The Experiences of Athletes Rehabilitating From Season Ending Injuries and Their Perceived Value of Psychological Interventions: Three Case Studies

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ABSTRACT

Research has shown that athletes who sustain injury often experience negative emotions such as anger, anxiety, and depressed mood, and that a negative psychological state can have a detrimental effect on injury rehabilitation and return to sport. For the most part, researchers have focused on athletes who have experienced short to moderate term injuries. Few have addressed long-term injury rehabilitation (LTIR). This thesis focuses on athletes who had experienced season ending injuries. Each athlete (3) was interviewed (four times) and invited to participate in psychological interventions (e.g., psycho-educational and cognitive behavioural) throughout LTIR lasting at least nine months. Athletes' experiences are reported as long, narrative case studies. While the case studies explore four broad themes (affect, coping, social support, and psychological interventions) the overall narratives articulate the coherence and discord among athletes' LTIR experiences (e.g., the positive and negative consequences of social support, life stress, pain, affect; the value of psychological interventions; the therapeutic aspect of 'just' talking to someone; etc.). The intimate issues identified and lived by each participant are examined and discussed in relation to the pre-existing athletic injury literature. Complex and dynamic relationships among the variables (e.g., emotional and behavioural responses, social factors, and physiological aspects) proposed in integrated models of injury rehabilitation (e.g., biopsychosocial) emerged in these narratives. These integrated models outline the dynamic and interrelated responses athletes have in response to injury and are the maps that practitioners treating these athletes may use. The athletes' stories presented here, therefore, express some of the common ground injured athletes travel and are also rich and full of unique personal experiences. In both senses, though, they depict the actual, dynamic, rough, and often lonely process of LTIR—they are the real-life *territory* that those maps only partially describe.

DECLARATION

I, Trevor Anthony Hale, declare that the Doctor of Applied Psychology (sport) thesis titled The Experiences of Athletes Rehabilitating From Season Ending Injuries and Their Perceived Value of Psychological Interventions: Three Case Studies is approximately 50 000 words in length, exclusive of tables, figures, appendices, references, and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

Signature: _____ Date: _____

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DEDICATION

To Sandy, you have supported me on this journey over the past six years. Your love, patience, and endless support have helped me feel safe to push myself and grow in ways I would never have imagined. You have taught me patience and how to be selfless. To Ethan, your innocence, boundless curiosity, and mischief constantly renew my motivation and give me inspiration. Finally, to my yet to be born baby girl, I can't wait to get to know you. I love you all!

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I would also like to thank my family who have provided support even across many thousands of kilometres. Mom and Dad, your unconditional love has afforded me a rich environment in which I have always felt safe to pursue even the riskiest challenges. And thank you Nicole, I have marvelled at your dedication to your goals, and have drawn strength and pride watching you flourish in all of your pursuits.

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CHAPTER 1: INTRODUCTION

Sport participation is typically thought to be an enjoyable and healthy activity. Nevertheless, there is also a dark and frequently ignored side to sport participation: injury rates in sport and physical activity are at disturbing levels. Australian statistics indicate that about 12% of Australians (nearly 2.5 million) are injured each year; 25% of those (over 650,000) occurred while individuals were participating in sport and recreation activities and 16% (105,000) in organised sporting events (Australian Bureau of Statistics National Health Survey, 2001). Despite the prevalence of sport related injuries, the stories of distress associated with being injured and in rehabilitation have remained relatively inaudible.

Internationally, injury surveillance data indicate that the incidences of sports injuries are alarmingly high. In Australia, for example, injury rates have been reported to be 47 injuries for every 1000 player hours in Rugby Union (Bathgate, Best, Craig, & Jamieson, 2002), 20/1000 for country league Australian Rules Football, and 12/1000 in Netball (Stevenson, Hamer, Finch, Elliot, & Kresnow, 2000). At the highest rate of injury, it equates to approximately 1.88 injuries each time a team of 40 athletes engages in an hour of rugby union. Injury surveillance data from other countries show similar patterns: for example, Canadian injury rates in Ice Hockey have been reported at 10/1000 player hours (Schick & Meeuwisse, 2000); Rugby League in New Zealand, 43/1000 (Gissane, Jennings, Kerr, & White, 2002); Football (Soccer) in the United Kingdom, 8.5/1000 (Hawkins & Fuller, 1999). Similar rates have been reported in disabled sports 9.3/1000 (Ferrara, 2000). Additionally, injury incidences tend to be considerably greater during competition compared to training at all levels of sport participation. In Sweden, for example, injury rates in Ice Hockey jumped from 1.4/1000 to 78/1000: and in Germany, injury rates in Handball increased from 2.5/1000 to 14/1000 in training and competition respectively

(Smith, Stuart, Wiese-Bjornstal, & Gunnon, 1997; Lorentzon, Wedern, & Pietila, 1998; Lorentzon, Wedern, & Pietila, & Gustavsson, 1998). During competition, athletes are likely taking greater risks, pushing through fatigue, and hitting opponents (opposed to team-mates) with greater impacts. When these injury rates are compared to injury rates in the workplaces considered to be high risk (e.g., factory floors, or loading docks) the prevalence of sport related injuries—for even the more benign sports—is more than 1000 times greater (Hawks & Fuller, 1999).

Although the incidence, type, and cause of injuries depend on the particular sport, the overall picture remains the same across all levels of sport—high levels of injuries with substantial cost burdens (e.g., financial, physical, and socio-emotional) to the athlete, their family and friends, to their industry (i.e., their team and sport), and to health care systems. For example, in 2003 and 2004, Australian statistics indicated that medical treatment and time off work for sport-related injuries costs approximately 1.65 billion dollars annually (Medibank Private, 2003; Sports Medicine Australia, 2004). These costs are borne by both the athletes and the public. Moreover, elite level athletes are likely to be highly invested in their sports for both psychological (e.g., self-concept) and financial reasons. Injuries (in particular, more severe injuries) may therefore amplify or bring about unique issues for elite performers. Of particular interest here is the human cost of injury rehabilitation from individual elite athletes' perspectives.

Despite advances in equipment, coaching, and training techniques, the incidence of athletic injuries remains high across all levels of sport. Moreover, it has been found that some athletes are at even greater risk of injury than others. Young and competitive athletes are twice as likely to sustain an injury as any other age group of athletes (Medibank Private, 2003; Wiese-Bjornstal, Smith, Shafer, & Morrey, 1998). In many sports, there is a very short window of opportunity to *make it* to the elite or professional ranks. Young

competitive athletes seduced by fame, financial success, and social accolades may experience more injuries because they ignore signs of fatigue or overtraining, take greater risks, and push harder in an attempt to succeed.

Individuals aspiring to be elite or professional athletes, in their pursuit of sporting excellence, often succumb to a *sport ethic* that encourages, among other things, long hours of training, long playing seasons, risk taking, and pushing though pain in order to succeed (Curry, 1992; Hughes & Coakley, 1991; Johnson, 1997; Messner, Dunbar, & Hunt, 2000; Richardson, Andersen, & Morris, 2008; Young, White, & McTeer, 1994). Frey (1991) coined the term "a culture of risk" to describe an environment in which athletes often train and compete injured and take risks to succeed. In addition, it is not uncommon for athletes to receive praise from family, team-mates, coaches, members of the media, and fans for competing while injured (Messner et al.; Richardson et al.; Young et al.). This attention, praise, money, and the risk (real or perceived) of being dropped from the team are some of the incentives that encourage athletes to take ever greater risks in training and competition and to play while injured (Young et al.). The risk of incurring an injury is often an accepted, and even rationalised, component of sport participation (Curry; Heil, 1993; Johnson, 1997; Johnson, 2000; Messner et al.; Pargman, 1999; Young et al.). It is also suggested that elite athletes accept the risk of injury as an occupational obligation (Young, 1993). Once injured, however, athletes may find their road to recovery rough and difficult to negotiate. Competitive athletes' psychological responses to, and how they cope with, injury rehabilitation are the focus of the research here.

Many athletes accept that sport participation includes the threat of physical harm, permanent disability, and even death. Nevertheless, becoming injured is often not expected and coping with rehabilitation is frequently distressing to athletes. Defining and understanding athletes' responses to injury and rehabilitation are ongoing themes within

the psychology of injury literature. Although Little (1969) first observed psychological distress in injured sports people nearly 40 years ago, the majority of work in the area has taken place in the past 15 years. Typically, investigators have sought to identify athletes' psychological responses to athletic injury. These studies, however, have usually focused on injuries requiring less than three months rehabilitation. In most cases it has been found that athletes respond to becoming injured with increasingly negative and decreasingly positive affect, and that these trends reverse as physical rehabilitation progresses and the athletes return to sport.

Increasingly, there are studies being published that consider, from a multitude of methodological perspectives, athletes who are rehabilitating from catastrophic injuries (i.e., sudden injuries that are season ending or career threatening). The picture that has emerged from these studies support the findings of earlier work; in particular, athletes rehabilitating from catastrophic injuries experience a spectrum of negative psychological symptoms similar to those reported by athletes with lesser injuries. Unlike earlier studies (typically focused on short-term injured athletes), researchers using longitudinal and retrospective designs have found long-term injury rehabilitation (LTIR) is not a smooth, nor predictable process. Rather, athletes' affect throughout LTIR has been found to fluctuate. For example, athletes experience a range of negative emotions during the acute, post-injury phase; these emotions then wane as the athletes regain some functional abilities but often return again as progress becomes less evident or the athletes begin to experience boredom or doubt about their playing futures (Hall, 2005; Gould, Udry, Bridges, & Beck, 1997; Sparkes, 1998a; Quinn and Fallon, 1999; Udry, Gould, Bridges, & Beck, 1997; Udry, Gould, Bridges, & Tuffey, 1997; Young et al., 1994). Athletes may also experience a range of positive responses to being injured—what Heil (1993) referred to as "secondary gains." For example, an injury, as opposed to simply wanting to retire, may be perceived by some

as an acceptable reason to exit sport. Other athletes may find the hiatus from sport allows them to reconnect with friends, focus on school, family, or work.

Subsequent to identifying negative responses to athletic injury, researchers have also directed their attention towards evaluating psychological interventions during injury rehabilitation. Methods of improving both the rate and quality of rehabilitation for injured athletes will result in individuals who can return to their sport both physically and mentally rehabilitated. The existing body of research, which has targeted short term rehabilitation of injured athletes, suggests that psychological intervention may hasten the recovery process of injured athletes and reduce the experience of negative affect during their recovery and return to sport (Durso-Cupal, 1998; Ievleva & Orlick, 1991; Mauer, 1995). Athletes' perceptions and use of psychological interventions (e.g., goal setting, relaxation, cognitive restructuring, and healing imagery), the possible mechanisms through which they work, and the shortcomings of this research will be addressed in this dissertation.

The interplay of situational and personal factors in response to athletic injury and injury rehabilitation has been presented in two models (Wiese-Bjornstal et al., 1998; and Brewer, Andersen, & Van Raalte, 2002). Both models take into account how athletes interpret their injuries, and appraise their abilities to cope with injury and the rehabilitation process. A non-linear and variable (although sometimes cyclic) process of rehabilitation is described in these models. The variable processes of rehabilitation described in these models are in line with the findings of long-term injury research (Hall, 2005; Gould et al., 1997; Sparkes, 1998a; Quinn and Fallon, 1999; Udry, Gould, Bridges, & Beck, 1997; Udry, Gould, Bridges, & Tuffey, 1997; Young et al., 1994). These two models have incorporated and combined the concepts from earlier models and have provided a framework upon which various streams (e.g., injury antecedents, injury outcomes, athlete responses to injury, and psychological interventions in rehabilitation) of injury research

can be organised. However, they are still only maps representing the common territory that athletes negotiate while rehabilitating from an injury. I have drawn upon these models to inform my understanding of the literature and the stories that athletes, in this study, have shared with me. I have also considered these models as they relate to my own experiences as an (injured) athlete.

Finally, Brewer (1993) suggested that individuals who define their self-worth through primarily one source (e.g., sport) are likely to experience emotional distress if that source is threatened. In addition, young and competitive athletes, due to their dedication to sport, are likely to derive a large majority of their self-worth through sport and being physically competent. Therefore, athletes who sustain injuries that force abrupt exits from sport are likely to experience high levels of psychological distress (Heil, 1993; Johnson, 1998; Johnson, 2000; Smith 1996; Smith, Scott, O'Fallon, & Young, 1990). Researchers considering foreclosed identities in athletes have made similar statements; specifically, athletes with strong or exclusive athletic identities frequently experience negative affect when they face premature ejection (e.g., injury) from their sport (Brewer, 1993; Brewer, Van Raalte, & Linder, 1993; Murphy, Petitpas, & Brewer, 1996). In sum, high level (or highly invested) athletes suffering catastrophic injuries may be especially vulnerable to experiencing negative affect and concomitant poorer rehabilitation prospects. Consequently, it is the experiences of elite athletes that are the subject of this dissertation.

Andersen (1997) remarked that it is the rich and detailed stories emerging from case studies that illuminate the intricacies of behaviour and behavioural change. It is hoped the stories presented in this dissertation will help bring into focus images of the various landscapes that athletes, and those around them, traverse during long-term injury rehabilitation. Due to methodological constraints, supervisory advice, and changes in my appreciation of the value of qualitative data, this dissertation has evolved from a primarily

quantitative design to three in-depth case studies of long term athletic injury rehabilitation. As I proceeded, I increasingly referred to Sparkes' (2002) discussions on the variety of modes of informing others within the realm of qualitative methodologies. I was hoping to find some specific guidelines on how I might best express the types of experiences the participant athletes were sharing with me. I found these guidelines to be elusive, however. Sparks succinctly commented, "There is little uniformity in the way that qualitative researchers report their work" (p. 39). Eventually, I settled on a design that was a blend of *realist tales* and *creative nonfiction* (Sparkes). The evolution of this dissertation, with its flexible boundaries, may have depreciated the academic or positivist scientific rigor of this project. Nevertheless, I feel that these case examples have ultimately allowed me to integrate theory, research, and applied interventions into one document.

Though these stories have been presented from my present perspective, there are likely many more interpretations. Those who read these stories will likely draw on personal experiences as they develop their own meanings and understandings of the process of long-term injury rehabilitation. Deborah Luepnitz (2002) recounted a conversation she had with one of her clients who was nearing the end of several years of therapy, "You have the chance to break the mould by refusing to live *upstairs* in silence. Talking helps because it leads to more talking" offered Dave (p.144).

In many ways, Dave's succinct insights are similar to the goals of this dissertation. Specifically, I sought to explore two questions: (1) What are the lived experiences of athletes during long-term rehabilitation from serious injury? (2) What, if any, value did injured athletes find in psychological interventions? I hope that by trying to answer these questions, and sharing the athletes' stories, my research can lead to less silence and more talking among all those who are involved with athletic injury rehabilitation.

CHAPTER 2: LITERATURE REVIEW

Becoming injured is a highly probable event for most athletes. Advancements in sport sciences, such as nutrition, sport medicine, coaching, and equipment design have helped to reduce the incidence of some injuries, but factors such as increases in sport participation, professionalism, and pressure to perform have meant that the frequency and severity of injuries to athletes has remained high.

In this chapter, I will briefly explore the literature relating to antecedents of athletic injury, cover research on athletes' psychological responses to athletic injuries, examine psychological interventions applied during rehabilitation, and then present research findings on both short- and long-term injury rehabilitation.

Antecedents to Athletic Injury

The Stress-Injury Relationship

Injuries are common among athletes and many factors can contribute to an athlete's susceptibility to athletic injury. Research into stress-injury relationships has continued along a similar line as stress-illness research. Holmes (1970; as cited in Heil, 1993) was the first to explore the relationship between stress and health in the context of sport injuries. Holmes found a positive correlation between overall life stress and athletic injury occurrence. Bramwell, Masuda, Wagner, and Holmes (1975) and Cryan and Alles (1983) used the SARRS—an athletic adaptation of the Social Readjustment Rating Scale (SSRS—Holmes & Rahe, 1967) to examine the stress-injury relationship, and to support Holmes' original findings: in both studies, the researchers reported that among a group of American-football players, those who experienced the greatest frequency of both general and sport-related life events, opposed to those who experienced only a few, incurred the most injuries.

A considerable volume of research has accumulated since these early studies. Williams and Andersen (1998) reported that there had been more than 30 studies investigating life events and susceptibility to sport injuries between 1970 and 1998. In 27 of the 30 studies, a positive relationship between life stress and athletic injury was found. Furthermore, such relationships have been identified across a wide spectrum of sports (e.g., ski racing, baseball, race walking, etc., Williams & Andersen). From these studies, it can generally be concluded that increases in life events, particularly undesired, unpredicted, and negative life events, are related to increases in stress and athletic injury occurrence (Heil, 1993; Petrie, 1993; Williams & Ropke, 1993). Williams and Andersen's meta-analytic report of the positive relationship between life stress and the incidence of athletic injury echoed Heil's earlier observation:

> This almost universal finding is compelling, especially considering it occurred across sports and competitive levels (youth to elite level), with diverse measures of life stress, and definitions of injury. (1983, p. 10)

For nearly 40 years, a positive relationship between negative life events and injury vulnerability has been found. Nevertheless, the effect of life events has rarely been found to account for more than 15% of the outcome variance (Smith, Frank, Smoll, & Ptacek, 1990). There is mounting evidence that variables such as life events, daily hassles, coping resources, social support, cognitive appraisals, and psychological coping skills contribute individually and interactively to an athlete's vulnerability to injury. Smith et al. (1990) and Petrie (1993) found that the combined effects of such moderator variables accounted for 30% and 60% (respectively) of the variance in injury vulnerability. That is, when several factors occurred at the same time (e.g., unpredicted life events or low perceived ability to cope with a stressor), the impact of the combination on injury vulnerability was considerably greater than any of the moderator variables alone.

Stress-Injury Models

Since the late 1930's, Selye has repeatedly demonstrated the relationship between chronic stress and illness in both animals and humans. Stress can come from a variety of sources including pathogens, physical strain, and emotional strain. Stress-injury response models have been developed to describe the influence of stressors on the different systems of organisms and applied in various disciplines; for example, Kiecolt-Glaser et al. (1998) applied a stress-injury model to a medical/surgical realm, and Andersen and Williams (1988) developed a stress-injury model in sport psychology.

