an athlete standpoint, it has been suggested that coach assistance in setting realistic performance goals, rebuilding competitive confidence, overcoming fears of re-injury, and providing reassurance in one's performance capabilities may be highly valued during the return phase (Bianco, 2001). While some research has found athletes to be satisfied with the coach assistance they receive (Bianco, 2001), other investigations have revealed a lack of athlete satisfaction regarding the receipt of coach support. For example, Canadian national team skiers (n=10) reported a need for, and satisfaction with coach assistance (Bianco, 2001);

athletes in two other investigations however, believed their coaches were distant, insensitive to their injury, provided inappropriate or insufficient rehabilitation guidance and re-entry support, and demonstrated a lack of belief in them (Johnston & Carroll, 1998a; Udry, Gould, Bridges, & Tuffey, 1997)

The above findings indicate that athletes typically want and value coach assistance as they re-enter the competitive arena. However, discrepancies between athlete perceptions of the support needed and actually received highlight the importance of examining the coach's perceived role in supporting athletes' return to sport from injury. If coaches are not aware of the stressors associated with the return to sport following injury or do not feel it is part of their role to address such concerns, then athletes are unlikely to receive the assistance they require. Researchers have recognized that maintaining links with coaches throughout injury is vital to the success of athletes' injury rehabilitation and return to sport efforts (Bianco, 2007). Because coaches are highly involved in and have an intimate connection with athletes, they may be ideally positioned to address the psychosocial challenges associated with the return to sport phase. Moreover, as influential figures in the lives of athletes, coaches not only have ongoing contact with athletes, but may be instrumental in positively affecting athlete attitudes, beliefs, motivational levels and rehabilitation behaviours (Heil, 1993). There are therefore good reasons to examine coaches' perceived role in facilitating athletes' return to sport from injury and the specific strategies they report using in enabling such a return.

In one of the few empirical investigations examining coach perceptions of the return to sport from injury, Podlog and Eklund (2007) found that effective forms of assistance were individual training sessions, keeping athletes involved in sport, and providing emotional, tangible and informational types of social support. Although some coaches indicated that they attempted to address athletes' psychological concerns most suggested that their key role was to ensure their athletes were physically ready for re-entry into competition. Podlog and

Eklund (2007) therefore suggested that further research is needed that examines the extent to which coaches address the psychological issues associated with injured athletes and the types of assistance they offer. Furthermore, given that in previous research returning athletes have reported experiencing competence, autonomy and relatedness concerns, it is important to determine whether coach support addresses these concerns.

Ryan and Deci's (2000; 2007) self-determination theory explicitly examines the importance of satisfying individual psychological needs for competence, autonomy, and relatedness for promoting well-being, positive self-development, and self-determined behaviour in a variety of settings. Competence is characterized by a sense of proficiency or effectiveness in one's interactions with the surrounding environment (Ryan & La Gaurdia, 2000). Autonomy is characterized by an internal locus of causality and the belief that one's actions are volitional or self-authored (Ryan & La Gaurdia, 2000). Relatedness refers to a sense of connectedness or social affiliation. According to Ryan and Deci (2000), environments that satisfy the three basic needs are more likely to result in enhanced social functioning, personal well-being, and greater persistence and task involvement (Ryan & Deci, 2000; 2007). Conversely, research across numerous social settings including education (e.g., Miserando, 1996), family (e.g., Grolnick, Deci, & Ryan, 1997), health care (Williams, 2002), and work (Gagné & Deci, 2005) indicates that diminished well-being such as apathy, alienation, and irresponsibility may result when the environment thwarts need satisfaction. Based on these findings, it is likely that the effectiveness of coach support and assistance to injured athletes may rely in part on the extent to which such support addresses athletes' competence, autonomy and relatedness based concerns. Little is known however, about the types of assistance coaches offer in attempting to address returning athletes' psychosocial concerns and whether such support addresses competence, autonomy and relatedness concerns.

The purpose of this study was to examine coach strategies for addressing athletes' psychosocial challenges in the return from injury to sport phase. Given previous research highlighting competence, autonomy and relatedness concerns among returning athletes, we also sought to determine whether self-determination theory could provide a useful framework for interpreting the research findings, an issue that will be returned to in the discussion. A qualitative research design was used to achieve these aims.