Initially, Andersen and Williams (1988; 1993) presented a model that identifies several predictor correlates of athletic injury (see Figure 2.1). The model describes the multidimensional relationships between stress and sports injury. Moreover, the authors proposed that the relationship between stress and athletic injury is moderated via several factors: an athlete's personality, history of stressors, and coping resources. In a revision of the model, Williams and Andersen (1998) added bi-directional arrows between personality, history of stressors, and coping resources. As a result, these variables were now shown to have potential moderating effects rather than independent effects on the stress response.

Central to the model is the athlete's reaction to a potentially stressful athletic situation. The linkage between a stressor and injury is the stress response. Williams and Andersen (1998) proposed that two sets of factors interact as part of the stress response: cognitive appraisals (of demands required to attend to the stressor, the resources an individual has to meet those demands, and consequences of meeting or not meeting the demands), and the physiological and attentional aspects (e.g., increased muscle tension, narrowing of visual field, increased distractibility). Furthermore, they proposed the stress response may consist of several steps related to an individual's ultimate injury vulnerability. For example, a young Australian Rules Football player who has been

selected to play his first senior game may think, as the game begins, “I’m way out of my league here.” Following from this negative appraisal, he then experiences increased levels of anxiety and worry, which result in peripheral narrowing, increased generalised muscle tension, loss in focus, and increased distractibility. He then misses task-relevant cues (such as the position and speed of an opponent charging in from his left), and as he goes to take a mark, he fails to avoid colliding with his opponent. Any contact with an opponent may result in injury, but the combination of increased muscle tension and failing to prepare for the impact have increased the potential for injury.

Williams and Andersen’s model (1998) accounts for an athlete’s susceptibility to becoming injured in relation to stressors, and points to how, or when, interventions might influence the occurrence of athletic injuries. As understanding of the aetiology of injury has improved, the development, implementation, and testing of the various interventions, suggested in the model and designed to minimise or prevent athletic injury, has also emerged. Not all athletes, however, who are exposed to stressful athletic situations, and who are predisposed to injury, become injured. There are, therefore, two outcomes: *injury* and *no-injury*. As a result, a *no-injury* outcome component has been added to the model in this dissertation (Figure 2.1). In summary, the Williams and Andersen model has provided a platform for further research, which could be directed at advancing our understanding of the causes of, and preventative approaches to, athletic injuries.

Athletic Injury Outcomes

Historical Development of Athletes’ Affective Responses to Injury

Athletes are frequently injured (which is the outcome highlighted in the Williams and Andersen model, 1998). Nevertheless, athletes’ psychological responses to athletic injuries have, until recently, received less attention by researchers. In the remainder of this

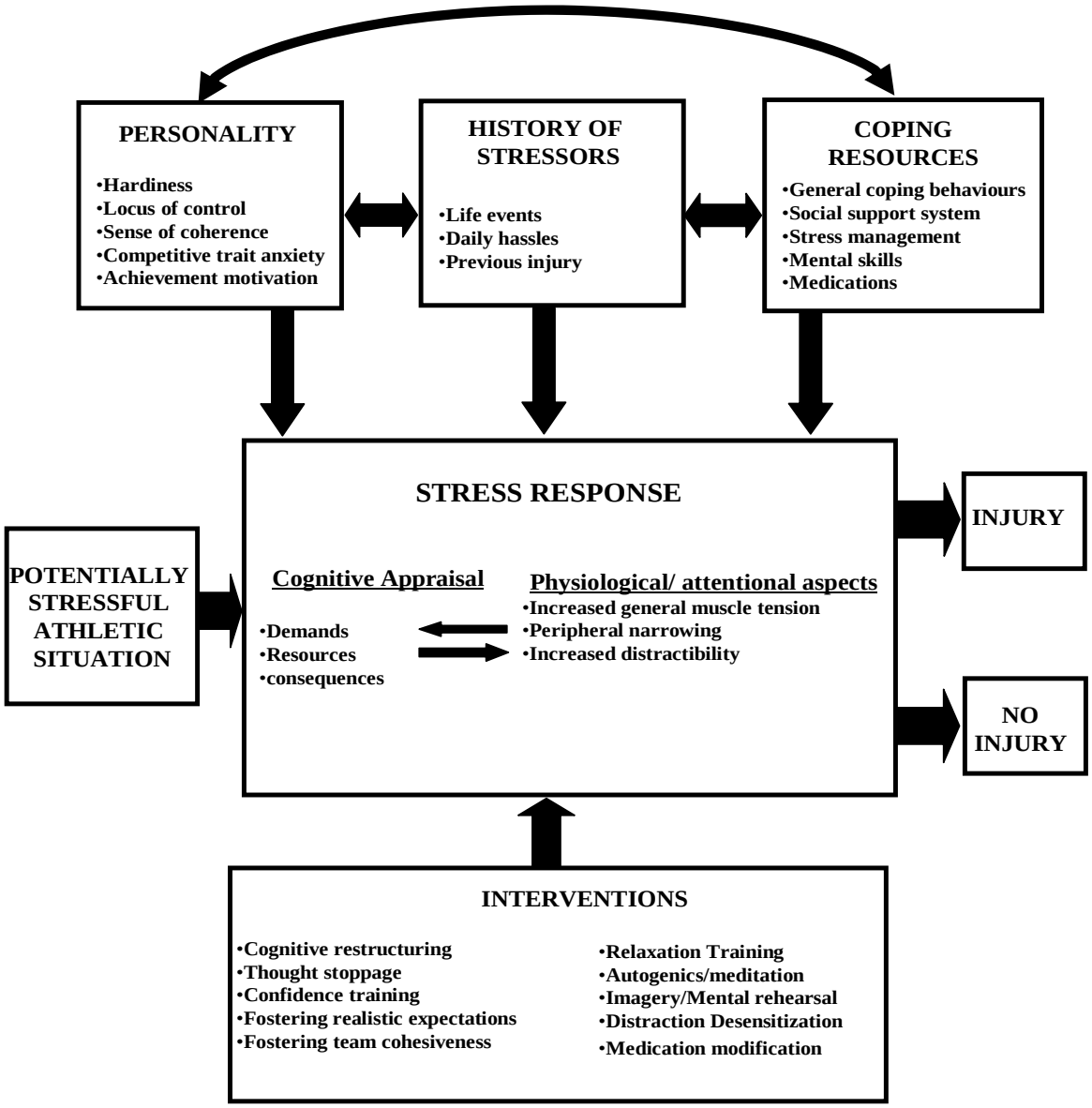

Figure 2.1. Revised model of stress and athletic injury susceptibility (taken from Williams & Andersen, 1998). I have also added a bi-directional arrow directly connecting *personality* and *coping resources* in the above model to avoid the perception that *personality* and *coping resources* are moderated by *history of stressors.*

chapter, I will review research concerned primarily with athletic injury outcomes, then I will look at intervention studies. Additionally, I will consider the findings of studies directed at understanding the experiences of injured athletes with injuries requiring long-term (and sometimes uncertain) rehabilitation. In this later section, I will pay particular attention to qualitative investigations of LTIR which have helped to elaborate our understanding of the complexity of athletic injury rehabilitation.

The majority of injuries athletes experience are not serious and only result in short absences from training and competition. Nonetheless, despite these injury experiences being short-lived, they are often not pleasant. In addition to physical pain, injured athletes may also experience emotional distress related to non-participation in an activity they enjoy, challenges or difficulties related to the rehabilitation process, losing a spot on a team, or missing out on meaningful tournaments. How an athlete responds to being injured is a personal process. There are, however, common elements among athletes; Heil noted:

> A common thread of experience shared by all athletes from the weekend warrior to the professional is that when injury strikes, each is denied the opportunity to train or compete and is denied access to the benefits sport provides. (1993, p.18)

Athletes' response to injuries can be classified into the following categories: behavioural responses (e.g., rehabilitation adherence or continuing to train/compete), biological responses (e.g., poor sleep or healing), and psychological responses (e.g., disturbed affect or changed self-perceptions). These categories of responses may interact, leading to positive or negative rehabilitation outcomes and successful or unsuccessful return to sport.

Athletes' affective responses to being injured have been a topic of investigation for nearly 40 years. Little (1969) is often cited as the first researcher to document mood disturbance in men who were no longer able to participate in sport. Specifically, he observed neurotic behaviour in these men—a condition he termed the "athlete's neurosis."

Little concluded that, within a group of male psychiatric patients, those with athletic histories—or those with "athletic personalities"—were more prone to *major crisis* as a result of experiencing, what he considered, an apparently trivial stressor (illness or injury leading to prolonged inactivity). Moreover, due to their previously healthy lifestyle, the premorbid condition of the athletic group was reported to be considerably better than the non-athlete group. Little reported that the athletic group exhibited less psychiatric or physical symptoms, were in good physical health, had healthy personal relationships, and were extroverted and sociable; yet, they had less favourable prognoses. A decade later, and with exercise becoming increasingly popular in North America, Little revisited his earlier work. He offered new observational data; specifically, that he and his colleagues had continued to encounter individuals presenting with the athlete's neurosis (1979). These reports led Little to propose that the exercise/health craze, jogging, and related aerobic activities, may have concomitant mental-health implications (1979).

Athletes' Responses to Injury

Models of Responding to Athletic Injury

Stress Models

As Little (1969) observed, becoming injured can be an ongoing source of distress for athletes. Weiss and Troxel (1986) explored athletes' responses to being injured from a stress-response perspective. In particular, they noted that little attention had been given to the role of psychology in athletic injury rehabilitation processes. Their exploration of these processes was broken into four parts: a brief, theoretical discussion on the role of psychology in injury rehabilitation, a model of injury as a stressor, a quasi-experimental case report outlining some of the common problems injured athletes may experience, and several recommendations for athletic trainers working with injured athletes.

Whereas Andersen & Williams (1988) and Williams & Andersen (1998) had considered the *athletic situation* as the starting point for their stress-injury model, Weiss and Troxel (1986) proposed *injury* was the central stressor and the origin of their model (the outer portion of Figure 2.2). Furthermore, the injury (stressor) is depicted to put both physical and affective demands on the individual. Weiss and Troxel proposed that Stage 2 (appraisals) and Stage 3 (emotional responses) have moderating affects on successive stages. That is, how the athletes appraise their situation and their evaluation of intrinsic and extrinsic coping resources (Stage 2) influences an athlete's emotional, behavioural, and physiological responses (Stage 3). For example, an athlete may experience a range of emotions, including fear, anger, hope, and relief (Stage 2), that may be coupled with physiological responses to these psychological reactions (Stage 3). An athlete's feelings of anxiety may concomitantly result in autonomic reactions, such as increased heart rate and muscle tension (Stage 3). Finally, there are often enduring behavioural and psychological consequences (Stage 4), such as chronic tension, fatigue, and somatic changes that can influence the healing process. Injury rehabilitation, however, is an ongoing process that can last for months or even years. As a result, the fourth stage is not necessarily a final stage; rather, it may be seen as the point when the process begins again. In the case of long-term injuries athletes may cycle through this process a number of times according to phases of injury rehabilitation including: acute pre-operative phase, acute post-operative phase, early functional restoration phase, mid or late functional restoration and conditioning phase, and skill development and return to play phase, to name a few.

Using this model as a framework, Weiss and Troxel (1986) investigated the common problems athletes encounter during injury rehabilitation by interviewing ten injured athletes. Some of the problems athletes' experienced as a result of being injured

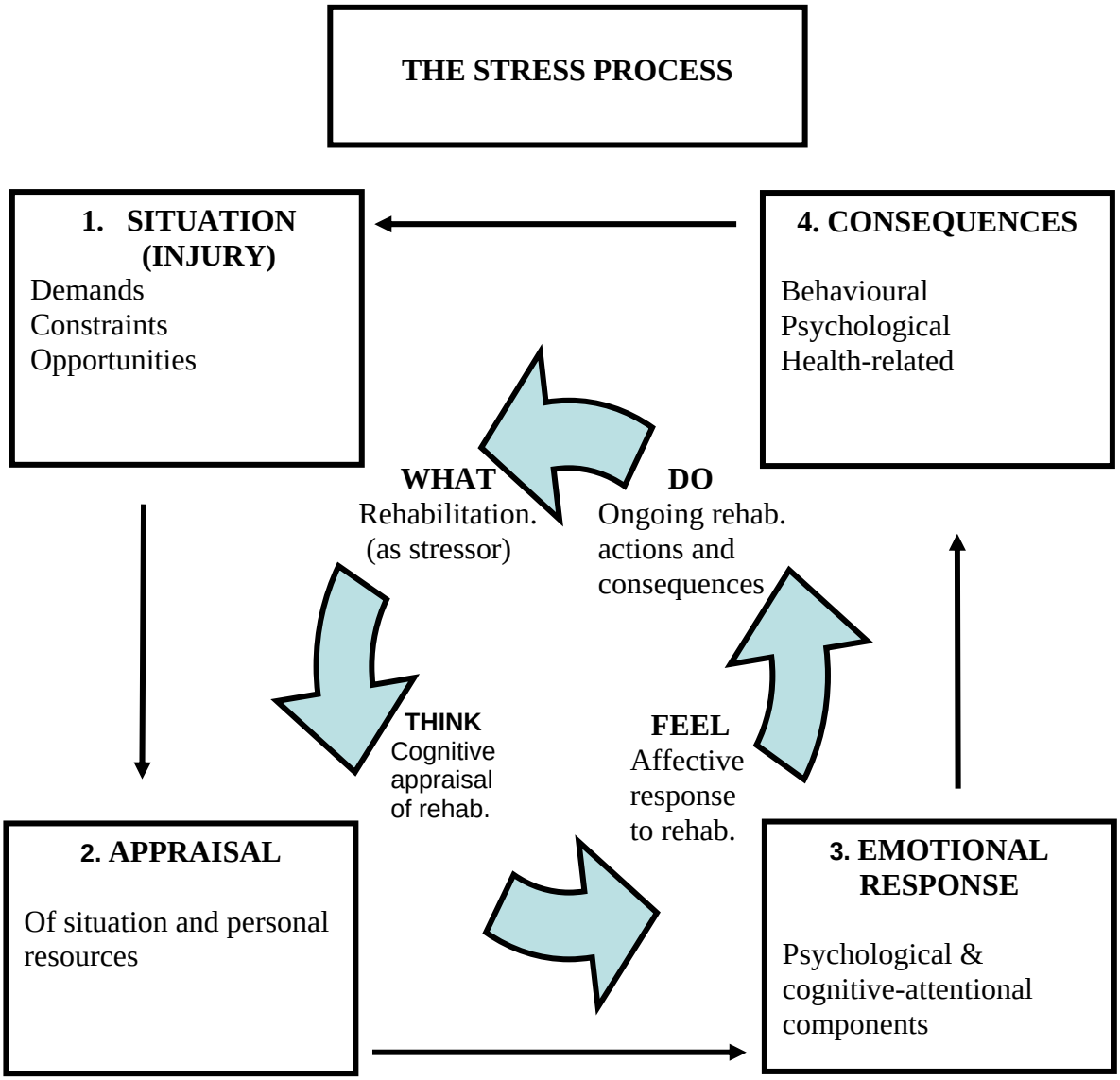

Figure 2.2. Modified model of cognitive appraisal and stress response to injury and ongoing rehabilitation processes. Adapted from Weiss and Troxel, 1986; Wiese and Weiss, 1987.

included difficulty maintaining a positive frame of mind and frequently experiencing defeating, and anxiety provoking, *what if?* thoughts. Athletes also reported negative emotions including fear, rage, depression, and guilt. Somatic responses, such as feeling hyperactive, fatigued, gastro-intestinal disturbance, and poor sleep patterns were also reported by athletes (Weiss & Troxel). Finally, a generalised inability to cope with the injury was expressed as feeling overwhelmed, trying to take shortcuts and under-acknowledging improvements in rehabilitation. From these findings, Weiss and Troxel made several recommendations for athletic trainers who work with injured athletes. These recommendations included: focusing on treating the athlete as a person rather than an injury; having and using good communication skills, such as listening; giving feedback on progress; being in tune with non-verbal cues; addressing and encouraging the use of both physical and psychological skills in rehabilitation; and using the assistance and resources of a sport psychologist. A year later, Weise and Weiss (1987) discussed how members of the sports medicine team might promote the use of psychological skills in facilitating recovery from sports injuries.

Wiese and Weiss (1987) presented a 4-stage model to describe the stress response in relation to athletic injury. Although Wiese and Weiss' model is linear, they stated "Logically, stages 2 through 4 of the model may not necessarily remain consistent throughout the cycle of an injury. Rather, thoughts and emotions may be constantly changing through the course of the injury rehabilitation cycle" (p. 322). For simplicity here, Figure 2.2 is a combination of both Weiss and Troxel's 1986 and Wiese and Weiss's 1987 models. Specifically, Wiese and Weiss's model has been depicted cyclically and oriented in the middle of the Weiss and Troxel's model in this dissertation.

In both cases, Weiss and Troxel (1986) and Wiese and Weiss (1987) referred to the cycle of rehabilitation and the importance of changing thoughts, emotions, perceptions

during rehabilitation. I have combined and presented the models to reflect injury rehabilitation as a cyclic and dynamic process opposed to a linear process. In their combined format, the inner portion of Figure 2.2 is proposed to represent cognitive process, which may be more dynamic (i.e., an athlete's thoughts may change rapidly and not necessarily effect behaviour) and therefore cycle faster than the outer processes of the model. The outer portion of the model, then, represents more overt rehabilitation process (e.g., rehabilitation and return to sport activities). Each of the stages in the outer portion of the model is proposed to mediate the response in the subsequent stages. As the athlete proceeds through rehabilitation, the stress processes are altered, by the embedded components (i.e., Wiese & Weiss), having moderating affects on each of the stages during subsequent cycles.

Grief Models

Succumbing to a serious injury typically means that athletes will no longer be participating in activities they enjoy. Additionally, many athletes, both elite and recreational, gain a sense of mastery, competence, self-worth, and even sense of self-identity by participating in sport. As a result of becoming injured, athletes may experience grief that is related to a number of losses. Athletes' grief may be related to non-participation in an enjoyable activity, loss of fitness, loss of social contact, among other things. It is also reasonable to conclude that many athletes' grief will be more emotionally complicated and relate to a sense of loss or death of aspects of oneself. Sport, for example, may provide a medium in which highly invested athletes frequently experience mastery, success, and praise, among other things, which bolster one's self-esteem. In turn, one's self-concept may revolve largely around being an *athlete.* The grief some athletes experience in relation to being injured may, therefore, be related to a sense of loss of their athletic self. Along these lines, several authors have proposed that the grief process injured

athletes experience is similar to that of terminally ill people (Gordon, 1986; Gordon, 1988; Pedersen, 1986; Rotella, 1988; Silvia & Hardy, 1991). These authors have suggested that athletes must work through the five stages of denial, anger, bargaining, depression, and acceptance (Kübler-Ross, 1969) in the process of recovering form athletic injury.

Even though both Gordon (1988) and Pedersen (1986) comment that the grief response is likely to be an individual process for each athlete, one that is not static or predictable; they go on to outline and sequentially describe, from a five stage perspective, *typical* athlete responses to athletic injury. Early grief models have often been criticised as being too rigid and not accounting for oscillating or concurrent emotional experiences (Brewer, 1994; Wiese-Bjornstal et al., 1988; Udry and colleagues, 1997). For example, Smith, Scott, O'Fallon, and Young (1990) found athletes simultaneously expressed increased depression, increased tension, increased anger, and decreased vigour soon after becoming injured and a reversal of these states as they worked towards returning to full sport participation. Overall, they concluded that negative affect decreased over the course of rehabilitation. Others have cited the absence of certain stages of the models (denial in particular) in response to athletic injury in their criticisms of stage models derived from Kübler-Ross' model (Quackenbush & Crossman, 1994; Smith et al.). It seems that some of these early researchers had interpreted Kübler-Ross' model to represent a sequential or linear process. Such an interpretation was likely too rigid. Others have noted that Kübler-Ross did not claim that the five stages represented a necessarily sequential process (Evans & Hardy, 1995; Lazarus & Folkman, 1984; Smith et al.). Finally, it has been suggested that, because Kübler-Ross developed the model based upon interviews of terminally ill and often older individuals, applying it to other groups experiencing loss may not be appropriate (Brewer, 1994; Heil, 1993; McDonald & Hardy, 1990; Smith et al.). For

example, injured athletes' experiences of loss are somewhat more symbolic (e.g., loss of athletic self); moreover many athletes are young and likely to recover fully.

Evans and Hardy (1995) related grief to any loss an individual experiences, stating that "loss is simultaneously a real event and a symbolic event" (p. 229). For the injured athlete, grief may be related to both the actual loss (e.g., loss of ability, loss of a role—in which they may be highly invested), and to perceived losses associated with being injured (e.g., loss of respect, sense of self). Because their sense of loss is often highly personal and even symbolic, injured athletes, unlike the bereaved or terminally ill individuals, may not be afforded, or perceive to be afforded, the same *right* to grieve their losses as those with debilitating or life threatening illnesses (Evans & Hardy; Lazarus & Folkman, 1984).

In their literature review, Evans and Hardy (1995) noted that there was a general inconsistency in the number of stages/phases authors propose that athletes experience in response to injury. For example, after interviewing an elite athlete who had recovered from injury, Gordon and Lindgren (1990) suggested a four-stage process consisting of denial, anger, depression, and eventually acceptance. In a brief article, Pederson (1986) proposed that athletes go through three phases: shock or denial, followed by preoccupation, and finally the athlete reorganizes their interests—often returning to previous activities. Heil (1993) also proposed three phases of injury recovery; distress (e.g., shock, anger, anxiety, and depression), denial (e.g., a disbelief or refusing to accept the injury), and determined coping (employing one's resources in order to recover). McDonald and Hardy (1990) contributed a two stage model of response in which athletes affect shifts from negative to positive as rehabilitation progresses. Evans and Hardy argued that the debate over the number of stages/phases is one of semantics, which, to date, has been largely limited to empirical testing of how and when athletes might oscillate among the complex pattern of responses characterising the grief process. Ultimately, Evans and Hardy concluded that

there is limited literature in support of grief response models. Similar to the stress models, it seems that models that accommodate a dynamic and oscillating (opposed to linear) process may also better account for grief processes.

Cognitive Appraisal Models

Unlike grief models and other stage models, cognitive appraisal models are said to capture athletes' unique and individual reactions to stressful events—in this case athletic injury (Evans & Hardy, 1999). Lazarus and Folkman (1984) proposed a transactional view of stress and coping. Coping was said to be an individual's effort to manage events that are appraised to be stressful. Furthermore, personal and situational factors were proposed to interact with one another and have a subsequent influence on an individual's behavioural and emotional responses to the stressor. In addition to accommodating individual differences, cognitive appraisal models emphasise an individual's evaluations of stressful events—in this case, injury. Evans and Hardy (1999) claim that both grief and cognitive appraisal models are ultimately "adaptation models and therefore influence situational, as well as personal responses, to perceived threat (cognitive appraisal) or loss (grief)" (p. 57). They further proposed that there is utility in models of injury response that endorse both grief and cognitive appraisal models.

In fact, Wiese-Bjornstal et al. (1998) had outlined both grief and cognitive appraisal models in presenting, and then discussing, their integrated model of response to sport injury (c.f. *Integrated Models of Response to* Injury, below). In their literature review, Wiese-Bjornstal et al. (1998) focused on two of the three psychological responses to athletic injury presented in their model: cognitive appraisals and emotional responses. In a concurrent article, Brewer (1998) discussed a third set of reactions to athletic injury—behavioural responses, which will also be discussed.

Psychological Responses to Athletic Injury

Cognitive Appraisals

When an athlete becomes injured there are many things that they may have to resolve. One of the first responses athletes have when they become injured is to appraise their immediate physical situation, their pain, and their ability to continue. As time passes, they may begin to appraise their potential playing status, and the other various immediate consequences of being injured. Immediate responses are what Lazarus and Folkman referred to as primary appraisals (1984). These appraisals are a series of judgements that athletes use to understand their situations. Moreover, these judgements are likely to include multiple and even conflicting emotions (Hall, 2005; Lazarus & Folkman, 1984; 1988). Athletes' consequent efforts and secondary appraisals (Lazarus & Folkman, 1984), directed towards managing the ongoing situation, might involve determining the severity of their injury and the progress of their rehabilitation.

A variety of factors play into athletes' appraisals of injury severity, including time of season, meaning of the injury to the athlete, and the actual degree of physical trauma. Along these lines, Crossman and Jamieson (1985) explored the relationship between *actual seriousness* of an injury (i.e., the degree of physical trauma) and the athlete's psychological response. The responses of athletes, who either over- or under-estimated their injury severity, were compared. Athletic trainers were also asked to rate the severity of each athlete's injury. The comparison between the athletes' and trainers' ratings of injury seriousness revealed that athletes perceived their injuries to be more serious than did trainers, but athletes thought that these injuries would have less effect on their abilities to perform than did trainers. A significant positive relationship was also found between athletes' estimation of seriousness of their injury and the levels of pain and state of anxiety they experienced. Higher estimations of injury disruption were positively correlated with

the duration athletes reported experiencing pain, greater feelings of inadequacy, more anger, increased loneliness, and more apathy (Crossman & Jamieson). Crossman and Jamieson suggested that more seriously injured athletes had more extensive responses because they were concomitantly exposed to different, perhaps greater levels of, emotional trauma than lesser injured athletes. Finally, injury appraisal was more accurate by athletes who competed at higher levels. These athletes would be more likely to have participated in sport for more years, trained harder, and experienced more injuries, which may have given them a wider range of injury and rehabilitation experience. Consequently, these more competitive athletes would respond to and appraise their injuries more accurately than more recreational athletes.

The process of rehabilitation has been found to be influenced by athletes' appraisals of their situations as well as what they choose to attend to post injury. Weiss and Troxel (1986) and Wiese and Weiss (1987) presented the first models in sport that referred to athletic injury as a stressor. The amalgamation of these two models (Figure. 2.2) represents the relationship between athletes' injury appraisals and their coping as a function of their stress responses. How athletes interpret their injuries and abilities to cope with rehabilitation are depicted to directly influence how they feel; these emotional responses then influence what the athletes do about the injury. Further, because the process is cyclical, the factors outlined in Stage 4 (Figure 2.2) can effect the athletes' intermediate rehabilitation situation. Because athletes reappraise their intermediated rehabilitation situations, subsequent affective responses are not only in relation to injury appraisals but also rehabilitation appraisals (i.e., secondary appraisals, Lazarus & Folkman, 1984). As the rehabilitation cycle continues the athlete's emotional responses change and effect new or different rehabilitation consequences (Hall, 2005). In addition to being injured and in rehabilitation, the athlete may also evaluate the cause of the injury (including antecedents),

and the type of support they will require (social, medical, financial); they may also look inward at themselves and consider their self-worth, self-confidence, self-esteem, and self-efficacy (Hall; Wiese-Bjornstal et al., 1998).

Investigators considering athletes' global evaluations of *self* following injury have tended to report equivocal findings. Some studies comparing injured and non-injured athletes have found that injured athletes have lower self-esteem, self-worth, self-confidence, sense of mastery, and more disparaging self-talk than their non-injured counterparts (Chan & Grossman, 1988; McGowan, Pierce, Williams, & Eastman, 1994). In other athlete surveys (Brewer & Petrie, 1995; Leddy, Lambert, & Ogles, 1994; Smith, Stuart, Wiese-Bjornstal, Milliner, O'Fallon, & Crowson, 1993), researchers reported no significant difference in athletes' global self-esteem when healthy or injured.

When more specific measures of self-worth or self-esteem were used (e.g., self-efficacy, physical self-esteem), researchers found the patterns of athletes' post injury self-appraisals became more consistent. This is likely because injuries often disallow athletes the opportunity to remain engaged in environments (e.g., training, competition, and team) in which they often experience mastery and competence. Specifically, decreases in an athlete's self-worth (Brewer, 1993), self-esteem (Leddy et al., 1994; Smith et al., 1993), physical self-efficacy, and sport skills efficacy (Connelly, 1991, as cited in Wiese-Bjornstal et. al., 1998) occurred as a result of sustaining an injury.

Athletes' cognitive responses to injury and rehabilitation have been recognised to contribute to their level of distress in response to being injured (Heil, 1993; Wiese & Weiss, 1987; Weiss & Troxel, 1986; Williams & Andersen, 1998). Moreover, these cognitive responses may feed into a self-fulfilling prophecy or pattern of responding. For example, if athletes negatively appraise their injuries, coping resources, or prospective rehabilitation programs, they may experience increased distress. Increases in distress may

result in, for example, poor adherence to rehabilitation programs, social disengagement, or poor sleep; which, in turn, results in unfavourable intermediate rehabilitation outcomes such as successful or timely functional restoration of their injured body part. As this process continues, athletes' intermediate rehabilitation appraisals will likely be negative which further increases their level of distress. With each successive cycle, the athletes' expectations and subsequent behaviours become increasingly negative. In addition, cognitive distortions such as catastrophizing (over exaggerating the severity or outcome of the injury) or overgeneralisation (applying the consequence of the injury to all aspects of their life, or athletic future) can exacerbate this cycle (Heil, 1993). Therefore, negative post-injury self-and injury-appraisals are likely to result in emotional and behavioural consequences which negatively influence physical and psychological rehabilitation outcomes. It has been noted, however, that cognitive behavioural interventions (cf. section on psychological interventions below) such as cognitive restructuring would likely contribute to positive outcomes in such circumstances (Brewer, 1998; Heil, 1993; Wiese-Bjornstal et al., 1998).

Emotional Responses

After Little's pioneering reports on athletes' emotional responses to being injured (1969; 1979), investigation into the psychological sequelae of athletic injury rehabilitation continued with the development of an early theoretical model of the injury response (Weiss & Troxel, 1986; Wiese & Weiss, 1987). Researchers soon sought to identify the types of affective disturbances athletes were experiencing in response to being injured (Brewer, Linder, & Phelps, 1995; Chan & Grossman, 1988; McDonald & Hardey, 1990; Pearson & Jones, 1992; Smith, Scott, O'Fallon, & Young, 1990; Smith, Scott, & Wiese, 1990). Others compared elite and recreational athletes' psychological responses to injury (Granito, 2000; Quinn & Fallon, 1999; Wiese-Bjornstal et. al., 1998) and explored the role of social

support in injury rehabilitation (Ford & Gordon, 1993; Ford, Gordon, & Horsley, 1993; Lilliston, 1985; Smith, Smoll, & Ptacek, 1990; Udry, Gould, Bridges, & Tuffey, 1997). Intervention studies also provided insight into athletes' affective responses to being injured (Brewer, Jeffers, Petitpas, & Van Raalte, 1994; Brewer, Van Raalte, & Linder, 1991, Crossman & Jamieson, 1985; Durso-Cupal, 1996; Johnson, 2000; Johnson, Ekengren, & Andersen, 2004). Attempts were also made to identify the moderating effects of different variables on the post-injury affective response (Grove, Stewart, & Gordon, 1990; Smith, Smoll, Ptacek, 1993; Valiant, 1981).

In their review of literature, Wiese-Bjornstal et al. (1998) noted that 12 of 19 studies exploring athletes' responses to sport injury used the Profile of Mood States (POMS), in some form, to measure injured athletes' mood states. For example, in response to being injured and not being able to run, Chan and Grossman (1988) identified psychological sequelae among recreational runners consisting of diminished self-esteem, depressed mood, elevated anxiety, feelings of confusion, and a generalised negative affect. Other researchers have reported similar findings (Little, 1969; 1979; Weiss & Troxel, 1986, Wiese & Weiss, 1986). Hall (2005) warned, however, that the POMS is heavily weighted in favour of reporting negative affect. As a result, positive affect other than vigour, as reported in studies using the POMS, may have been under-reported.

In many of the studies reviewed by Wiese-Bjornstal et al. (1989), researchers did not consider the process of rehabilitation over time. Researchers who used a single, post-injury, measurement typically found elevated negative affect and lowered positive affect in injured athletes. Alternatively, researchers who investigated athletes' affective responses throughout rehabilitation reported athletes' mood states changed over time. Generally, negative affect decreased and positive affect increased as their injury improved (Grove, et al., 1990, as cited in Wiese-Bjornstal et al., 1998; McDonald & Hardy, 1990). These first

longitudinal studies only considered injury over the course of a maximum of six weeks. Nevertheless, these studies hinted that athletic injury rehabilitation was an emotionally dynamic process.

The general conclusion that athletes' emotional states improved during the course of rehabilitation was, however, too simplistic. Moreover, the ostensibly short intervals athletes had been measured over did not lend adequate insight into the process of recovery from more serious injuries. A more in-depth description of the psychological sequelae athletes experience during injury rehabilitation emerged when injured athletes were followed over longer periods of time. For example, Smith, Scott, O'Fallon et al., 1990 asked injured athletes to complete the POMS and the Emotional Responses of Athletes to Injuries Questionnaire (ERIAQ) at two week intervals until they returned to sport or four months, whichever came first. All athletes experienced elevated negative mood following injury. By two weeks, negative mood had returned to normal levels in those athletes who had either returned to sport or were near to returning to sport. Mood disturbance in the more seriously injured athletes, however, remained elevated for at least one month. Additionally, the most seriously injured athletes expressed more pronounced negative emotion than athletes with minor injuries. As a result, Smith, Scott, O'Fallon et al., concluded: "the most seriously injured athletes who suffered pronounced and protracted emotional disturbance…may require psychologic support during rehabilitation" (p. 46). The large standard deviations within their data also highlighted the diversity of responses to athletic injury, a point not overlooked by Smith, Scott, and O'Fallon et al., who suggested the needs of each athlete be individually assessed.

There are only a few studies that have investigated long-term injury rehabilitation (LTIR). Two of these research studies were dissertations; LaMott (1994, as cited in Wiese-Bjornstal, 1998) and Morrey (1997, as cited in Wiese-Bjornstal, 1998). Both extended the

time span of investigation into athletes' affective responses to athletic injury and rehabilitation to three and six months, respectively. Participants in both studies were athletes recovering from anterior cruciate ligament (ACL) reconstruction—which often requires 6-12 months to fully rehabilitate and return to sport. Therefore, neither study necessarily followed all participants to full recovery. Across time, a "U" pattern of overall negative affect was found. That is, total mood disturbance was high during the initial acute phase of injury. It progressively improved as athletes' injuries healed, but then began to rise again in the end phase of physical recovery. Increased total mood disturbance at three (LaMott) and six months (Morrey) may reflect, among other things, the athletes' frustration with long-term rehabilitation, slow progress, anxiety regarding their ability to return to sport, or the prospect of retirement.

Both LaMott (1994, as cited in Wiese-Bjornstal, 1998) and Morrey (1997, as cited in Wiese-Bjornstal, 1998) used *total mood disturbance* (a measure derived by adding the negative emotion scores and then subtracting positive emotion scores from the ERIAQ) to plot athletes' overall response to the process of rehabilitation. Measuring total mood disturbance, however, may not be the best indicator of an athlete's psychological recovery from injury, as the unique presentation of individual mood states may be concealed by the global pattern. When individual mood states were considered, both LaMott and Morrey found individual patterns of fluctuation for each mood state throughout rehabilitation. For instance, Morrey reported a linear decline in boredom, a "U" pattern for frustration, and "inverted-U" for optimism throughout six months of rehabilitation. The proposal drawn from early research, that athletes' affective responses to injury rehabilitation is not a static process, was supported by these longitudinal findings. Yet this conclusion was likely still too simplistic. Rather, athletes undergoing long-term rehabilitation are likely to experience a dynamic fluctuation of emotions in response to being injured, the challenges of different

phases of rehabilitation, and returning to sport. In their summary Wiese-Bjornstal et al. (1998) stated “it is likely that the pattern of emotional response to severe injuries with long recovery durations is sinusoidal, [and that] clearly post-injury mood state is not static” (p. 54). The accuracy of this suggestion will be tested through future investigation into long-term injury rehabilitation.