Methods

Participants

The Western Australian Institute of Sport (WAIS) in Perth, Western Australia, the institute from which the sample of coaches participating in this investigation were drawn, houses a total of 20 high performance coaches. Of the 13 coaches who were in Perth and contacted at the time of data collectioneight coaches (3 females and 5 males) of different sports (see demographic details in Table 1) agreed to participate in interviews. WAIS is one of seven high performance sport institutes in Australia which employs a range of sport science professionals to develop and promote world-class athletic talent. The coaches had experience (4 months to 25 years; $M = 14.13$ years) working with senior level international competitors (e.g., Olympic and World championship athletes)) and/or national level junior development athletes (18-20 years of age). All of the coaches had experience assisting athletes through rehabilitation and the return-to-sport phase following a serious injury, although none had any formal psychosocial educational training in injury. . As in previous research, a competitive time-loss criterion of 2 months or more was used in defining an injury as "serious" (Bianco, 2001; Flint, 1998; Podlog & Eklund, 2007). Institutional Human Research Ethics Committee approval was gained for the study and allcoaches read and signed a consent sheet outlining the study aims and their rights as participants. Pseudonyms have been used to ensure participant anonymity.

Data Collection

One-on-one interviews lasting between 1 and 2 hours were tape-recorded during which the coaches were asked questions focussing on three key topics including: (1) the main challenges for injured athletes during the re-entry period (2) the strategies used to address these challenges and (3) coaches' understandings and opinions on a variety of common strategies (i.e., goal-setting, imagery, relaxation training, self-talk, and social support) used in the psychological recovery of injury (see Table 2). These strategies were selected on the basis of previous research indicating their effectiveness in performance enhancement and injury recovery contexts (e.g., Evans & Hardy, 2002; Williams, 2006). A semi-structured interview format provided sufficient flexibility to allow coaches the opportunity to answer the interview questions, while simultaneously raising novel issues or personal points of view about strategies for assisting athletes (Patton, 2002). When necessary, probe questions such as 'what do you mean by…?' or 'why is that strategy effective in…?' were used to explore specific issues in depth and to clarify points raised. The data presented in this article are primarily drawn from discussions around topic 2 because we aimed to determine the types of assistance or strategies coaches reported using to address athletes' return to sport concerns.

Data Analysis

Audio recordings of the interviews were transcribed verbatim. The first stage of analysis involved determining coach strategies for addressing athletes' return concerns through the use of coding and constant comparison of data (Strauss & Corbin, 1998). The second stage of analysis involved examining the extent to which these strategies addressed the competence, relatedness and autonomy needs of injured athletes through the application of self-determination theory. Therefore, given our a priori intent of examining the relevance of self-determination theory in interpreting coach strategies for assisting returning athletes we have not adopted a pure grounded theory approach (Glaser & Strauss, 1967). Instead, we

have adopted a hybrid approach that allowed for, firstly, the most common strategies to emerge from the data and secondly, the use of self-determination theory to interpret these key findings.

The constant comparative method of analysis (Strauss & Corbin, 1998) was used to identify key themes within each interview (intratextually) and across interviews (intertextually; Maykut & Morehouse, 1994). Intratextual analysis involved coding the data by writing comments about the strategies coaches discussed in the margins of each interview transcript (Hammersley & Atkinson, 1998). The coded data within each interview were then grouped into raw data themes to determine the strategies used by that particular coach. Thus, a coach's comments that explicitly or implicitly referred to goal-setting were grouped together into the raw data theme, "goal setting". For instance, one coach's comments that "I think it [goal-setting] is helpful because what you're doing is you're giving the athlete a road map" and "it's not just about having the big outcome, it's about having the smaller outcomes which keep it more tangible for the athlete to be able to reach along the way" were categorized into a raw data theme reflecting the idea of goal setting.

Intertextual (or cross-case) analysis involved determining the raw data themes that were similar across all interview transcripts. This process enabled the most common strategies reported among the coaches to be identified. Further analysis involved merging similar raw data themes together to generate higher order themes (i.e., a more refined concept; van Manen, 1998) to best represent coach strategies for addressing psychosocial challenges of injured athletes in the return-to-sport phase. For example, comments made by separate coaches that "...I want to make sure that there's that open communication" and that "It all comes down to communication, you know that's the bottom line.", highlighted the concept of "fostering communication" and were therefore grouped into a higher order theme reflecting this underlining similarity across the interviews. Once no new themes surfaced, it

was assumed that saturation, within the aims of this study, had been reached. Based on the aforementioned procedures, five key themes emerged from the data including a) coordination of a "team approach" to rehabilitation; b) fostering open communication with athletes and treatment team members; c) social support; d) positive thinking and goal setting; and e) role models.