Athletes who have experienced severe injuries (e.g., ruptured ligaments, torn cartilage, complicated fractures), which frequently require surgical intervention, casts, or walking aids, often require long and drawn out rehabilitation. Investigating the psychological sequelae of injury rehab for these athletes, therefore, can be a lengthy undertaking. Quinn and Fallon (1999) followed 136 injured elite athletes with a variety of serious injuries to full physical recovery (from 4 weeks to 99 weeks). The POMS was used to assess athletes’ mood states at four intervals: injury, 1/3 recovery, 2/3 recovery, and full recovery. At each of these intervals athletes also responded to questions pertaining to their self-efficacy, confidence, and coping strategies. Quinn and Fallon concluded that, as athletes healed physically, their emotional state also improved. When individual variables were considered, however, linear, cubic, and quadratic trends were found across time. For example the greatest rate of change was found between injury and 1/3 recovery for Tension, Depression, Confusion, and Vigour (albeit in the opposite direction to negative affect); during the middle phase of recovery (between 1/3 and 2/3 recovery) the rate of change slowed; and as the athletes approached full recovery (2/3 to full recovery) the rate of change in emotion again increased. The trend for Anger was similar, only the rate of change was least between 2/3 and full recovery. Fatigue tended to decrease at a linear rate across all four phases. Sinusoidal trends were also observed throughout rehabilitation for both state sport-confidence and rehabilitation confidence. Athletes’ confidence typically decreased from injury to 1/3 recovery, and then increased at incrementally greater rates

from 1/3 to 2/3 and 2/3 to full recovery. Athletes tended to use a variety of coping skills during the early phases of injury, but active coping was the predominant form of coping throughout rehabilitation. These affective data augmented earlier findings (LaMott, 1994 as cited in Wiese-Bjornstal, 1998; Morrey, 1997, as cited in Wiese-Bjornstal, 1998; Smith et al., 1990), emphasising that when we take a more detailed look at the various processes of injury rehabilitation we begin to uncover considerable fluctuation.

Quinn and Fallon's (1999) methodology, however, may have led to some misleading results. First, the researchers did not separate the participants into groups based on the duration of injury rehabilitation. Some athletes only underwent four weeks of rehabilitation while others underwent 99 weeks. Therefore, the temporal contiguity of measurements would have been extremely different for participants who recovered in 4 weeks compared to those who took 12 months, 18 months, or 24 months to recover. Quinn and Fallon examined the results of all athletes as one group; however, it is likely that the emotions, thoughts, and behaviours of the athletes who recovered quickly were different from those who were involved in longer rehabilitation. Consequently, any differences in response to injury rehabilitation, between short-term injured and long-term injured athletes would have been masked. Finally, the second and third measurement intervals (1/3 and 2/3 recovery) were based on doctors' predicted time to recovery, however, these predictions were in error by an average of 10 weeks in over half of the 15 categories of injury. As a result, the second and third measurement dates were changed by up to two and a half months depending upon the recovery status of each participant. These discrepancies in measurement likely contributed to the athletes' apparent decrease in confidence during the middle phases of recovery. Indeed Quinn and Fallon commented that the variation in rehabilitation duration likely contributed to the error variance.

Hall (2005) also found a similar pattern of emotional responses during long-term injury rehabilitation (LTIR): an elevated negative affect during the early phase of recovery followed by an undulating decline throughout rehabilitation, and an inverse pattern for positive affect. Hall, however, found that positive and negative affect were only moderately negatively related (r = -0.22); and concluded that positive and negative affect were distinct states and that their occurrence during long-term injury rehabilitation (LTIR) was not mutually exclusive. That is, an injured athlete might experience anxiety yet still express high levels of vigour. Quinn and Fallon (1999) included a survey of coping strategies used during injury rehabilitation. They reported that coping style was relatively constant throughout rehabilitation, but Quinn and Fallon did not explore the relationship between coping and affect. Hall, however, did investigate the relationship between coping and affect. He found that emotion-focused coping (e.g., seeking emotional support, acceptance, denial, positive cognitive restructuring/interpreting) predicted negative affect and poor recovery rate; adjustment focused coping (e.g., using humour and acceptance of ones' situation) was inversely related to negative affect. Furthermore, adjustment and problem-focused coping (e. g., active coping, planning, seeking instruction/information), in relation to individuals' attempts to manage the problem, predicted positive affect. These findings lead Hall to support the call for an integrated approach to understanding athletic injury rehabilitation. Specifically, Hall commented:

> …relationships between athletes' thoughts, feelings and behaviours and physical and psychological rehabilitation [are complex]. The integrated approach provides a framework within which future research can examine the links between psychological, physiological and behavioural aspects of athletes' rehabilitation from injury…[and] ultimately develop interventions which will lead to improved psychological and physical rehabilitation. (p. 299)

Hall's findings also brought positive affect, as a response to athletic injury, out of the shadow of the more frequently reported negative affect.

Though not specifically intent on deciphering the psychological sequelae following athletic injury, Chan and Grossman's (1988) study contributed to understanding the rehabilitation process. They sought to better understand what they referred to as "exercise addiction" or "positive addiction" and the associated positive affect of habitual exercisers. Chan and Grossman postulated that injured habitual runners would experience withdrawal symptoms due to an inability to run or exercise. The framework for their research, then, was an addiction-withdrawal model rather than a stress-injury model. A strength of their research design was that injured athletes were systematically matched with non-injured athletes as controls. Three standardised scales were used to measure the emotional cost of not running: the POMS, the Rosenberg Self-esteem Scale, and the Zung Depression Scale. Additionally, body image was measured using two non-standardised questions that were included on the demographic questionnaire. Compared to the non-injured runners, injured runners were more dissatisfied with their looks and had a greater desire to change their looks. In addition, the injured runners were also reported to have higher scores on the Zung Depression Scale and reported lower levels of self-esteem than non-injured runners. Finally, injured runners demonstrated significantly greater levels of Anger, Anxiety, Confusion, Depression, Total Mood Disturbance, and less Vigour than their non-injured counterparts.

The results of an increasing volume of quantitatively driven research support the notion that athletes experiencing severe injuries, requiring long-term rehabilitation, frequently exhibit variable emotional sequelae. To understand these emotional processes further, a number of researchers have called for qualitative investigations that use a repeated measures design (e.g., Brewer, 1994; Heil, 1993; Quinn & Fallon, 1999; Udry, Gould, Bridges, & Beck, 1997; Udry, Gould, Bridges, & Tuffey, 1997). In response, Tracey (2003) explored the emotional responses of injured athletes at three points during

their rehabilitation: injury onset, one week post-injury, and three weeks post-injury. Consistent with other research (LaMott, 1994, as cited in Wiese-Bjornstal 1998; Morrey, as cited in Wiese-Bjornstal, 1998; Quinn & Fallon, 1999; Sparkes, 2000), during injury rehabilitation, athletes reported oscillating emotions including decreased self-esteem, a sense of loss, anger, helplessness, and frustration. Injured athletes also expressed fearful feelings related to loss (real or perceived) of fitness, athletic identity, independence, and position on the team. Although Tracey presented her data in case study format, it was purely reportage and contained no supporting data such as quotes or a table of higher and lower order themes. Quotes augmenting her results would have provided the reader with a more in-depth understanding of the athletes' experiences. Similar to Quinn and Fallon, participants in Tracey's study had a wide range of injury severity (e.g., severe bruises, sprains and strains, fractured bones, and ruptured ligaments). Although Tracey used consistent interview intervals (e.g., injury onset, 1 week post-injury, and 3 weeks post-injury), the duration of rehabilitation, potential disruption to the athletes' athletic participation, and timing of interviews (relative to phase of rehabilitation) were all factors that cloud the dynamics of these athletes' respective experiences. Tracey also did not follow all athletes through to full rehabilitation. Tracey's report reflected attitudes and emotions of athletes during rehabilitation opposed to athletes' recollections of rehabilitation (cf. Udry and colleagues, in qualitative perspectives in behavioural responses, below). It did not, however, reflect the entire rehabilitation process for all athletes.

Finally, although many athletes do not experience clinical levels of psychological distress, some do. For example, in a survey of 313 athletes, Leddy et al. (1994) found 24% of athletes surveyed within a week of being injured experienced depression at varying levels: of these athletes 43 experienced mild, 15 experienced moderate, and 17 experienced

severe depression. At two month follow-up, 23% of the athletes were still experiencing some depression: 54 athletes reported mild depression, 10 athletes reported moderate depression, and 8 athletes reported severe depression. These data, and the results of other similar studies (Brewer, Linder, & Phelps, 1995; Smith & Milliner, 1994; Smith, Stuart, Wiese-Bjornstal, Milliner, O'Fallon, & Crowson, 1993), encourage those involved with injured athletes to consider the negative emotional implications of athletic injury. In addition, given the high cost of health care (as well as the psychosocial costs of injury) Smith et al., (1993) suggested that it would be prudent for healthcare professionals to consider psychological as well as physical means of improving and accelerating the healing process.

Behavioural Responses

Athletes' behavioural responses to athletic injury and rehabilitation can both facilitate and hinder recovery. Brewer (1998) reviewed the research focused on factors that affect injury rehabilitation outcomes. Behaviours reported to facilitate recovery included: adherence to rehabilitation programs; following expert advice (e.g., doctor or physiotherapist); compliance with medication, rest, and clinic and home based programs; use of psychological strategies or skills (e.g., relaxation, goal setting); positive coping; and the use of social support.

Adherence to a rehabilitation program is not just as simple as attending physiotherapy; it can be described as a complex set of responses comprising cognitive appraisals and actions that influence athletes' recovery from injury and their preparation for return to sport. Brewer's review (1989) was primarily concerned with athletes' behavioural responses to being injured and the consequent effects on adhering to a rehabilitation program. Adherence to rehabilitation, however, may be moderated by situational (e.g., proximity to social support), cognitive (e.g., appraisals of support), and

affective (e.g., diminished self-worth and feelings of isolation) processes. For example, recently Hall (2005) found that high self-efficacy and feelings of control were positively related to adherence to rehabilitation programs. Halls' findings have implications for the integrated approach to athletic injury rehabilitation. For example, cognitive interventions focused on strengthening athletes' belief in their ability to take action and work towards specific and achievable rehabilitation goals will likely help them remain engaged in rehabilitation.

Several other personal factors have been found to positively influence an athlete's adherence to rehabilitation programs. Several authors have suggested high self-motivation is an important factor (Brewer, Daly, Van Raalte, Petitpas, & Sklar, 1994; Duda, Smart, & Tappe, 1989; Fisher, 1990; Fisher, Domm, & Wuest, 1988). In addition, motivation may be especially important during long-term rehabilitation or when plateaus in rehabilitation occur (Grove &Gordon, 1992; Quinn & Fallon, 1999). Quinn and Fallon (1999) found that motivation waned during the mid-phases of rehabilitation but then progressively increased towards recovery. They speculated that time away from sport and increasing physical ability contributed to this increase in adherent behaviours. Hall (2005) provided one explanation for this motivational process. Specifically, Hall demonstrated a positive relationship between athletic self-concept and motivation to adhere to athletic injury rehabilitation. He postulated that athletes with high athletic self-concepts may be motivated to rehabilitate and return to sport as soon as possible in order to maintain an intact athletic identity. Finally, an athlete's ability to accept or cope with the physical discomfort of being injured may be related to their attendance to, and completion of, particular aspects of their rehabilitation program. Fisher et al. found that athletes who adhered to their rehabilitation programs were able to tolerate pain and discomfort better than non-adhering athletes.

Brewer (1998) discussed two sets of situational factors that have an influence on athletes' rehabilitation behaviours: athletes' perception of their rehabilitation situation (cf. *cognitive appraisals*, above), and uncharacteristic aspects of the individual (e.g., affective states) that occur from being in rehabilitation. Researchers concerned with the relationship between rehabilitation and cognitive appraisals have undertaken investigations designed to explore athletes' belief in rehabilitation efficacy (Duda et al., 1989; Lampton et al., 1993); attributing recovery to factors that are stable and under personal control (Laubach, Brewer, Van Raalte, & Petitpas, 1996; Quinn, 1996, as cited in Hall, 2005); athletes' perception of effort of rehabilitation tasks (Brewer, 1994; Fisher, et al., 1988); perceived support for rehabilitation (Bianco & Eklund, 2001; Duda et al.; Fisher, 1990; Fisher et al., 1988); and athletes' appraised value of rehabilitation, severity of injury, and likelihood of reinjury (Fisher & Hoisingoton, 1993; Taylor & May, 1996). Environmental factors such as convenient access and scheduling of rehabilitation appointments, uncrowded or agreeable environments, and the experts' (e.g., doctors, physiotherapists, coaches) rehabilitation and adherence expectations have also been found to facilitate an athlete's adherence to injury rehabilitation (Brewer, 1994; Fisher, Mullins, & Frye, 1993; Fisher, 1990; Fisher et al., 1988; Lampton et al., 1993; Laubach et al., 1996; Taylor & May, 1996).

Athletes also engage in activities and behaviours that are counterproductive to injury rehabilitation, or could even exacerbate their injuries. These behaviours included ignoring expert advice, ignoring their own warning signals (e.g., pain, fatigue, and anxiety), taking risks (e.g., returning to play earlier than suggested by medical experts, and not using protective/supportive equipment), use (or misuse) of substances (e.g., drugs and alcohol), and malingering (Brewer, 1993). It was further noted that these behaviours frequently emerged in concert with a variety of personal factors (e.g., little or no motivation, low pain tolerance, and poor self-esteem) and situational factors (e.g., a belief

that they can not overcome rehabilitation, poor social support, and inconvenient or unpleasant clinical facility) across many environments (e.g. work, school, home, and club or team).

Behavioural Responses: Qualitative Perspectives

In 1997, Udry and colleagues presented three qualitative publications, all relating to different aspects of elite athletes' injury experiences. This series of studies all stemmed from in-depth interviews with 21 elite skiers who had suffered season or career ending injuries. In the first publication Udry, Gould, Bridges and Tuffy (1997) sought to explore the value of social support for athletes who had experienced burnout or season ending injuries. They found that social support interactions with family, team-mates, and coaches were reported to be both positive and negative, but primarily negative. In order to better understand these findings, Udry et al. paid close attention to lower order and raw data themes (i.e., the athletes' quotes). From these data the authors concluded that athletes experiencing burnout (i.e., athletes said to be under stress) gauged the support from both family and coaches to be negative. Injured athletes, on the other hand, only felt interactions with their coaches to be negative and that their interactions with family provided sense of emotional support or understanding.

In their second study, Udry, Gould, Bridges, and Beck (1997) returned to the data collected for the above study to explore injured ski racers' psychological responses to season ending injuries. More specifically, they sought to compare the themes derived from these data to stage models of injury response. Athletes' psychological reactions to being injured were categorised into four general dimensions: (1) injury-relevant information processing/awareness, (2) emotional upheaval/reactive behaviour, (3) positive outlook/coping, and (4) other. Injury benefits were also grouped into four broad dimensions: (1) personal growth, (2) psychologically based performance enhancement, (3)

physical-technical development, and (4) none. With the exception of *denial*, for which they found little evidence, they were generally able to match the above categories with other stage models (Heil, 1993; Kübler-Ross, 1969; McDonald & Hardy, 1990). A strength of this study was that the researchers made specific reference to the athletes' responses as they discussed the various themes. Using athletes' quotes to augment higher order themes (i.e., the four dimensions of psychological reactions and injury benefits) helps the reader to understand what actually transpires in situ. By using athletes' narratives, which invite the reader to consider the unique experiences of different athletes, Udry, Gould, Bridges and Beck have begun to bring the research from the academic to the applied realm.

Finally, in the third report, Gould, Udry, Bridges and Beck (1997) explored injury as a source of stress for athletes. One of the unexpected findings was that many of the ski racers reported that they did not interpret being injured as stressful. These athletes actually associated stress with competing in skiing. In fact, many athletes claimed that the stress of being injured paled in comparison to ski racing. Being injured, on the other hand, was reported to be frustrating and upsetting. Stressful aspects of injury (cf. below) nevertheless were identified from the athletes' interviews. Although there was discord between the athletes' and researchers' interpretation of the word stress, the open-ended interview format encouraged the athletes to describe and discuss, in their own words, their recollections of being injured. As a result of the open-ended style, the semantics bound to how a particular word (i.e., stress) is defined, or understood, were mute and the athletes' stories emerged. Subsequent to their analysis of the interviews, therefore, Gould et al. proposed that injury related stress fell into eight higher order dimensions: (1) psychological, (2) social, (3) physical, (4) medical/rehabilitation, (5) financial, (6) career, (7) missed non-ski opportunities, and (8) other.

An additional component of the Gould et al., (1997) investigation was the comparison between successful (returned to ski racing) and unsuccessful recovery. Compared to skiers who returned to racing, the athletes who did not return to ski racing felt they received less empathy and attention from others, that their social interactions were more negative, and had more concerns about performing poorly and being inactive. Athletes, who did return to skiing, however, reported feeling isolated more often than skiers who retired. Alpine ski racing typically requires athletes to travel long distances to the mountains where they train and race and live away from friends and family. Like many elite athletes who travel abroad to compete, skiers live a somewhat nomadic lifestyle. The sense of detachment, from the team and team-mates, could have been less for the skiers who decided to retire and give up the nomadic lifestyle of ski racing. Moreover, the athletes may have also begun to (re-) establish relationships outside of competitive skiing. Gould et al., in support for the suggestion that skiers who returned experienced a severance from their team marked by feelings of being forgotten or left behind, presented quotes such as: "You don't hear from anyone (team-mates and coaches) and you feel like you are forgotten," and "I felt shut up, cut off from the ski team…they (the ski team) dropped me off at home, threw all my luggage in the house, and were like 'See you when you get done,' I had a real hard time with that" (p. 370-1).

There were, nevertheless, some methodological concerns with these studies; in particular, athletes were interviewed two to four years post injury. As the interval between the LTIR experiences and the interview increases, the likelihood of recall inaccuracy, memory bias, and selective memory also increases. These studies also do not escape the criticism that the data is not widely generalizable due to the small sample size—a common criticism of qualitative research. Furthermore, Gould et al. (1997) acknowledged that no causal relationships between, for example, the magnitude of duration of negative affect and

athletic injury could be drawn from these studies. Together, though, the three studies by Udry and colleagues provided new insight into the process of LTIR. A strength of these studies (and that of others using open-ended/semi-structured interviews, e.g., Evans, Hardy, & Fleming, 2000) is that participants were encouraged to respond and identify a broad range of experiences that they felt were important or meaningful (Sparkes, 2002). As a result, the researchers and readers are able to gain an insight into the diverse interplay between the many factors athletes' encounter during injury and rehabilitation.