Established qualitative analysis techniques, namely–empathetic stance, investigator triangulation and devil's advocate–were employed to ensure the "goodness criteria" (i.e., trustworthiness) had been satisfied (Rees, Smith, & Sparkes, 2003; Sparkes, 1998). In an attempt to analyze the data from an empathetic stance, both authors read through the transcripts, recorded and discussed salient themes and listened to the audio-recorded versions of each interview (Maykut & Morehouse, 1994). Listening to the digitally-recorded version of each interview enabled a deeper level of engagement with participants' comments and view points by highlighting the intent of particular ideas and/or the emphasis placed on specific points of discussion.

Investigator triangulation was addressed by having the authors' interpretation and categorization of themes reviewed by an external research assistant. After reading through each of the transcripts, this individual provided an independent audit of key themes and categories emerging from participant transcript data. Ongoing discussions between the research assistant and the authors enabled critical reflection on the themes under investigation and facilitated consensus on emergent themes. Furthermore, the second author acted as a "devil's advocate" by supporting and challenging the first author's potential biases and assumptions. When disagreements occurred, transcripts were reviewed and discussed until points of contention were resolved and the key themes were agreed upon.

Results

The majority of coaches acknowledged that athletes had to overcome psychosocial

barriers such as a loss in confidence, re-injury concerns, feeling isolated from the team and time pressures to return to sport following injury. In addressing these challenges, coaches typically reported using a variety of strategies. These strategies were not used in a systematic or formal fashion; rather, coaches emphasized the individual nature of working with athletes to determine what they might need at a particular time. As John explained, "it's just from meeting with them, you can get an idea of 'yeah ok you need my help here.' And other times you get a feel for what the athletes are like, you know who is self-motivated, and who needs motivating." Therefore, the coaches suggested that the types of strategies used to assist athletes in the return to full activity ultimately depended upon their understanding of each athlete's idiosyncratic needs. Developing this intuitive knowledge was, according to the coaches, a process that took time and required the development of a rapport with the individual athlete.

In addressing athletes' individual psychosocial needs, coaches reported using these primary strategies: a) coordination of a "team approach" to rehabilitation; b) fostering open communication with athletes and treatment team members; c) social support; d) positive thinking and goal setting; and e) role models.

Coordination of a "Team Approach" to Rehabilitation

Coaches commented that they were generally open to trying different strategies that might assist their injured athletes, but "…could not always be everything to every athlete." Because their time was perceived to be limited and they were wearing "so many hats already", coaches were mindful of "spreading [themselves] too thin." Consequently, coaches typically felt that one of the best ways for them to help ensure athletes were regaining their physical skills and were confident about their return to sport from injury was to act as a coordinator of a support team. "The coach is like a GP [general practitioner] who will source the right people in the network", said Lorena. Olivia commented, "as coach…you bring the

team together, you help come to the agreed approach as to how you want to operate with this athlete." Coaches recognized that they could not provide their athletes with complete physical, social and psychological support without the contribution of other 'experts' such as exercise physiologists, physiotherapists, and sport psychologists.. Lorena commented, "I wouldn't dare try to be an expert in all, even some areas that I think I'm an expert in, and I may not be to that person."

The above comments attest to the importance of a "team approach" to assisting injured athletes. Olivia commented:

> To me it's got to be a combination of the team, a team fit, a team approach, with the athlete obviously at the centre of it … it can't just be the physio going to the coach and saying this is what we're going to do. And whilst the coach probably leads it in terms of setting up the timetables and then the planning of when you implement the specific elements, I think all need to be involved.

In fostering a team approach, the coaches also spoke about the necessity of developing good rapport with the athlete so that the athlete trusted the coaches' suggestions regarding their rehabilitation. Olivia stated, "…as a coach, once you've built a rapport with your athletes, the fact that you're recommending them to this particular person [the sport psychologist], particularly when you have a trust with your athlete…they will see it [the referral] as being a positive." Having a good rapport with one's athlete was seen as essential if athletes were to embrace a coach's suggestions. Don commented, "you need support from the coach, because if the coach doesn't support them [strategies suggested by another member of the rehabilitation team] you've got no chance of it working." Above all, the coaches agreed that the athlete needed to be involved in the decision-making processes of their treatment, informed about their progress and remain the focus of the team approach to injury recovery.

Fostering Open Communication with Athletes and Treatment Team Members

Open communication with the athletes themselves was also seen as a crucial form of assistance in addressing injured athlete concerns and facilitating a return to sport following injury. Andrew said, "I want to make sure that there's that open communication…they know they can come to me and I can help them deal with it [i.e., the problems they are facing]." In regard to the general recovery process he commented, "just making sure that communication is there, that support network between the coach and the athlete is always there and in place. They know…the communication is open all the time."

The importance of maintaining open communication was also suggested in order to maintain "follow-up" with the athlete, to ensure the athlete knew the coach cared about his/her well-being, to ensure compliance with the rehabilitation protocol, and to provide a rationale for how the injury was being managed. Don commented: "I see that as probably number one, it's follow up with them, ongoing follow up, and also being available if they want me to come along to a consultation to their service providers [rehabilitation specialist]."

According to coaches, athletes' desire to return to training and competition quickly necessitated direct communication with physiotherapists. Given athlete concerns about performing to pre-injury levels, and insecurities about their abilities to reach new goals, they were often in a hurry to return as soon as possible. Three coaches indicated that some athletes would even "shop around" for the physiotherapist who would provide the shortest recovery time-frame. For many athletes self-induced pressures to expedite their return to competition meant that they would often misrepresent the rehabilitation specialist's comments in discussions with the coach. According to Don:

> Usually, I mean an athlete's always keen to get back on track so they'll tell you, you know if a physio says look it's probably a three week rehab program, they'll probably come back and say it's probably one and a half weeks. So to have direct feedback

> from a physio is really, really important; probably the physio more so than doctor, because you're probably dealing more often with physios.

Overall, the coaches agreed that it was important to maintain open lines of communication between the athlete, coach and rehabilitation treatment team members so that information was accurate and to ensure that the athlete was not rushing the return to sport.

Social Support

Coaches believed that social support played a key role in injury recovery and it seemed to focus primarily on keeping athletes involved in the training process. Maintaining group involvement of the athlete while injured was deemed important for ensuring that athletes knew that the coach was concerned about their well-being. When asked about the benefits of maintaining group involvement, Don commented "Oh I think it's just a sense of TLC [tender, loving care], being part of the group, even though you're injured, we're still, we're not just isolating you, you're not just off to your own devices."

Maintaining group involvement was also considered essential for maintaining motivation, monitoring the athlete's rehabilitation progress, and ensuring rehabilitation compliance for optimal rehabilitation time-frames. As John articulated:

> I think it [group involvement] helps them in terms of shortening the rehab time, so it makes them more compliant with the rehab, so everyone sees them there, they see them on the bike, the gym or whatever else they're doing; so I think it shortens or makes their rehab time optimal. If they're by themselves they sort of drift out another you know week, month or so long. And probably yeah the schedule will help them get back into a normal program when the time comes. 'Cause you still get up in the morning, go to training, go home, training, whatever else.

However, coaches needed to find a balance between athletes being a part of training without having their lack of participation constantly "in [their] face". Olivia commented that upon the

initial injury it could be detrimental to have athletes at all training sessions, as it could remind them of their limitations and lead to frustrations. She described how she provided a balance between maintaining involvement without frustrating them by making them simply watch what others were doing. According to Olivia:

> What I've done in my most recent incident with an athlete, is timetable X number of sessions that they attend with the whole group, I then do one-on-ones with those [injured] individuals so they feel, not that they feel special, but they're getting a little bit more attention.

Therefore, coaches were responsible for selecting which training sessions were best for the athlete to attend as well as finding other ways of providing social support. John commented:

> The biggest part is to try and have them part of the group. So in terms of having breakfast together, social things outside of training is still important to be [involved in] because the group is very tight and they see each other twice a day. If you're suddenly out of that then you're out of the loop and [it's] quite easy to fall by the wayside.

Positive Thinking and Goal-Setting

In regard to positive thinking, instilling a focus on factors within the athlete's control during the rehabilitation phase was believed to assist them in focusing on "controllable" factors such as technical and skill related improvement when they are back playing sport:

> ...you need to focus on getting them to think about controllables, things they can control, not to worry about the things they can't control, so it's changing their mindset. And if you can't change the mindset and get them to think more about those [controllable] things, then you're lost. (Max)

Coaches discussed how athletes can become fixated on results. Many coaches agreed that too much focus on "outcomes", over "the process", can have negative effects on athletes, such as

loss of confidence or rushing their injury recovery to meet competition deadlines. To assist in the return-to-sport phase the coaches suggested the importance of working with athletes to help them focus on the step-by-step process of recovery. Max explained "...it's not about the outcome, it's about the process how I get there". Other coaches agreed that it was their role to ensure that the athlete "progresses gradually back into training" and focus on "what they can achieve". The most effective way coaches believed they could achieve this focus on process, progression and achievement was through goal setting.

The coaches generally indicated that goal setting was the most important of all strategies for facilitating their athletes' reintegration into sport. Goal setting was viewed as the "the overarching principle" or "road map" underlining and guiding everything else done in training. Goal setting was perceived as a fundamental and intuitive strategy in facilitating the return transition, as highlighted by Andrew:

> I think something that is quite easy to do is goal setting. Like I sit down and I use a complete session to goal set. So writing stuff down and talking, maybe talking through it, or going over it when I'm at home, and then coming back and talking through it after another session...