An additional study that reported on an athlete's experiences of LTIR using a longitudinal and qualitative methodology is of particular interest here. Based on data gathered throughout LTIR, Sparkes (1998) explored a female athletes' struggle with coming to terms with a career ending illness, and the concomitant adjustment of her self identity. Sparkes collected 18 hours of interview data over a two year period. It was then interpreted and reconstructed to produce a case study that "highlights the processes in the individual's life, the different theories that relate to these life experiences, and the unique and general features of the [athlete's] life" (Sparkes, p.650). In particular, though, Sparkes and his participant, Rachael, worked to understand the role of her strong athletic identity on transitioning out of elite sport. Sparkes used long quotes as evidence and brought into focus what he described as the turbulent fall from "the heights of the extraordinary into the mundane world of ordinariness" (p.644) that one athlete experienced as a result of a debilitating illness. By using an in-depth case study format, Sparkes is able to outline the biopsychosocial complexity (interplay among the multifaceted components of life events such as serious illness or injuries) that would otherwise be difficult to describe using more traditional (i.e., quantitative) methodologies.

Coping With Athletic Injuries

How athletes cope with being injured is a significant theme in the present research. Moreover, an athlete's appraisal of their situations and the events surrounding their injury and rehabilitation often play a significant role in their experiences, their ensuing behaviours, and ultimately their athletic injury rehabilitation outcomes. Furthermore, athletes' behavioural responses can also have positive and negative effects on the ongoing process of athletic injury rehabilitation, that lead to intermediate rehabilitation outcomes which may influence subsequent appraisals (recall Figure 2.2).

Coping is defined in this dissertation as a set of responses in which individuals engage in attempts to manage personal and situational factors or events they determine to be distressing (i.e., being injured). This definition of coping is in line with Lazarus and Folkman's (1984) definition. Simply, they described coping as a dynamic process involving cognitive appraisals of the stressor (primary appraisals) and of one's coping resources, and one's options for employing those resources (secondary appraisals). Coping, therefore, involves individuals undertaking cognitive and behavioural strategies in an effort to overcome, decrease, or endure the demands of the stressor.

Lazarus and Folkman also proposed two primary modes of coping: problem-focused and emotion-focused coping (1980, 1984). Individuals who engage in problem-focused coping seek to alter a problem or situation. For example, an injured athlete may seek information about the various options available for their rehabilitation, and the actively engage in rehabilitation in order to improve their situation. Individuals engaged in emotion-focused coping seek to alter an internal state or response to a situation. A seriously injured athlete, for example, may not accept that their injury is serious or that it has ended their season. Denial, therefore, may act to alleviate their distress for some time. The coping literature is replete with various types or forms of coping many of which can

be situated within the two coping processes proposed by Lazarus and Folkman. For example, in addition to active coping strategies, Heil (1993) discussed denial and avoidance coping which are emotion-focused processes that an individual employs to minimise their internal state of distress. Heil's ideas of coping with injury were largely based on observations he made in clinical practice. In particular, he proposed that the dynamic aspects of the coping process were expressed as athletes shifted from avoidance forms of coping to more active or determined modes of coping with the stresses of being injured (Heil). This proposal supports Lazarus and Folkman's dynamic notion of coping:

> …a coping process means speaking of change in coping thoughts and acts as a stressful encounter unfolds. Coping is thus a shifting process in which a person must, at certain times, rely more heavily on one form of coping…as the status of the person-environment relationship changes. (p.142, 1984)

Researchers investigating coping strategies used by injured athletes have, however, reported equivocal findings. For example, Udry (1997) sought to ascertain which, if any, coping style (instrumental, negative emotion, distraction, and palliative) best predicted rehabilitation adherence over 12 weeks of injury rehabilitation. Udry found instrumental coping best predicted adherence behaviour. Palliative coping, on the other hand, was negatively related to adherence only in later rehabilitation. Instrumental coping was defined as seeking out information or activities, including educating oneself about a health condition, in an attempt to reduce or lessen the source of stress. In particular, activities that are likely to increases an athlete's sense of involvement and control will, in turn, enhance their rehabilitation efficacy and consequently their adherence. Instrumental coping activities are geared towards improving the athletes' health; therefore, they can be positioned within Lazarus and Folkman's (1980, 1984) problem-focused coping dimension. Palliative coping, on the other hand, involves reducing stress by attempting to lessen the negative aspects of the health problem; and can include denial or avoidance coping. As such, palliative coping falls within Lazarus and Folkman's emotion-focused

coping dimension. Hall (2005), commenting on Udry's findings, noted that palliative coping strategies are likely to benefit early rehabilitation, when rest is beneficial, but they are less likely to foster rehabilitation adherence in the later phases of rehabilitation when the athlete is becoming increasingly active.

Quinn and Fallon (1999) investigated coping styles of elite athletes enduring a variety of injuries. Athletes were found to engage in active coping strategies throughout their rehabilitation. During the early phases of rehabilitation these strategies included planning, taking direct action, and increasing rehabilitation effort (Quinn & Fallon). These active coping strategies are similar to the instrumental coping strategies described by Udry (1997). Throughout the middle phase of rehabilitation, athletes also included emotion-focused coping strategies, such as denial or seeking emotional social support, to help them through rehabilitation. It may be that during the middle phase of recovery (particularly for the most seriously injured athletes) progress is slow or boring, and the athlete is only just beginning to test their injured body part on the field—which might reaffirm their incapacity or how far they still have to go in rehabilitation. Furthermore, the rise, albeit slight, in these more passive forms of coping tended to coincide with negative shifts in the athletes' confidence that they would recover on time and in their ability to be successful again in their sport. In a subsequent report, based on data collected from the same participant group, Quinn and Fallon (2000) found active coping was related to faster partial recovery (i.e., 1/3 through 2/3 recovery) and denial coping was related to faster recovery at 2/3 recovery only. These findings support a dynamic process of coping with athletic injury as rehabilitation progresses. More specifically, athletes may employ more than one form of coping at any given time during rehabilitation in an attempt to address a variety of personal and situational factors.

Heil (1993), Udry (1997), and Quinn and Fallon (1999, 2000) considered changes in coping style as a function of time. Lazarus and Folkman (1984), however, have commented:

> To speak of a coping process means speaking of change in coping thoughts and acts as a stressful encounter unfolds. Coping is thus a shifting process in which a person must, at certain times, rely more heavily on one form of coping…as the status of the person-environment relationship changes. (p. 142)

Although there is a particular time course to any process (rehabilitation included), the dynamic features of coping with athletic injuries may be better accounted for by variables other than time. For instance, modes of coping may be moderated by athletes' cognitive reappraisals of issues arising as a consequence of being injured (e.g., rehabilitation progress, playing status, interpersonal relationships, feelings of self-worth, etc.). Albinson and Petrie (2003) and Grove and Bianco (1999) both found athletes used more than one form of coping during athletic injury rehabilitation and that the predominant mode of coping changed as a function of injury or rehabilitation reappraisals. For example, Albinson and Petrie stated:

> ...it is possible that athletes appraise the stress associated with their injuries in a variety of ways and that their perceptions of harm, threat, and challenge change throughout recovery, particularly during lengthy rehabilitation periods. (p. 320)

Although Udry's (1997) conclusions, that athletes' modes of coping with injury were relatively constant, may seem at odds with a more dynamic view of coping, they may not be entirely contradictory. Udry found that athletes used multiple modes of coping during the acute phase of the injury. Nevertheless, as rehabilitation progressed, an athletes' mode of coping became coping remarkably constant. It is well established that cognitive, behavioural, and emotional responses (e.g., crying, increased negative affect, catastrophizing thoughts or statements, and isolating oneself) during the acute phase of an injury indicate athletes are often in considerable distress. Consequently, it is possible to

imagine athletes employing multiple coping strategies in their attempts to re-establish a sense of emotional balance in their lives. As rehabilitation progresses their prognosis may become clearer and, as they get down to the business of rehabilitation, they may come to rely upon fewer modes of coping. Quinn and Fallon (2000) found that athletes were employing both active and denial forms of coping at 2/3 recovery. Quinn and Fallon suggested that the appearance of denial coping in the later phases of rehabilitation was related to athletes shifting their focus away from being injured and getting on with rehabilitation.

Udry's (1997) findings may be particularly relevant for athletes who have experienced relatively minor injuries. Nevertheless, Udry noted that:

> ...athletes faced with lengthy rehabilitation process may begin to experience frustration and boredom after this time [12 weeks] and that these psychological processes were not tapped through the limited time period of this study. (p. 88)

In cases where rehabilitation does not go as planned, or is lengthy, it is likely that athletes' reappraisals will result in their changing or applying different modes of coping.

One shortfall of many of the coping studies reviewed above is that most of these studies have not been able to account for the dynamic process of coping (Lazarus & Folkman, 1984). Specifically, that athletes may concurrently use of more than one form of coping and/or shift among different forms of coping throughout their injury rehabilitation (Heil, 1993). Many authors report stability in coping strategies throughout rehabilitation, however, they go on to discuss the use of multiple forms of coping or fluctuations (albeit sometimes non-significant) in coping style at different times during rehabilitation. Quantitative methodologies may not be well suited to detecting subtle shifts in coping style. It may also be that, because coping has been measured as a function of time rather than personal or situational factors (e.g., injury or rehabilitation status), it has been difficult for many of the above authors to describe a coping process comprised of one primary (or

stable) mode of coping integrated with a variety of dynamic forms of coping throughout rehabilitation. One of the purposes of this dissertation is to employ a qualitative methodology to gather in-depth information of athletes' experiences of LTIR in an effort to develop our understanding of the coping process.

Integrated Models of Response to Injury

Although many athletes experience some level of negative affect when injured, it remains unclear which of many factors is related to the distress experienced. Early investigations into athletes' responses to athletic injury were typically grounded in either grief (e.g., Gordon & Lindgren, 1990; Heil, 1993; McDonald & Hardy, 1990; Pederson, 1986) or cognitive appraisal models (e.g., Weiss & Troxel, 1986; Wiese & Weiss, 1987). Individuals' experiences are unlikely to be accommodated by such a dichotomy. Rather, grief and cognitive appraisal are constituents of an athlete's adaptive psychological responses to being injured and in rehabilitation (Evans & Hardy, 1999). Wiese-Bjornstal et al. (1998) and Brewer, Andersen, and Van Raalte (2002) both proposed adaptive models of response to athletic injury and rehabilitation. These models integrate elements from several earlier models, including injury antecedents (Andersen & Williams, 1988), post-injury factors (Wiese-Bjornstal, Smith, & LaMott, 1995), cognitive appraisals (Weiss & Troxel; Wiese & Weiss), and the stress responses (Weiss & Troxel, 1986; Wiese & Weiss, 1987).

Wiese-Bjornstal et al. (1998) stated that injury rehabilitation (physical and psychological) was a dynamic process with a multitude of factors that coalesce in both positive and negative cycles. Their integrated model of response to sport injury depicts how an athlete perceives and responds to injury. An interplay between pre- and post-injury factors (e.g., time of season, fitness, and personality) and the athlete's psychological responses (e.g., injury appraisal, coping strategies, and self-perceptions) that result in a dynamic recovery process are also outlined in the Wiese-Bjornstal et al. model.

Furthermore, the model illustrates the vacillation among emotional, behavioural, and cognitive responses—each of which may each influence one another. Finally, the pre- and post-injury personal and situational correlates (those initially posited by Andersen and Williams, 1988) are presented as having a moderating influence on the entire process. The Wiese-Bjornstal et al. model brings together much of the injury/rehabilitation response research. One shortcoming of the model is that it does not, specifically, include the influence of biological factors. These factors may be important to consider from a coping perspective inasmuch as athletes' appraisals of, and responses to, any number of biological factors (e.g., rate of tissue repair, sleep, and nutrition) will likely influence their rehabilitation.

In a similar effort, Brewer et al. (1998) proposed a Biopsychosocial (BPS) model to explain the relationship of biological, psychological, and social responses to injury rehabilitation and recovery (Figure 2.3). Like the model presented by Wiese-Bjornstal et al. (1998), this BPS model is complex and ties together many of the aspects of injury that had previously been discussed or presented in isolation. Moreover, Brewer et al. sought to present a structure capable of depicting the potentially complex interplay of biological, psychological, and social variables. Any number of interactions can occur among these three categories of variables and positively or negatively influence athletic injury rehabilitation. For example, the pain related to an injury disturbs an athlete's sleep resulting in generalised fatigue, increased agitation, generalised muscle tension, and reduced coping and attentional resources. Together these factors increase the potential for rehabilitation set backs such as minor strains and reinjury. Intermediate rehabilitation setbacks are then likely to precipitate a continued coalescence of biological, psychological, and social factors that, potentially, culminate in dissatisfaction with their rehabilitation and a poor return to sport. Alternatively, an injured athlete who acknowledges and manages

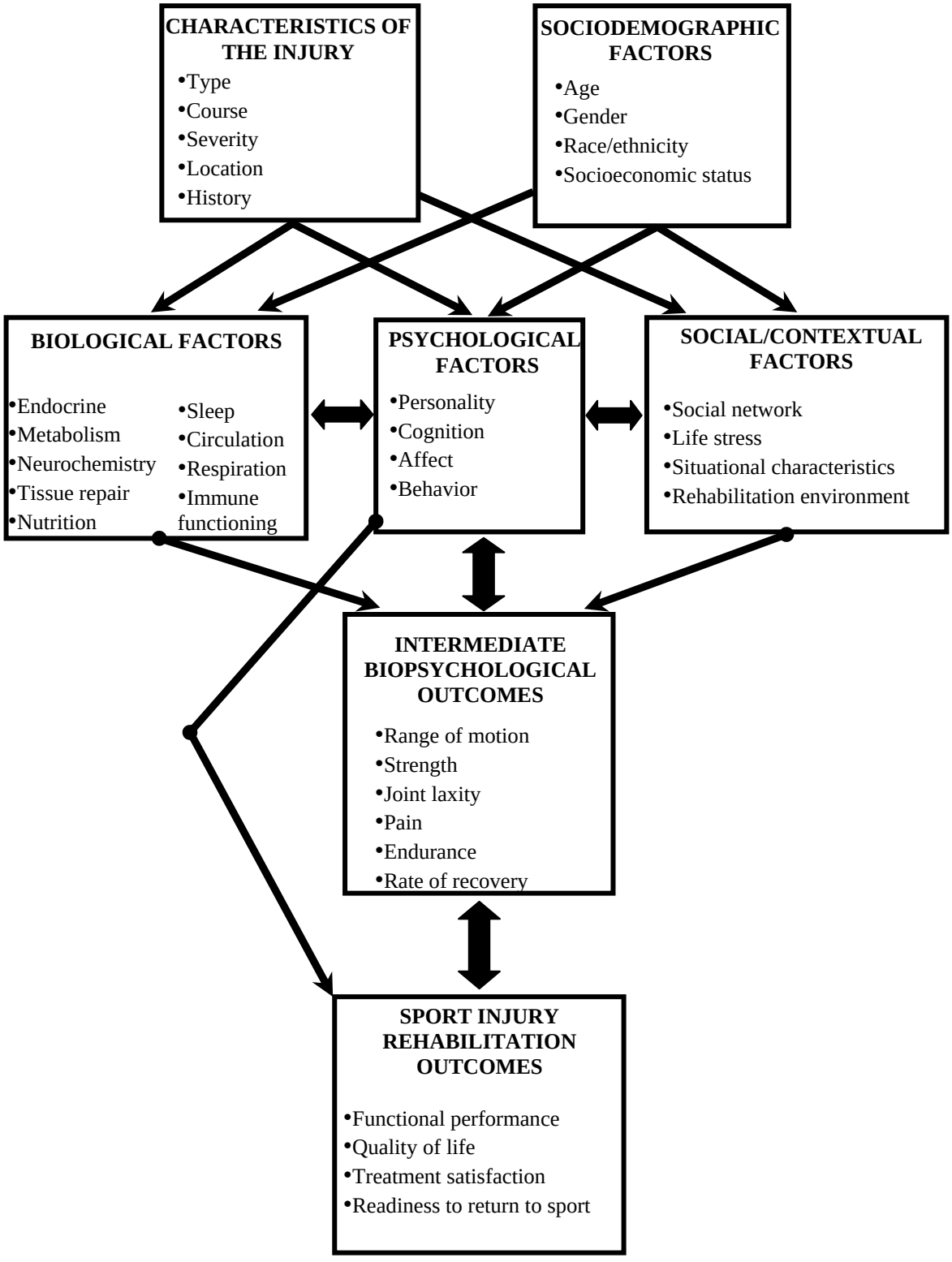

Figure 2.3. A Biopsychosocial model of injury rehabilitation. Taken from Brewer, et al., (2002, p.48)

(possibly by the use of medication, relaxation, or distraction) the pain associated with their injury, and who has robust coping strategies and good support networks, is likely to experience positive intermediate rehabilitation outcomes. Furthermore, this athlete is likely to progress positively through rehabilitation and experience a successful return to sport. Simply put: "the healing process is a cascade, and success in the later stages of wound repair is highly dependent on initial events" (Kiecolt-Glaser et al., 1998, p. 1210). This concise statement highlights the complex relationship amongst psychological stress, behavioural responses, immune functioning, and wound healing.

Both the Wiese-Bjornstal et al. (1998) integrated model of response to sport injury and the Brewer et al. (2002) BPS model take into account the way in which athletes interpret their injuries as well as their appraisals of their abilities to cope with the injury and the rehabilitation process. Further, the two models suggest that an athlete does not rehabilitate in a predictable pattern, rather that physical and psychological recovery fluctuate according to personal and situational factors. In their conclusion Brewer et al. suggested that future investigations stemming from these integrated perspectives might contribute to applied areas of sport psychology. They also proposed investigations into psychological interventions, focusing on the biological, psychological, and social needs of individual athletes, have the potential to guide future practice aimed at reducing factors that are disruptive to physical and psychological factors related to injury rehabilitation. The present project has been grounded within a BPS perspective in an effort to describe and understand how these variables intersect throughout long-term athletic injury rehabilitation.

Psychological Interventions in Rehabilitation

Research into athletes' responses (e.g., cognitive, emotional, behavioural, and physiological) to athletic injury and the rehabilitation process (e.g., stress and grief models,

and coping processes) has led researchers to explore the value of various interventions aimed at improving injured athletes' responses to rehabilitation and optimise their rehabilitation process. In 1983, Eldridge outlined the potential of psychotherapy to aid athletes recovering from athletic injury. Because injuries often threaten the core aspects athletes' self-concept (e.g., self-esteem, independence, and capability), Eldridge argued a holistic approach to injury rehabilitation should attend to the physical, cognitive, affective, and social consequences of being injured.