The coaches described how the content of goals would differ for injured and uninjured athletes, as well as from individual to individual, but the process of goal setting may essentially be the same, such as "breaking down" how to reach an outcome in "achievable", realistic steps. Don provided specific examples of how he set goals to ensure his athletes progressed back into playing, without overdoing it: "if you've come back from an injury we'd only play you for 10 minutes here, 10 minutes there" or they would be "restricted to every second game through the [competition]." The goal setting process was also described as ongoing and adjustable based on performance-related progress, set-backs and upcoming events. Olivia

commented "as a coach obviously your role is to help reassess their goals and [emphasize] that the time frames can always be changing…just because you can't reach that goal at that particular time doesn't mean you won't still be able to achieve what you set out to do." She suggested the importance of being cautious in goal-setting to ensure that "...you take small steps, because often if you try and take too big of step, there's a chance certainly that they will drop back, and that's probably more frustrating to an injured athlete, than say somebody who's not injured."

Consistent with Olivia's comments coaches agreed that setting short and long term goals throughout injury recovery and the return to sport was believed to be useful in giving hope to injured athletes. Don said:

> …part of their goal setting is getting back on track…what is the best way of getting you back on the track?...I think it gives them something to aim for in terms of the injury itself, a time frame to get back on track with proper management, and then the next part is how, how do we integrate them so they get back into the program?...So I think it gives them something to aim for.

Coaches felt that when athletes could see their short term progress they gained confidence in their ability and were motivated to set and reach further goals, which ultimately facilitated their return to sport after injury.

In addition to the importance of setting short and long term goals, coaches articulated a focus on process goals emphasizing skill improvement and the specifics of getting back into full training and competition. As John suggested:

> ...if they've been injured from rowing, there might be a technical deficiency that's caused that. They need to make sure that when they come back in, ok let's try and address the problem; so we need to have the goal of making sure that we move better here as part of the stroke, or improve this part of the stroke. And also sometimes it's

> quite a good time to relearn some rowing. If you've been out of the boat for 6 months you've got some bad habits initially, you can relearn and reteach them right from the beginning. And now you're back in the boat for the first time, this is the first time you've been in the boat for 6 months, this week let's think about this part of the stroke. So try and change their technique as they get back in as well, not just from an injury prevention point of view, but also just from an efficiency point of view.

A focus on process goals was perceived to be beneficial because as Tamsin, one of the track and field coaches, suggested, "...you want to make sure they can do certain skills again, rather than putting emphasis on jumping a certain height by a certain time. It's best to look at the actual skill that they can do that, rather than putting too much pressure on actually performing and jumping a certain height by a certain time." As Tamsin's comments highlight, focussing on outcome goals could add pressure to the pre-existing challenges and uncertainties associated with a return to sport. In sum, a focus on short and long-term goals that provided specific but adjustable timelines, and that focussed on the process of skill development were believed to be essential in aiding the return from injury to sport progression.

Role Models

A final strategy employed by coaches with their injured athletes was role modelling. Don stated:

> Well, role modelling is very, very important for injured athletes and the role models that I use are the ones who have been in a similar situation and how they've got through it, and also some that haven't got through it. You go back to them and say well can you discuss with this athlete why you didn't get there, and what were the hindrances to you getting there…You have an athlete come in and talk to you and say 'look how do I cope with this?' 'And you say well why don't you go and talk to this person, and discuss it with them and then come back to me.'

Similarly, when asked why she used role models as a regular strategy for assisting her injured athletes, Olivia commented:

> 'Cause then, even if it's just a sit and chat they can actually talk through some of the issues they may have had, if they had difficulties at certain points in their rehab, or challenges, like things that help them to get back on track. So it's just more, sharing the experiences from someone who's already been there and got back andso the athlete can see that you can return to full training and continue on your path that you set yourself to start with...

As these comments suggest, role models were believed to provide returning athletes with positive examples of how to make a successful return to sport, the confidence that such efforts could be replicated, emotional support, and information about how todeal with injury related challenges.

Role models were also perceived to be beneficial in providing returning athletes with activities or exercises that facilitated their return to sport as well as preparing the returning athlete for different eventualities they may encounter. Tamsin commented, "they [role models] might also have some sort of activity or things that you can do that they've used" while Olivia suggested that role models provided the opportunity for:

> ...cross-referencing of thoughts, of incidents, of highs, lows, expectations, what to expect in the future, you know everyone's different, but these are things that I experienced...So it's just, getting the person to have some ideas of what might be ahead...