Psychological interventions aimed at enhancing injury rehabilitation have typically stemmed from a cognitive behavioural perspective and included interventions such as teaching athletes how to employ goal setting, cognitive restructuring, thought stopping, peer modelling, relaxation, and healing imagery. Goal setting, for example, breaks rehabilitation down into a series of tangible and manageable tasks. Successfully achieving rehabilitation goals mark one's progress which can motivate and build confidence and rehabilitation efficacy. Alternatively, failure to meet goals can be disappointing but beneficial also in so much as early problems or barriers to rehabilitation can be identified and addressed. It is believed that goal setting, and goal attainment have a positive influence on rehabilitation and performance by motivational mechanisms and by enhancing self-efficacy (Evans & Hardy, 2002a).

Healing imagery and relaxation are two additional techniques athletes can use during rehabilitation (Heil, 1993). Healing imagery (e.g., images of the injured body part regaining normal function, of the wound healing, or of the athlete performing rehabilitation exercises and returning to sport) can also foster a sense of control, increased self- and rehabilitation efficacy, and positive affect. Imagery can also help athletes prepare for and rehearse their responses to various aspects (e.g., pain associated with re-establishing range of motion) or stages (e.g., weight bearing) of rehabilitation. Relaxation may include whole

body relaxation inductions lasting over 30 minutes, or shorter and simpler breathing techniques that require only several seconds. Athletes may be taught to employ these techniques in response to facets of rehabilitation such as pain, arousal, anxiety, and fear of re-injury. Relaxation is also often used in combination with others techniques such as imagery, or positive self-talk/self-affirmations.

Psychological interventions in injury rehabilitation have received increasing attention in the sport injury rehabilitation literature. Throughout the mid and late 1990s there was a proliferation of investigations into psychological interventions directed at aiding injured athletes' recovery. This trend has continued. In particular, the vein of injury rehabilitation research concerned with psychological interventions has included engaging athletes in psychological skill training (PST) such as goal setting activities (Evans & Hardy, 2002a; Ievleva & Orlick, 1991; Johnson, 2000; Loundagin & Fisher, 1993, as cited in Brewer et al., 2002; Scherzer et al., 2001; Theodorakis, Beneca, Malliou, & Godas, 1997; Theodorakis, Malliou, Papaioannou, Beneca, & Filactakidou, 1996), visualisation or healing imagery (Cupal & Brewer, 2001; Driediger, Hall, & Callow, 2006; Durso-Cupal, 1996; Green, 1999; Ievleva et al., 1997; Johnson; Sordoni, Hall, & Forwell, 2000), positive self-talk (Ievleva & Orlick; Theodorakis, Beneca, Malliou, Antoniou et al., 1997; Theodorakis, Malliou et al.), relaxation (Cupal & Brewer, 2001; Ievleva & Orlick; Loundagin & Fisher), stress management (Hedgpeth & Sowa, 1998; Johnson), groups (Evans & Hardy, 2002a), and behavioural contracting (Brubaker, Leddy, & John, 2003; Fisher, 1990). The results of the correlational and experimental studies above have frequently demonstrated faster healing, reduced pain, earlier strength gains, and more positive affect in athletes who have undertaken PST during their injury rehabilitation.

In a comprehensive review of the injury intervention literature, Cupal (1998) reported that, irrespective of the type of intervention performed, psychological

interventions positively contributed to rehabilitation outcomes (e.g., decreasing pain and anxiety, increased or quickened gains in range of motion and strength, and increased physical and affective functioning). Johnson (2000) also found positive effects from the application of short-term psychological interventions (stress management, cognitive control, goal setting, and relaxation/imagery) for athletes who had experienced injuries requiring an average of 12 weeks physical rehabilitation. The Cupal and Johnson data lend continued support for the merit of psychological interventions during injury rehabilitation.

Ievleva and Orlick (1991) surveyed recently rehabilitated athletes' use of mental strategies during rehabilitation. They found that those athletes who reported using psychological interventions such as goal setting, positive self-talk, and healing imagery recovered faster than athletes who did not report using such techniques. Loundagin and Fisher (1993, as cited in Brewer et al., 2002) and Evans and Hardy (2002a) have confirmed these findings. More specifically, Loundagin and Fisher also reported faster healers focused their attention on healing, stress reduction, and images of being recovered. These findings are comparable to those from research with cancer patients where the use of healing imagery (e.g., seeing one's immune system as a shining white army attacking the cancerous tissue) has been associated with increased immune functioning (Hall, 1983) and higher survival rates of cancer patients (Achterberg, Matthews-Simonton, & Simonton, 1977). Similarly, Durso-Cupal (1996; 1998) and Mauer (1995) concluded that the speed of recovery from orthopaedic surgery was related to patients' use of mental imagery (e.g., images of the injured area as strong and flexible). The speed of an athletes' recovery was, however, judged by physician or medical staff observations of the athlete opposed to functional measures such as range of motion, strength, or sport specific skills. Durso-Cupal (1998) proposed that "thinking plays a major role in the aetiology and maintenance of…injury occurrence and recovery [and that these] intervention reduce distress by

changing beliefs and providing new information processing skills" (p.116). She further suggested that psychological interventions, that engage an injured athlete as "an active participant" in rehabilitation, likely increase that athlete's sense of control. Nevertheless, in her conclusion, Durso-Cupal (1998) noted, although the utility of mental imagery in injury rehabilitation was compelling, the absence of clinically-controlled trials, including a comparison control group, casts a slight shadow on these results. In addition, the retrospective, self-report methodology used by both Ievleva and Orlik and Loundagin and Fisher has also been criticized due to the potential for participants' reports to be biased according to their rehabilitation outcomes. That is, athletes who successfully returned to sport may be more likely to recall their rehabilitation in a favourable light.

More recently, Cupal, & Brewer (2001) replicated their earlier findings in an investigation of individuals undergoing long-term rehabilitation. During six months of rehabilitation from anterior cruciate ligament reconstruction, athletes in the treatment group participated in relaxation and guided imagery sessions. The content of each session shifted according to rehabilitation status. For example, initial imagery sessions consisted of imagery designed help athletes cope with and reduce physical trauma (e.g., oedema, pain, and tissue repair). As athletes progressed, the focus of the sessions shifted from images of oneself with reduced ability, to improving flexibility and strength, to confidence in the integrity of the injury, and finally to performance (e.g., sport specific) imagery. In comparison to participants who only attended their regular physiotherapy for six months, the treatment group demonstrated significantly greater knee strength, had less anxiety about reinjury, and reported less pain than control participants (Cupal, & Brewer). Similar to Durso-Cupal (1986; 1988), Cupal and Brewer called for psychological intervention during injury rehabilitation.

Ostensibly, psychological interventions in injury rehabilitation studies might have encouraged other constructive responses among participant athletes. For example, the PST (i.e., behavioural contracting, stress management, goal setting, imagery, positive self-talk, and relaxation) athletes were exposed to in the aforementioned studies could have encouraged athletes to become engaged as active members of their rehabilitation plan. Increasing athletes' engagement and planning could enhance their motivation and efficacious feelings and thoughts about their ability to adhere to a rehabilitation program (Driediger et al., 2006; Duda et al., 1989; Hall, 2005; Johnson, 2000). It may also be that PST activities improve an athlete's mind-body relationship thereby enhancing the pathway between cognitive processes and physiological recovery (Green, 1999). For example, relaxation and imagery interventions may help athletes develop a better kinaesthetic awareness of their body and the skills they perform in sport. In so doing, as the athlete begins to perform those skills again they are less likely to stain and re-injure themselves. Finally, injured athletes involved in interventions also receive various elements of social support, albeit unintentional, through their contact with the researchers and other participants. Among other things, these support networks may provide injured athletes with a forum to share their injury experiences with other injured athletes, gain insight and learn about what to expect during rehabilitation, experience peer modelling, and reduce feelings of isolation. Ultimately, positive outcomes, both anticipated and unanticipated, associated with psychological interventions in injury rehabilitation point to the importance of an integrated, holistic approach to athletic injury rehabilitation.

The intervention literature reviewed so far in this dissertation has largely relied upon quantitative methodologies and pointed to the value and effectiveness of psychological interventions; however, insight into how or why the these interventions worked has, largely been left to speculation. Quantitative research is particularly useful in

exploring the impact of psychological injury rehabilitation interventions as perceived by the athletes. For example, Evans, Hardy, and Fleming (2000) used a blend of realist tales and confessional tales to report the findings of their investigation on the effectiveness of several intervention strategies aimed at facilitating three elite rugby players emotional and physical LTIR. Data were collected via regular consultations with athletes as well as physiotherapists' notes, athlete diaries, case notes, and interviews. Among other things, Evans et al. highlighted the role of outcome expectations on athletes' psychological responses to athletic injury. Specifically, when athletes' rehabilitation progress and return sport expectations were stymied, athletes tended to experience increased negative affect, diminished motivation, and poor adherence to rehabilitation goals. While each athlete had individual issues and experiences during LTIR, there were also common issues and experiences between them. Unlike the processes suggested by proponents of stage models, the onset and magnitude of these experiences tended to be individual. Intervention strategies including various forms of social support, goal setting (both performance and process goals), imagery, simulation training, and emotional support were found to be beneficial throughout rehabilitation. Due to personal and situational factors, each athlete responded differently and at different times to these interventions (Evans et al).

Qualitative studies have also been undertaken in efforts to augment quantitative findings. Evans and Hardy (2002b), for example, used a qualitative follow-up study to expand upon their earlier goal-setting intervention study (Evans & Hardy, 2002a). Specifically, they sought to gain a further understanding of the individual differences and contextual aspects (i.e., the mechanisms underlying the effects) of goal-setting and social support on the rehabilitation experiences and behaviours of injured athletes. Athletes who had participated in their previous study were asked to comment on aspects of their rehabilitation experience (e.g., adherence to rehabilitation program, affective responses,

and social support). Different processes emerged between the three groups (goal setting group, social support group, and a no-treatment control) as a result of the qualitative exploration. For example, while confidence increased throughout rehabilitation for all participants, those in the control group reported their primary source of confidence came from their physiotherapist. Participants in the goal-setting group, on the other hand, reported increased confidence from monitoring daily progress, and making short-term goals regarding return to normal training (Evans & Hardy). The qualitative follow-up, therefore, added contextual details to the group differences that would not otherwise have been evident from the quantitative investigation.

Trainers and physiotherapists are typically the individuals injured athletes will work with throughout injury rehabilitation. Even in a team or club that has an affiliation with a psychologist, contact hours between the psychologist and the athlete is typically less frequent than those of the trainers or physiotherapists. Consequently trainers, physiotherapists, and the coaching staff make up the front line in helping athletes manage their injuries. The value of psychological interventions in rehabilitation, as perceived by other rehabilitation specialists (e.g., physical therapists, trainers), has been reported in several studies (Brewer et al., 1991; Crossman & Jamieson, 1985; Ford, et al., 1993; Ford & Gordon, 1998). Overall, physiotherapists and trainers consider PST to be a valuable addition to physical rehabilitation (Ford, et al.; Ford & Gordon; Ford & Gordon 1993; Gordon, Milios, & Grove, 1991; Wiese, Weiss, & Yukelson, 1991). Moreover, physiotherapists, trainers, and coaches often feel that they do not possess adequate skills to address athletes' affective concerns, and they feel that additional training in these areas would be a valuable addition to their professional accreditation programs (Ford et al; Wiese et al.). Brewer et al. (1991) found that physicians acknowledged that injured athletes often exhibit a variety of negative affective and behavioural responses to injury, but

reported they did not often feel it would be necessary to refer patients who were expressing conditions such as pain, anger, anxiety, or stress to a sport psychologist. Physicians did, however, report that they felt having a sport psychologist, as a supportive member of the sports medicine, would be valuable.

Summary and Analysis of Literature Review

For more than 35 years, researchers have observed and investigated athletes' injury experiences and concluded that injured athletes are susceptible to negative sequelae that can include (among other things) anxiety, depressed mood, negative thinking, and doubts about recovery and their future. As injuries become more serious, athletes experience greater levels of emotional distress throughout rehabilitation. Therefore, athletes undergoing long-term rehabilitation may be at particular risk of psychological distress (e.g., Smith et al., 1990). Moreover, as specific, opposed to global, measures of emotional disturbance were considered a rough and variable emotional landscape began to emerge (LaMott, as cited in Wiese-Bjornstal 1998; Morrey, as cited in Wiese-Bjornstal, 1998; Quinn & Fallon, 1999).

Both grief (e.g., Gordon, 1988) and cognitive appraisal (e.g., Weise & Troxel, 1986; Wiese & Weiss, 1987) models were developed to explain athletes' psychological responses and rehabilitation behaviours. While both models continue to be used, grief models have typically come under criticism. As a better understanding of athletes' responses to athletic injury emerged, it became increasingly difficult to define a specific number of stages or a particular pattern of grief athletes expressed. Integrated models such as those by Wiese-Bjornstal et al. (1998) and Brewer et al. (2002) accommodated both the adaptation processes expressed in grief and cognitive appraisal models and the individual differences in athletes' responses to stressors throughout rehabilitation. In addition, these unified models presented a structure from which a picture of the entire process of athletic

rehabilitation might emerge. On these integrated approaches, Brewer et al. commented that "a biopsychosocial model is clearly an interactive approach to conceptualising sport injury rehabilitation" (p. 49) and Wiese-Bjornstal et al. referred to their model as "a blueprint for future researchers to seek to understand the injured athlete experience" (p.65).

Typically, injury severity has been established according to the National Athletic Injury/Illness Reporting System (NAIRS), which is a questionnaire used throughout the USA to record sport injury information (Flint, 1998; McDonald & Hardy, 1990). The NAIRS ranks the severity of injury based on the following criterion: mild, if an athlete was unable to participate for one week; moderate, if they missed up to three weeks; and major or severe, if the injury prohibited sport participation for more than three weeks. Despite the substantial body of research into the psychological consequence of athletic injury, the majority of studies have been concerned with the effects of relatively short-term injuries (e.g., recovery times between one day to three months).

Quinn and Fallon's article (1999) was the first research publication concerned with the process of long-term and significantly injured athletes. Although all participants in this study were classified as having severe injuries by the NAIRS system, there was a wide range in injury duration (four to 99 weeks). Because Quinn and Fallon did not separate the participants based on the duration of injury rehabilitation, the data from the athletes who recovered quickly and the data of the athletes who were in long term rehabilitation may have confounded one anther. In addition, some of the key issues for short-term and long-term injured athletes may have been masked. Participants were also required to complete a sport injury survey quarterly throughout their rehabilitation. This procedure disrupted the temporal contiguity of psychometric measurements (i.e., participants were not surveyed at equal intervals); moreover, the second and third measurement dates fluctuated according to the recovery status of each participant—factors that Quinn and Fallon themselves noted

likely contributed to the error variance. Nonetheless, Quinn and Fallon's research was a substantial contribution to the athletic injury research.

Injury rehabilitation is a variable process and unique to each athlete. The results of quantitative studies with longitudinal designs (e.g., LaMott, 1994 as cited in Wiese-Bjornstal, 1998 Morrey, 1997 as cited in Wiese-Bjornstal, 1998; Quinn & Fallon, 1999), portray the injury experiences of groups of athletes. As a result, they tend to depict a general course of LTIR, or maps, outlining the rough emotional landscape of LTIR. They offer little detail, however, of the injured athlete's lived experiences. Qualitative studies, on the other hand, are typically narrower in focus but often offer greater detail. Although statements made from qualitative data may be less generalizable, when they are presented with lower order themes (e.g., participant quotes) or as case studies, they help to illustrate the actual landscapes injured athletes traverse.

Many researchers (Andersen, 1997; Brewer, 1994; Gould, Udry, Bridges, & Beck, 1997; Heil, 1993; Johnston, 1998; Macchi & Crossman, 1996; Quinn & Fallon, 1999; Sparkes, 1998 & 2002; Tracey, 2003; Wiese-Bjornstal et al., 1998) have called for qualitative methodologies that engage injured athletes as early in their injury experience as possible and then follow them throughout their full course of rehabilitation (which may or may not see them return to sport participation). Specifically, Wiese-Bjornstal et al. stated:

> Whenever possible it would be most accurate to survey injured athletes with repeated measures designs from pre-injury throughout the recovery process and well into their return to sport. In this way the entire stress process…can be evaluated and the associated risks described....some research questions might be best …suited to qualitative methods. (p. 64-65)

Further Udry, Gould, Bridges, and Beck (1997) stated:

> …that by providing participants with the opportunity to 'tell their story' in their own words, interesting insights into injury related process have been gained. (p. 246)

Although there has been a call for longitudinal qualitative investigations, few researchers have responded and applied longitudinal approaches to qualitative methodologies for investigating athletic injury rehabilitation. Further, when longitudinal research into athletic injury rehabilitation has been undertaken, there has only been a qualitative component. Most often these interviews ask participants to reflect upon the process that has been under investigation (e.g., athletes' recollections of their affective responses to rehabilitation) in an attempt at augmenting quantitative data that has been collected longitudinally (e.g., Evans & Hardy, 2002; McDonald and Hardy, 1990; Pearson & Jones, 1992).

Many researchers will present lower order themes in the form of quotes in order to ground the higher order themes or data categories. By presenting direct illustrations of how the higher order themes look (or sound) researchers using qualitative methodologies, particularly case studies, are inviting the reader to understand the data themes with reference to the participants' individual experiences (Sparkes, 2002). Together participants' quotes and the readers own experiences provide indices of the broader categories which can often be linked back (and inform) findings from quantitative research. Case studies often go a step further and ask the reader to pay even closer attention to these lower order themes—the participants' stories.

Evans et al. (2000), Sparkes (1998), and Tracey (2003) used methodologies that moved beyond the positivist way of doing and presenting qualitative research (e.g., structured interviews or open ended questionnaires, tables quantifying higher and lower themes, and author-evacuated text). For example, they used long narratives and confessional tales to explore the experiences of athletes who were unable to participate in sport due to injuries and illness. Sparkes (2002) commented that confessional tales:

> …often include episodes of fieldworker shock and surprise. The blunders and mistakes made…[they] do not replace realist accounts but stand beside them by elaborating extensively on the formal elements of the methodology and saying what is unsayable in the realist telling. (p. 60-61)

Sparkes' (1998) inclusion of his voice throughout his text yields a blended narrative that is primarily biographical but also a confessional tale. By writing himself into the text, Sparkes brings to the fore issues of ethics, the multiple hats a researcher may wear when working closely with participants (e.g., tutor, lecturer, counsellor, and researcher), and he also emphasises that this is a story about two people gaining a deeper understanding of one another. Similarly, Evans' confessions, which emerged among the participants' narratives, expressed her reflections and insights at various times throughout the study. They also highlighted the individualised aspects of the psychological interventions she employed with the participants. Together the narratives and confessionals bring to light, by demonstration, "the importance of a multi-modal approach for the rehabilitation of injured athletes" (Evans et al., p. 203).