Finally, coaches emphasized that role models provided inspiration and a source of motivation. Lorena suggested, "I can show that someone that they have aspired to become...that they were devastated but look at them now type thing". Overall, role models were believed to be beneficial in providing returning athletes with informational and

emotional support, with the confidence that a return to a high level of competitive play was possible, and with motivation and inspiration to overcome the challenges associated with injury recovery and the return to sport.

Discussion

The purpose of this study was to examine coach strategies for addressing athletes' psychosocial challenges in the return to sport phase following a long-term injury. These strategies included a) coordination of a "team approach" to rehabilitation; b) fostering open communication with athletes and treatment team members; c) social support; d) positive thinking and goal setting; and e) role models. Analysis of these findings revealed that coach strategies were ultimately aimed at addressing athlete needs for competence, autonomy and relatedness articulated within self-determination theory. In particular, efforts to coordinate and lead a team approach to rehabilitation, goal-setting and the use of role models aimed to foster a sense of competence and enhance athlete efficacy regarding their return to sport following injury. Similarly, efforts to encourage positive thinking were according to coaches designed to instill an internal locus of causality (i.e., a sense of autonomy) among returning athletes. Autonomy related strategies also surfaced in terms of maintaining open communication with treatment team members. Finally, the provision of social support was suggested to foster athletes' sense of identity, belonging and the perception that the coach cared about their athletes' well-being. Thus, social support strategies were intended to promote a sense of relatedness or affiliation among returning athletes. The ways in which each particular strategy addressed athlete needs for competence, autonomy and relatedness are discussed in further detail below.

Strategies Aimed at Addressing Competence Needs

Several of the strategies employed by coaches in this study were ostensibly aimed at enhancing athletes' sense of competence. An important and unique finding from this

investigation was the notion that coaches saw themselves as coordinators of a support team in which they would source the "right people" (e.g., exercise physiologists, rehabilitation specialists and sport psychologists) to facilitate athletes' return to sport. By liasing with other members of the treatment team coaches sought to foster athletes' perceptions of competence in areas the coach did not always possess appropriate expertise. Previous self-determination research has revealed that if coaches satisfied youth gymnasts' feelings of competence and mastery during practice this positively predicted well-being (i.e., vitality, self-esteem) both before and after practice (Gagné, Ryan, & Bargmann, 2003). Although it seems reasonable to assume similar benefits of competence need fulfillment among athletes returning from injury, research examining the consequences of competence need satisfaction in a sport injury context is needed. In particular, investigations examining the consequences of coach initiated efforts at enhancing injured athlete competence with regard to rehabilitation adherence, rehabilitation outcomes (e.g., limb strength, endurance,) and return-to-sport outcomes (e.g., post-injury performance)) would be beneficial.

Coaches also extolled the benefits of goal-setting strategies and the use of role-models for enhancing athlete perceptions of competence in their return to sport. The value of goal-setting techniques and the use of role models in enhancing rehabilitation efficacy and reducing injury related anxieties has been demonstrated in previous research (Flint, 2007; Gilbourne, Taylor, Downie, & Newton, 1996; Ievleva & Orlick, 1991). With regard to goal-setting, coaches in this investigation emphasized a focus on "process" goals and skill development rather than outcome achievement in an effort to build athletes' sense of competence. The coaches also suggested the importance of reinforcing the flexibility of goals and the need to adjust goals in line with the pace and direction of athlete recovery. From a self-determination theory standpoint, goals which are flexible in nature and focus on the process of skill development are likely to foster a sense of competence because they focus

athletes' attention on task mastery and self-referenced standards of advancement (Amorose, 2007). Although the benefits of goal setting techniques during injury rehabilitation have been demonstrated (Gilbourne et al., 1996), research examining the effectiveness of various goal setting programs (i.e., process, performance, outcome goals) among athletes returning to competition would be beneficial. Furthermore, observational (i.e., ethnographic) research examining how, when and what types of goals coaches actually utilize with injured athletes would extend research on self-reported use of goal-setting strategies.

Overall, findings from this investigation indicate that coach strategies were directed towards building athlete perceptions of competence to successfully rehabilitate and with reassurance that they could still achieve high levels of future athletic proficiency. Further research examining the efficacy of particular coach initiated strategies for enhancing athlete competence in the return to sport from injury appears warranted. Experimental investigations towards this end would extend the current psychology of injury knowledge base.