Although idiographic research may not produce data that is widely generalizable, it is particularly good for depicting complex situations such as long-term injury rehabilitation. Often in these cases studies, for example, something said can move beyond the individual(s) under analysis; and a better understanding of that individual's culture (e.g., sport injury rehabilitation) as well as a broader cultural context (i.e., something universal) often also emerges. The detailed accounts presented in this dissertation, of three athletes' experiences throughout LTIR, may help us to gain insight into the complex and often messy landscapes athletes traverse when serious injury expels them from sport for long, and sometimes undetermined, periods of time.

CHAPTER 3: METHODS

Participants

Participants were 6 athletes who had sustained serious injuries in the course of participating in their respective sports. All athletes were competitive at the elite or sub-elite level. As discussed in the introduction, I felt these athletes would be ideal participants because their investment in sport was felt to magnify the deleterious effects of injury, and (likely) enhance their drive to return to sport (cf. discussion pp. 12-15). Three of the participants withdrew from the study during the year of data collection; one participant moved overseas and two reported that they found the time commitment too great. As a consequence, their stories were incomplete and excluded from the analysis. The remaining three participants included two males and one female between the ages of 18 and 43 years. All participants had been involved in a variety of sports since they were young children, and had invested over 10 years in their respective sports. At the time of becoming injured they were competing at an elite (or sub-elite) level. Aspects of the athletes' identities have been modified to protect their anonymity. At the time of study, one participant was completing his final year of secondary school, one was completing a university degree, and one participant was engaged in full-time professional work.

Ethical Considerations

All participants were informed that participation was strictly voluntary and that all information obtained from the interviews would be presented anonymously. Personally identifying information would be available to the researchers only and would not be disclosed to any other parties.

Initial Design

This project was first proposed as a pair of studies. The first was to be a quantitative experimental design and the second was to be a qualitative follow-up study.

Study one, which was abandoned, was initiated with the intention of capturing the events and experiences of athletes undergoing long-term injury rehabilitation (LTIR). Athletes were to be assigned to one of three experimental intervention groups (a control, no intervention group; a guided imagery and relaxation group; and a goal setting group). All the participants would also be asked to complete a questionnaire package four times during the study (at the beginning, and then three more times at three month intervals thereafter), (see Appendix A for initial plain language statement). I had hoped to assess the usefulness of these interventions throughout LTIR.

In the second study I had intended to engage several of the participants, from the first study, in interviews. Participants were to be invited to make further comments about their responses to long-term rehabilitation and what they considered hindered and facilitated their recovery. Research, nevertheless, does not always go as planned. After six or seven months of recruitment, I had only been in contact with 10 athletes. I intended to have a minimum of 10 in each of the three treatment groups. At this point my advisor and I decided the design of the project was no longer viable and the quantitative study was abandoned altogether. The qualitative portion of the project was, however, expanded to incorporate the intervention and longitudinal elements of study one, and is described below.

Design

The new, or modified, project was qualitative only. It consisted of three case studies derived from interview data collected longitudinally throughout three athletes' rehabilitation from athletic injury. The three Participants were interviewed four times during LTIR: once as soon after the injury or surgery as possible (3 days to three weeks), and then every three months thereafter. The course of the interviews, therefore, was time-based rather than based on the participants' rehabilitation progress. I also met each of the

athletes on a regular basis (every two to four weeks) to provide cognitive behavioural (e.g., imagery, relaxation training, cognitive restructuring, goal setting, etc.) and psycho-educational interventions (e.g., explaining the injury, describing interventions, helping them learn about and identify emotional and behavioural responses related to being injured) according to their individual needs.

These interventions were similar to, and based on, the psychological interventions used and described elsewhere. For example, Johnson (2000) used short-term interventions (e.g., goal setting, stress management, cognitive control, and relaxation/guided imagery) to assist long-term injured athletes during rehabilitation; Johnson, et al (2004) used a similar set of interventions, proactively, to reduce the incidence of athletic injuries; and Gordon and colleagues (Ford et al., 1993; Gordon, 1988; Ford & Gordon, 1998) outlined how cognitive and behavioural interventions might be employed by individuals working with injured athletes (e.g., coaches and trainers) during injury rehabilitation.

Although there was not going to be any comparisons or conclusions drawn about the effectiveness or value of one intervention over another, I hoped that the participants would comment on the interventions during the interviews. I also elected to retain the intervention aspect of the original set of studies because I felt that I was asking a great deal from each of these individuals in their participation in the research. During the first interviews, in particular, I felt that each participant was giving a great deal of themselves at a time when they were probably feeling at, or near, their worst. Therefore, offering to work with them throughout their rehabilitation was my attempt to repay these athletes for their generosity and participation in *my* research. I wanted to give something back to them. I was humbled, however, when each of the participants independently presented me with gifts and cards expressing their appreciation for my help. I was embarrassed that they felt a need to give me anything. After all, I was imposing upon them, and prying into their

emotions and insights in pursuit of my professional qualification. Tracey (2003) noted that participants in her study appreciated being able to talk about their experiences, even if only within the realm of research. Although research is not designed to be therapy, there may be commonalities. For example, both the researcher and the therapist aim to provide an environment in which individuals can feel safe to tell their story, feel that they have been heard, and feel understood. These gifts, therefore, probably indicated that I had connected with the participants on a personal level, and that there may have been some value in the interventions. However, I imagine these gifts were evidence that having an opportunity to express oneself to another, caring, individual *is* valuable.

Procedures

Recruitment involved contacting a number of sport organisations (e.g., The Victoria Institute of Sport) and coaches operating within those organisations, as well as medical and allied medical practitioners (e.g., surgeons and physiotherapists) and inviting them to assist me in identifying potential participants. Participants had to be elite or highly invested sub-elite level athletes who had recently (i.e., within a month of injury or reconstructive surgery) sustained an injury that a medical professional believed would take more than nine months to heal fully. I asked that the doctors and allied health professionals provide athletes, who met the participant criteria, with a flyer outlining the study and to obtain the athlete's consent to forward contact details (the athlete's name, telephone number, and injury type and severity) to me. I then telephoned each of the athletes who had given consent. Over the telephone I further explained the study and scheduled a meeting for the first interview. All athletes who were contacted were provided with a written explanation of the research project (see Appendix B, Revised Plain Language Statement).

I obtained written informed consent from each of the participants prior to beginning the first interview (see Appendix C, Participant Consent Form; and Appendix D,

Participant Consent Form: Parent or Guardian). At the end of the first interview, I allowed time for the athletes to reflect on the interview process and to ask any questions relating to the study or their participation. We then set a time to meet and begin the intervention phase of the study. Typically, the intervention phase began within two weeks of the first interview and I met with each participant every two to four weeks throughout their entire rehabilitation; or for one year, which ever came first. I informed participants that printed transcripts of each of their interview would be available within a month of the interview date and I encouraged them to make comments, or corrections to that transcript. The remaining interviews were conducted at three month intervals.

Interviews

I had initially intended to use a set of open-ended interview questions, a format similar to that used by Udry, Gould, Bridges, and Beck, (1997). I conducted a pilot interview prior to the commencement of the initial interview with athletes. A fellow graduate student, who had been an elite athlete and experienced a career ending injury, agreed to be interviewed and then give me feedback on the questions and suggest additional realms of inquiry. The pilot interview also provided me with an opportunity to rehearse and become familiar with the interview process. After the pilot interview, I had a suspicion that even an open-ended format would be too contrived; that is, I found that I was getting answers specific to the questions I was asking but I was not getting stories about the experience of being injured–one of the main objectives of the research. I therefore modified the questions, and during the first interview, presented them as invitations to discuss or explore topics related to being an athlete and being injured.

In the first interview, I collected general demographic information (e.g., sport participation, injury history, etc.) and then asked participants to talk about any aspect of their present injury experience they felt like discussing. For example, the question: “Can

you tell me what, if anything has been particularly stressful as a result of being injured?" was altered to something along the lines of: "I imagine that being injured and facing a lengthy rehabilitation might be a particularly emotional time for you?" As the athletes explored particular themes (affect, support networks, etc.), I encouraged them to continue talking or asked questions to probe for further details. During the first interview with my first participant, it quickly became evident to me that she needed only subtle prompting to discuss and explore her current injury experiences. For example, I only needed to repeat or paraphrase a small portion of what she just said and she would elaborate or give me another example. I, therefore, relaxed my initial questioning agenda and followed the participant's lead, prompting him or her to elaborate on issues that appeared to be particularly meaningful to their being injured and undergoing LTIR.

I engaged participants in each successive interview with only a few broad or pre-formulated questions. Typically, these questions were related to issues that emerged during our inter-interview meetings. Again, when the interviews touched on major themes I made a mental note and, when appropriate, I asked probing questions, sought further details, or explored ancillary themes or issues. Although this was quite an unscripted process, I felt it was in line with Stakes comments:

> The way the case and the researcher interact is presumed unique and not necessarily reproducible for other case researchers. The quality and the utility of the research is not based on it's reproducibility but on whether or not the meanings generated by the researcher or the reader, are valued. (1995, p. 135)

Ultimately, I wanted the participants to feel that my agenda was to hear each of their stories; I reckoned if I achieved this, then I would be able to say something about LTIR that others could connect with and find value in.

The interviews were conducted either at participants' homes or at my home-office. Interviews lasted between 45 and 90 minutes and were audio taped and transcribed verbatim.

Analysis

I initially intended to analyse the data using thematic coding to identify and list first and second order themes. This process has been successfully employed in previous sport psychology studies (Gould, Eklund, & Jackson, 1993; Udry et al., 1997) as well as others. I, therefore, read through all the interviews sentence by sentence and selected data that was directly relevant to the athletes' experiences of being injured. I repeated this process several times removing information, which, upon closer deliberation, was not related to the experience of being an athlete undergoing LTIR.

Through these reviews of interviews, I also made considerable notes in the margins of the transcripts. I entered into a process of listening to and re-reading the interview transcripts, reflecting upon the stories these athletes had been telling me, and contemplating the notes I had made in the margins (from which I had presumed I would generate the first and second order themes). My notes did represent major themes, but more so, they outlined the athletes' personal stories of LTIR. I wrestled with the idea of reducing these stories by presenting a table of themes complemented by several snippets (highly edited, or out of sequence quotes, from each athlete) related to that particular dimension or theme (Sparks, 2002). In short, I became increasingly uncomfortable with the idea of trying to fit what I was hearing into *tidy* themes. The stories that I was hearing were about the dynamic and complex reactions to LTIR.

As I proceeded with my analysis, I became more certain that I wanted to keep, whenever possible, the participants voices in the foreground. Sparks' comments: "the participants' voices are foregrounded in these tales, and the reader is able to gain important insights into the participants' perceptions of the injury experience" (p. 54) and

> when attempts are made to represent multiple subjects, the resultant texts tend to portray people as 'flat', unidimensional, highly stable and predictable characters, as opposed to multidimensional 'rounded' characters, (p. 46)

resonated with me. I, therefore, returned to my original question: What are the experiences of athletes undergoing LTIR? To answer this question, the athletes' voices—their stories—would have to be in the foreground, or at least, my best effort to retell their stories as I understood them.

Stake (1995) discussed what writing *stories* or case studies entail. He offered three ways a case can be organized: (a) chronologically/biographically, (b) describing several major components of the case one by one, or (c) a researchers' view of coming to know the case. He suggests that the issues that are discussed or explored within the case study offer the reader a glimpse into the circumstances, dynamics, and coping behaviours of the participant. Nevertheless, Stake also suggested that a case study can "be organized in any way that contributes to the readers understanding of the case," (p. 127) and if certain contexts are adequately reproduced, then the reader will understand "why the case operates as it does."(p. 127) These statements were later echoed by Sparkes (2002).

After considerable deliberation, I set about constructing a thematic structure for each of the participant's stories, the architecture of which comprised descriptive and explanatory elements (cf. b and c, above). I asked myself the following questions: what about this story is unique?; what about it is like somebody else's story?; and what about it is universal? That is, I sought to identify themes within each athlete's story on three levels: themes that were unique to that individual, themes that say something about sport culture, and themes that describe things anyone might experience. There was considerable, but variable, overlap among the athletes' stories. For example, each of the athletes experienced high levels of negative affect. How it presented, however, was unique to each individual. Although each of the cases is a significantly truncated version of that athlete's experience of the LTIR, in each case, I endeavoured to present the outstanding issues for each participant. Where overlap between cases existed (e.g., commonalities in experiences), I

identified the issue, made reference to the similarity to other cases, and, due to limited space, discussed it briefly. In presenting each of the cases, I have tried, wherever possible, not to editorialise the participants' quotes. Note, however, that this was not always possible, or at times, the quotes and events have been rearranged in order to present congruent stories that make sense to the reader and relate back to research and theory. I have also removed nonessential paralanguage (e.g., uhm, uhh, like, and stutters or repetitions) in order to clarify the essence of what is being said.

Each participant was given a copy of their respective case study to review after it was written. They were invited to consider the accuracy of the story and provide feedback. I also explained that if they were uncomfortable with any aspect of the story and wanted it omitted or changed, that I was happy to do so (within limits). As such, the methodology used to represent these athletes' stories is somewhere between *realist tales*, which Sparkes (2002) described as: "conventions [that] connect theory to data in a way that creates spaces for participant voices to be heard in a coherent text….data-rich realist tales can provide compelling, detailed, and complex depictions of a social world," (p. 55) and c*reative nonfiction*, in which "the personalities of real characters, unveil aspects of their experiences, explicate the social meaning underlying important events. [It recreates situations] for the reader, so that he or she can see and hear, smell and touch, listen to the dialogue, feel the emotional tone…[and] pull the reader in, involving him or her in the immediacy of the experience" (p. 156). The case studies presented in this dissertation are stories that I have created based on the real experiences, as I understand them, of three athletes who sustained serious injuries and had to endure long periods of physical rehabilitation. The idea here, therefore, is that from these narratives the reader senses that these sorts of things happen to these sorts of people.

CHAPTER 4: CASE STUDIES

1: The Story of Byron

Initial Meeting

When I rang the doorbell, on the morning of my first interview with Byron, there was a period of silence and then from the second floor I heard something to the effect of: "Come on up mate, it's open." I proceeded up a staircase littered with cloths, magazines, and mail. "Don't mind the mess," said a voice coming from the top of the stairs. I knew from our brief telephone conversation that Byron was 43 years old, a professional man, and a competitive triathlete. I also knew that, five months earlier, he had been involved in a car accident in which he suffered multiple injuries, the worst being a comminuted fracture of his right Femur.

I met Byron at the top of the stairs. He was on crutches and his leg was in a brace. Although he gave me a confident handshake and friendly hello, I could see he was in considerable pain as his face contorted as he returned to his nest on the couch. The living room, like the staircase was in disarray. DVDs, video-game controls, magazines, snacks, and water were all within easy reach. He smiled, laughed, and stated the obvious, that apart from the essentials (food, water, and entertainment) the mess could wait. I already liked him. As the interview began Byron told me about his life, his family, his friends, his career, and his sport experiences. He was articulate and I recall thinking that he was surprisingly talkative considering the severity of his injury and that we had just met. Upon Byron's requests, I shared a selection of my own sport and sport-injury experiences and during this process of sharing stories—of developing a shared understanding—Byron moved into an emotive telling of his past 5 months. Driving home, after that first interview, I remember thinking, that in another circumstance, we might be mates.

Byron's Road to Triathlon

Growing up, Byron played many sports. In addition to Australian Rules football (AFL—Footy) and cricket, Byron was an accomplished cross country runner. Byron also sailed competitively across several boating classes (dinghies initially and then ocean racing in yachts). Byron continued ocean racing into his early thirties.

While obtaining his professional degree, Byron's athletic endeavours waned, and after university, he devoted increasing time and energy to developing a private practice. At the same time, Byron's brother had begun a family. Like Byron, he too was becoming less fit. So, together, they decided to take up cycling. Soon after they were introduced to James, a top triathlete and fledgling triathlon coach. Byron recalled:

B: We were his first, sort of guineapigs, his first athletes….and we started from there really….and that is how I got involved in triathlon.

Through his early and mid thirties, Byron dedicated increasing amounts of time and energy to triathlon. In a jovial tone he stated: "I just got right into triathlon… I got addicted to it really." Triathlon is a challenging sport but, as Byron talked about his triathlon pursuits, it became apparent there was a more general appeal that involved a deep sense of mate-ship and camaraderie with people he trained and competed. As he continued in Triathlon he developed close bonds with members of his training squad and members of the triathlon community. In particular, he met and nurtured his relationship with Deborah (his girlfriend) through triathlon. For example, he jokingly recounted the nature of their relationship:

B: At least if we can do our rides and our runs together we can spend some time together…Quality time on the 150Km. bike rides…[we both laugh].

Triathlon was much more than simply a competitive activity in Byron's life. It was also a source of self-identity and self-confidence. It was a culture he immersed himself in and it provided him with physical and emotional challenges. For example, Byron reflected upon

setting and achieving new and challenging goals, overcoming physical fatigue and self-doubt during training and racing, and being supported and supporting others through these and other efforts. Byron recalled:

B: It's a big bonding experience…you've got a unique goal, but it's the focus that brings you [the team-mates] together…you go hard, flat out running and if at the end of the race you're gasping for air you know you've given it your all. [but] it takes discipline as well and that's also a challenge.

Ironman triathlon is an endurance event the requires considerable training and preparation in order to complete the three legs of the race: a 3.86 km swim leg, 180 km cycle leg, and a 42.2 km run leg. Byron is a somewhat fastidious man who left few things in his Ironman campaign to chance. He rigorously followed his coaches program, consulted nutritionists, and read everything he could on Ironman. His dedication to the sport saw him import a high-tech and very light bicycle and race wheels from Italy. Byron likened his Ironman preparation to that of:

B: a General getting his troops ready for battle…I want to know all the contingencies—to make sure that you have everything on your side.

He did everything he could to prepare, and he was ready.

Injury

Like many athletes, Byron's athletic history was dotted with several injury experiences. Most of his injuries, however, were relatively minor (ankle sprains, tendonitis, and muscle and ligament strains). He had experienced nothing that might have prepared him for the injury he sustained in March of 2004. On a typical Saturday morning training ride, just a couple of weeks before Ironman, Byron's campaign came to a shattering end. Byron had dropped off the back of the cycling group and was riding by himself.