Strategies Aimed at Addressing Autonomy Needs

Previous research indicates that athletes may face external pressures (i.e., a lack of autonomy) to return to sport following injury from coaches, teammates, or sport managers, in some instances before the athlete is physically or mentally prepared to do so (Bianco, 2001; Charlesworth & Young, 2004; Gould, Udry, Bridges, & Beck, 1997; Roderick, 2004). Coaches in this investigation however, indicated that self-induced pressures to return to sport−emanating from athlete insecurities and uncertainties−often drove athlete ambitions to return to sport. Consequently, coaches suggested that efforts to maintain open and direct communication between treatment members was an essential strategy in preventing overzealous athletes from returning to sport prematurely. These findings suggest that it may be important to limit athlete autonomy regarding decisions about their readiness to return to competition. On the surface this suggestion would appear to contradict self-determination

theory contentions regarding the importance of enhancing individual autonomy (Ryan & Deci, 2007). It is important to note however, the distinction between affective autonomy−feeling volitional in choosing to pursue a goal or activity−and decisional autonomy−having the opportunity for choice (McDonough & Crocker, 2007). While it may be important for athletes to have the feeling that they are autonomous or volitional in their desire or intent to return to sport, it may also be necessary to ensure restrictions of athletes' decisional autonomy regarding the timing of their return to sport. An important implication is that coaches, in their role as teachers and educators, may need to simultaneously foster athlete perceptions that they are volitional in their desire to return to sport while also limiting autonomy with regard to particular return to sport decisions. With this in mind, coaches, managers and sport medicine practitioners need to have an awareness of athlete tendencies towards self-imposed pressures to return to sport. Such awareness can help prevent a premature return to sport and ensure the physical and psychological health and well-being of returning athletes. Maintaining direct lines of communication with treatment providers may be an essential strategy towards this end.

The use of positive thinking and refocusing was another strategy articulated by coaches in this investigation for addressing athlete concerns in the return to sport from injury. Although the explicit aim of this strategy was to reinforce athlete perceptions of competence regarding their skills and abilities, the means by which this was accomplished was to focus on factors within the athlete's control. That is, according to coaches, cognitive reframing efforts were effective through the creation of a perceived internal locus of causality in which athletes were instructed to focus on the positive gains they were making in their recovery. Thus, according to coaches, reminding athletes of factors under their control appeared to serve the dual purpose of fostering perceptions of competence and autonomy. From a self-determination theory perspective instilling positive thinking and reframing negative athlete

cognitions may be an important function for coaches aiming to increase the success of athletes' return to sport from injury.

Strategies Aimed at Addressing Relatedness Needs

Consistent with previous research, the coaches articulated the importance of social support in facilitating athlete recovery (Bianco, 2001; Evans & Hardy, 2002; Podlog & Eklund, 2007; Udry, 1997). Specifically, maintaining athlete involvement in training sessions as well as their group membership and identification with the team helped offset some of the potentially isolating aspects of the injury experience. Ensuring athlete involvement in training, meetings and social interactions was seen as essential in facilitating the re-integration into competitive activity. These findings support preliminary self-determination research indicating the benefits of relatedness need satisfaction among injured athletes for enhancing their psychological well-being and reducing the likelihood of return to sport concerns (e.g., heightened competitive anxiety; Podlog, Lochbaum, & Stevens, in press). As indicated, coaches may be ideally positioned to ensure the satisfaction of injured athletes' psychological need for affiliation and a sense of connection to their teammates and their sport. A caveat to such involvement articulated by coaches in this study however, was an awareness of the need to find a balance between athletes being part of training without being reminded of their inabilities or lack of participation. Such precautions echo prior findings indicating that attending practice while injured was frustrating and had the unintended effect of provoking heightened concerns about fitness loss (Tracey, 2003). An applied implication of these findings is the need for coaches to give careful consideration to the capacity in which returning athletes are involved with team training sessions and meetings. Ensuring athletes are involved in meaningful ways and integrating their training with other athletes so they are not simply watching others train seems important for coaches to comprehend.

Although a number of salient findings emerged from this investigation there are

limitations worthy of note. First, the fact that all of the coaches were from a single sport institution may be considered a potential strength and weakness. On the one hand, it enabled detailed insight into particular coaches' reported use of athlete assistance strategies regarding the return to sport transition. Conversely, the extent to which coaches' views expressed in this study are indicative of those in other settings (e.g., youth sport coaches, recreational coaches or high school coaches) remains unknown and should be examined in future research. The coaches in this study represented a relatively homogeneous, unique and perhaps enlightened group in so far as they had access to a wide range of support staff and services, likely unavailable to coaches working in non-elite sport institutions. Access to such services may have influenced coaches' use of and perceived views towards psychological strategies aimed at facilitating athletes' return from injury to sport. Second, although coaches reported using particular strategies with injured and returning athletes, previous research suggests that there may be inconsistencies between coaches self-reported and actual behaviours (i.e., coaches may have a poor self-awareness; Smoll & Smith, 2006). Given the reliance on coaches' self-reported behaviours, our findings may be subject to such limitations. Third, the eight coaches in this study were of different genders and represented five different sports including team and individual and contact and non-contact sports. The impact of such contextual variables did not emerge as salient factors influencing coaches' reported adoption of different psychological strategies. Quantitative investigations examining this issue however, may be useful in uncovering such differences. Finally, several coaches indicated that there may be a tendency among some athletes to misrepresent rehabilitation specialists' comments regarding their recovery progress or acceptable rehabilitation exercises. Given that this issue was not explored in great detail, further empirical examination of how coaches deal with miscommunication situations without undermining the athlete-support staff relationship or the athlete's autonomy would be beneficial.

Conclusion

It is evident that strategies, such as coordinating support team efforts, fostering communication amongst treatment team members, social support, positive thinking, goal setting, and role-modelling were being used by WAIS coaches to assist injured athletes' return to sport. However, it was also apparent that coaches did not appear to use such strategies as part of a systematic or formalized program aimed at addressing athletes' psychosocial needs. To the coaches in this study, these strategies were understood as intuitive, individualized, focused on the "process" of recovery, and based on "knowing your athlete" or tacit knowledge. The findings highlight the perceived role of coaches in the treatment of injured athletes and the importance of a team approach to ensuring athletes' physical and psychological needs are met. To this end, it was apparent that the strategies coaches indicated using were designed to enhance athletes' perceived competence, their sense of relatedness and team/athletic identity, and in some instances to limit athlete autonomy. Coaches also attempted to enhance athlete autonomy through cognitive reframing efforts designed to foster an internal locus of causality regarding injury recovery gains and advances.

Based on the results of this investigation several practical recommendations are offered to coaches aiming to address athlete needs for competence, autonomy and relatedness. In an effort to foster athlete perceptions of competence coaches would be well-advised to coordinate a team approach to rehabilitation that incorporates the knowledge and expertise of various rehabilitation experts. In doing so, coaches should aim to build rapport through one-on-one meetings and phone calls with athletes so that the athlete trusts the coach's rehabilitation suggestions and referral to other treatment team members. The implementation of an individualized goal-setting program that focuses on skill development, task related processes, and that has clear but adjustable time-lines, should also be adopted in promoting a sense of competence among returning athletes. Finally, the use of role models who can help

alleviate returning athlete concerns, and who provide informational and emotional support, as well as inspiration and motivation may be a third strategy for building returning athlete perceptions of competence.

Autonomy needs may be cultivated through the use of cognitive reframing techniques and instilling positive thinking via cue words and self-affirming statements that focus athletes' attention on matters under their control. Coaches may also need to maintain direct lines of communication with treatment professionals to ensure the restriction of athlete decisional autonomy regarding the timing of a return to sport following injury. Finally, providing athletes with meaningful tasks and activities (e.g., performing rehabilitation/return to sport exercises within the same vicinity as teammates) in an effort to maintain their social involvement and social identity as an athlete will likely prove beneficial in facilitating the re-integration into full competitive activity. As a caveat, individual differences in the desire to be involved in sport and/or team activities may require careful consideration. Discussions with athletes regarding preferences for group involvement will likely prove useful in this regard. The findings and associated practical recommendations highlight the promise of self-determination theory based research for examining coach assistance to athletes making the transition back into competitive sport. Further research examining the effectiveness of coach led interventions designed to meet athletes' psychological needs for competence, autonomy and relatedness is warranted.

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Table 1

Participant Demographic Details

Pseudonyms	Age (yrs)	Gender	Sport	Years of Elite Coaching Experience	Number of Seriously Injured Athletes Coached
Don	53	Male	Field Hockey	25	At least 20+
Max	49	Male	Athletics	21	15+
John	38	Male	Rowing	12	6
Simon	42	Male	Water Polo	20	5
Andrew	30	Male	Rowing	8 months	4
Olivia	41	Female	Netball	19	8
Tamsin	25	Female	Athletics	4 months	2
Lorena	47	Female	Athletics	15	15+

Table 2

Interview Questions

1) What are the biggest challenges athletes face in making the transition from injury rehabilitation to training and competition?
2) What types of assistance or strategies do you use in addressing these concerns and helping your athletes with the re-entry period?
3) (a)What does the term goal setting mean to you?

   (b) Do you feel this strategy would assist injured athletes' return to sport? How? Why/Why not?

Both (a) and (b) were repeated for each of the following strategies: imagery, relaxation training, self-talk, and social support