B: Ahhhh, and then I had the accident, [pause] yeah, [pause] which, [pause] smashed my bike, smashed my, ahhhh, leg, and, ahhhh, neither will be the same again…**it was just an easy spin**! [the angst in his voice was palpable]

At this point in the interview Byron's story became a little fragmented and, as he continued to tell me about this fateful ride, he began to hesitate and his tone became solemn. His

voice and body language expressed a chaos of emotion that I cannot quite describe. However, as I listened and tried to comprehend his experience, I imagined myself in the scene and began to mildly experience a variety of emotions such as anguish, bewilderment, grief, anger, and exhaustion among others.

Byron was hit by a car; he was knocked unconscious, his femur was splintered into many small pieces, and he sustained numerous contusions and abrasions. A 50 x 350 mm titanium rod was implanted into his femur and anchored near his knee and hip with four screws. Taken together, his story, his bruises, his scars, his deformed leg, and the x-ray picture of his leg conjured a Frankensteinian image in my mind. Despite the physical and emotional damage, though, Byron had begun to heal, and he had set his focus upon the road back to sport.

Early Rehabilitation Set Backs

After nearly four months of dedicated physical rehabilitation, Byron had returned to swimming, cycling and running. Many athletes push through and accept the physical discomfort associated with training. Accordingly, Byron had approached physical rehabilitation with the expectation he would endure some pain. However, by July (four months after the accident) the pain was not diminishing. The screws holding the rod in place were prematurely removed and after a month of intense pain, heavy doses of pain medication, and no training, Byron consulted a new surgeon. The rod in his leg was removed and his femur reamed (the centre of the bone was drilled out) to accommodate a new, larger, rod. Byron was relegated to beginning his physical rehabilitation anew. My first meeting with Byron was in the week following this second surgery—approximately five months after his accident.

During our meetings, Byron recalled how he came to be injured. He explored being injured, and the events and experiences of injury rehabilitation. By the end of the year, I

had collected an abundance of rich and detailed information. In the following case, I endeavoured to present, describe, and explain (with reference to the relevant literature) the prominent issues that Byron grappled with throughout his rehabilitation. As I understand Byron's story, these issues were: how he coped with being injured, the people and groups that helped and hindered the process, the emotionality of long-term injury rehabilitation (LTIR), his personal growth, and his efforts to return to sport.

Coping

LTIR can be confusing; it is replete with variable processes, circumstances, and emotions. During our meetings, Byron and I frequently came upon rough, painful, and often confusing terrain. At times, he appeared to be simultaneously both coping and not coping. I found these seemingly contradictory states confusing. No doubt Byron did also. This is the essence of his LTIR experience. Although I have attempted to present a coherent account of Byron's story, I am wary of over-editorialising it such that it seems the process of coping is a series of smooth transitions between various forms of coping. This would be a misrepresentation of Byron's story. It is my intent that the reader be able to follow the story, but also realise the overlapping, non-linear, and even capricious processes at play. These stories, therefore, are an invitation to others to explore the rough terrain of LTIR.

Byron's Coping Throughout LTIR

Rather than shift from one mode of coping to another Byron employed a mixed mode of coping. Initially, Byron tended to employ emotion focused coping strategies such as avoidance, selective attention, and seeking emotional support to deal with the emotionally salient aspects of acute injury. Emotion-focused coping strategies (Lazarus & Folkman, 1984; 1988), in this case, are strategies Byron use to quell internal distress and manage the emotionality of being severely injured. As time passed he also employed

emotion-focused strategies to cope with his sense of loss and isolation associated with being unable to undertake his normal daily activities.

Within a few days, however, Byron began to concurrently employ problem-focused coping strategies (Lazarus & Folkman, 1984; 1988) including determined and instrumental approaches to his physical rehabilitation. These coping strategies consisted of behaviours aimed at changing physical and emotional situations Byron experienced as a result of undergoing LTIR. Specifically, Byron engaged in problem-focused strategies that helped him to regain his physical ability, increase his sense of control, involvement, and self-efficacy. Additionally, some of Byron's active coping behaviours (e.g., going to physiotherapy and increasing his activity) may have provided him with some respite (e.g., distraction) from the negative affect he would otherwise experience if he were at home alone.

It is difficult to temporally delineate the different modes of coping. Although there may be a temporal relationship, coping seemed more closely tied to Byron's physical rehabilitation accomplishments rather than time per se. Therefore, it seems more appropriate to explore Byron's coping styles in reference to the physical and emotional constitutes of LTIR. Specifically, it appeared that Byron coped through a process of building himself up physically. This provided a sort of emotional overdraft (i.e., a physical self-esteem reserve) which he then drew against as he explored the emotionality of his LTIR experience. This dynamic interplay between physical and emotional rehabilitation continued throughout Byron's LTIR.

As Byron walked through the events and stories of rehabilitation, he described how he coped at various times and in various situations. With regard to the actual moments and events surrounding his accident, for instance, Byron expressed that he felt a tendency to distance himself from the actual location and the physicality of his injuries. This was

evident in both his verbal and non-verbal expressions. For example, in the last quote on page 84, Byron is recounting his accident and lying injured on the roadside. As he recollected the scene, the tone and pace of his recollections changed, his voice became quieter and a little shaky, he paused frequently, and he *ummed* and *ahhed* as he tried to cope with this distressing memory. Byron also described his desire to avoid having to revisit, physically and mentally, the accident. On one occasion, he told me about how he tried to avoid seeing the fateful intersection during a trip to the hospital in the early phase of his recovery:

> B: Well I know when I… when I had to get driven down to the hospital we had to go through that intersection, um, I shut my eyes for a couple of minutes. I didn't want to even look at it 'cause I was still on crutches and still had wounds and that sort of stuff so I didn't want to physically go through the…[Byron reflected silently].

As the quote tapers off—*I didn't want to physically go*…. there is the implication that going through the intersection would elicit a process whereby Byron felt he was reliving the accident. Closing his eyes helped him avoid being reminded of the accident and minimise the associated distressing emotions.

Due to the magnitude of his injuries and the concomitant pain, emotion-focused coping processes such as avoidance and selective attention likely acted to lessen his emotional distress (Lazarus & Folkman, 1984), required less energy, and was an emotionally safer method of short-term coping (Heil, 1993). Byron's recounting of the moments following his accident hint at these coping processes:

> B: I didn't look at it. Ahh, I could [see] my shoes but didn't see my leg itself [pause] the condition it was in…perhaps I didn't want to look at that. [later]…In the hospital they showed me the X-Rays and, in disbelief, I said that just can't be my leg…

Failing to *see* the condition of his leg, or accept the X-ray was of his leg may also suggest that Byron was using a process of denial to cope with the physical and emotional distress he experienced soon after becoming injured. Heil noted "denial may be viewed as both a

clinically significant intrapsychic defence mechanism and an ordinary process of selective attention" (p.39). The first interpretation of denial is probably best situated within psychoanalytic theory. For example, being severely injured and highly dependant upon medical staff likely created an intrapsychic threat related to various aspects of Byron's self-concept (e.g., his athletic identity) being undermined. A psychoanalytic interpretation of athletes' LTIR, however, is beyond the scope of this dissertation. Heil's second proposition fits well, though, within an emotion focused coping framework. For example, Byron recalled that he could not see the condition of his leg although he could see his feet. From an emotion-focused perspective, Byron's selective attention (away form his twisted and broken leg) was a coping mechanism which likely enabled him to defer, and process over time, emotions that would have been too overwhelming at the time of the injury. Heil summarised this process quite nicely when he said: "Denial is like a floodgate holding back the flow of negative emotions…allowing theses emotions to be processed slowly and systematically over time" (p. 40). For the purpose of the discussion here, it might be better that denial be substituted by the terms avoidance or selective attention so as not to delve into these processes from a psychoanalytic perspective.

Heil (1993) and Grove and Bianco (1999) both commented that athletes will often cycle through different modes of coping as rehabilitation progresses. The idea that situations or events can trigger shifts between coping styles is reflected in Heil's comment that: "the fundamental assumption [of the affective response to LTIR] is that movement through states is not a one-time linear process but is a cycle that may repeat itself" (p. 36). In addition, athletes may also concomitantly apply both emotion and problem forms of coping in an attempt to maintain a sense of balance or stability in their affective state (Folkman & Lazarus, 1985; Wiese-Bjornstal & Smith, 1999). For example, avoidance or even denial may help an injured athlete reduce high levels of distress during the acute

phase of an injury, and in doing so they may maintain a positive outlook and focus on the immediate rehabilitation tasks.

The simultaneous use of more than one coping style was most apparent during the early phases of Byron's recovery. About a month after his accident, Byron recalled receiving a telephone call from a well meaning police officer who had attended the accident scene. The call, nevertheless, generated a strong emotional recollection of the events surrounding the accident:

> B: …the policeman rang out of the blue quite sometime later [pause] just to see how I was [pause] but I didn't really want to ask him too much about the accident at that stage. I was happy to be ignorant about what had happened. I can remember a flash…and, uh, the car coming but there was a gap from, from the time when the car hit me, um, till the time I woke up and I don't quite remember waking up. There is a, a, a, a chunk missing and, uhmm, that's for good reason and I'm not too fussed about that. Ignorance is bliss sometimes to and maybe I don't need to know. If the body has blacked things out there could be a reason for it and maybe I don't need to know…It's amazing how the mind switches off [pause] fortunate….

As Byron explained this phone call and his thoughts about not remembering the accident, I sensed that although he did have distressing thoughts and memories about the accident and his injuries, he did not want, or was not yet ready, to attend to them. He went on to tell me that he has since tried, on several occasions, to piece together the moments surrounding the accident. He went on to note he generally did not put too much effort into it or worry if he could not put it all together. It is difficult to know if he was experiencing post-traumatic amnesia (both organic or in response to psychological distress from the accident) or if he was engaged in processes such as selective attention, avoidance, or a combination. He also told me that it took several months to claim his broken bike from the police asserting that "he was not sure if the reminder would be too much." Similarly, about seven months after his accident, he told me that he finally watched the video of his surgery. Similar to taking time to claim his bike, he noted that he "was not ready to watch it" and that he feared it would elicit too many emotions. These examples exhibit Byron's use of avoidance coping

in response to the emotional events and symbols associated with his injuries and being debilitated.

It was also apparent, however, that Byron used problem-focused strategies such as instrumental, approach, and active approaches (e.g., planning, talking to rehabilitation specialists, and taking physical and psychological action) to cope with being injured and engage in his physical rehabilitation.

> B: You know this is another training program as it is, my rehab, I'm dealing with it as another Ironman…the physio gives me exercise to do, I do them. I tick them off in the book and write up how I feel [pause] and if something aggravates my injury then I'll go back and assess it with the physio.

Here, Byron is treating his injury as the problem. The solution, therefore, includes identifying and setting about solving the problem (e.g., the injury or being injured), seeking information and instruction from his physiotherapist about fixing the problem/injury (e.g., instrumental coping), and recording gains in his condition. He is also trying to turn a negative situation into a challenge by a process of cognitive restructuring, (e.g., he views being injured and in rehabilitation as another Ironman) which helps reduce his negative affect related to being injured. Employing these coping processes helped Byron to reduce some of the negative aspects of being injured and engage in his rehabilitation.

The preceding two quotes related to a similar time (i.e., the first few months) in Byron's rehabilitation. They also reflect several of the coping strategies Byron used to cope with the different aspects (e.g., affective and physical) of being injured. After the acute phase of being inured, Byron applied himself to his physical rehabilitation in much the same way he had directed his attention to training. He worked closely with a physiotherapist and directed much of his physical and emotional energy into his physical rehabilitation program. When asked about his plans to return to triathlon he said:

B: Um…I don't know whether I can run yet. It's no use making plans for a comeback—even a fun-run [pause] I'm just going to have to address that when it comes…I'll do some open water swimming races and if I can cycle I might do some road races…it's one of those things [pause] it's in the lap of the Gods. I think, um, with sport what's going to be will be.…but ahh [the] little challenges that life throws out at you, you have to adjust and adapt I think…

T: And it sounds like you've approached this like it's another form of training…I believe you called it your next Ironman…?

B: Yeah! A methodological approach to it and, um, to deal with it as a—yeah—as a challenge in itself. Instead of my road to Ironman it is my road to fitness again.

At this point of his rehabilitation I sensed that he felt sad and even a little vulnerable (e.g., *it's in the lap of the Gods).* I suspected that, although Byron still tended to avoid or at least not dwell upon these feelings, Byron accepted that there were still considerable challenges ahead of him. Therefore, a determined approach (e.g., *Yeah! A methodological approach...*), peppered with avoidance was an adaptive process that enabled him to remain optimistic and address his future with a sense of curiosity—an openness toward his athletic future.

There was no exact time at which Byron became ready to approach the emotional salience of his accident. Rather, Byron's emotional readiness to revisit the events of his recent past paralleled his physical rehabilitation. In the following example Byron examines the relationship between his physical status and how and when he felt able to address the, unseen, emotional aspects of his rehabilitation:

B: …when things are going badly with the relationship [with Deborah] and then compounded by, um, my mobility problems and work pressure, um, and, and wanting to do day to day things like walk the dog, and stand out in the garden, and trim the roses, or something….When the balance is upset completely it's not just being not able to train but it was being not able to do any of those things. And, you know, there were times when if I, I, I felt unsupported…it's [all] inter-woven and then compounded and you don't realize until you come out the other side that you in fact were really depressed and [pause] pretty down. And those weeks, here or there, were really, um [pause], tough for me. It's not until I started to feel better physically I felt better emotionally as well.

This passage begins to illustrate how intertwined physical rehabilitation process, interpersonal relationships (social support), daily hassles, activities of daily living (ADLs), and affect (cf. section on affect below) can become.

The interplay of biological, psychological, and social aspects of LTIR is complex. Moreover, the various components act individually and in concert, and can have deleterious and cascading consequences on recovery. The opposite process is also achievable. Interventions directed at one or more of these areas, for example, can effect positive change. As Byron talked through these issues, his own understanding of his situation emerged; specifically, he began to identify and work through the range of emotions he felt about the accident, being injured, having an uncertain athletic future. Being invited to discuss his experiences may have initiated a clinical process whereby verbalising, hearing, and sharing his story had a therapeutic quality. On several occasions Byron acknowledged the therapeutic aspect of being involved in the study:

> B: …had I not been talking to people like you, I think it's important that people who have had major trauma to address or [pause], and it may not be anything more than just talking to people about how you're feeling and what you can do to deal with them.

Tracey (2003) reported similar findings. She found that participants in her study reported that being given an opportunity to discuss their injury experiences (even as a participant in a study) was therapeutic.

Rehabilitation from injury is a dynamic process. It seems likely, therefore, that injured athletes will employ various coping strategies in response to a variety of stressors that will appear, disappear, and (potentially) reappear over the course of LTIR. Generally, Byron used problem and emotion-focused coping strategies throughout his rehabilitation. However, as he regained his physical abilities, Byron became increasingly intent on coming to terms with the emotionality of being injured. This process extended over several months and involved revisiting the location and confronting the artefacts of his accident.

For example, during our inter-interview meetings, Byron talked about revisiting the accident site. He explained to me that these visits initially evoked strong feelings such as anxiety, fear, anger, confusion, but that these emotions successively diminished. Recall the earlier quote in which Byron described closing his eyes while being driven through the intersection. In a later interview he recalled:

> B: Initially when I was out on the bike I was conscious not to go to Beachtown and turned around before we got to the intersection. But two weeks ago I was sitting there at the red light [where he was hit] and I had the opportunity of reflecting, and it wasn't too painful [long pause of reflection] it wasn't too painful. [BUT] I'll probably always turn my mind to it [the accident] when I ride or drive through there.

Recall also, that he mentioned it took him months before he felt he could begin to watch the video of his operation; and then several more attempts before he could watch it completely.

It was during several of my later meetings with Byron that he began to show me concrete evidence of his injuries. Initially, he showed me the scars on his leg. Later, he took out his X-ray images and, while making reference to the scars on his body, he noted the length of the rod, how the screws protruded into his flesh, and which screws were prematurely removed. Finally, it took Byron several months to retrieve his broken bike frame and about eight or nine months, after his second operation, to retrieve the hardware from the first operation (the screws, and the titanium rod). When he showed me these last items, I had a sense that I was being privileged to a private showing of the grim trophies delineating his physical and emotional recovery. It seemed that in viewing them together, I was being invited to verify—to corroborate his experience—and to also *hold* some of the pain that these trophies elicited. Luepnitz (2002) talked about the sharing, or displacing, of emotions; 'projective identification' she wrote was: "the splitting off of one's painful emotions and, in a sense, 'storing' them in another person who in some way agrees to contain them" (p. 29).

Social Support

B: The group…they become your peers and your friends. You're trying to beat the guy in front of you…[there is] lots of friendly rivalry and encouragement. You felt a sense of belonging—I suppose. People are from all different backgrounds, different ages, male and female. Everyone is at different stages of their lives but we're all there with a common goal: squeezing the best out of ourselves. [And] if you didn't turn up someone would ring you and say where were you? You make a commitment, [and] you've got a whole group of people overseeing you…[and] you feel like a failure amongst all of them if you don't turn up to a session. You make a lot of good mates…[share] good life experiences—bonding experiences—freezing cold mornings where you ride up to the top of the mountains and see the crisp clear air and it's just a beautiful, beautiful sight…it's really special. [pause] And that eats at me now. [voice drops] It is always in the back of my mind. All I can do is rest and sleep and think of all the buddies who are out there at their training at 5:45, and I've got out of bed at 7:30…I feel a bit lazy. [his voice drops to a whisper] That's something I've gotta come to terms with.

Similar to coping style, the type of social support Byron desired, received, and found useful fluctuated throughout rehabilitation. Moreover, one category of support may combine with another or morph from one type to another. Assigning meaning to a particular category of social support (i.e., emotional, esteem, informational, and tangible—Reese & Hardy, 2000) may be convenient, however, the semantics of various social exchanges are complex. As a result, categorising the various forms of social support seemed contrived. In the quote above, for example, it is apparent that Triathlon was more than just a physical endeavour. Byron had developed strong social bonds with his team-mates and his coach. These were the individuals he socialised and competed with; they grew and learned from one another, they motivated and supported one another, and they shared dreams and life experiences together.

In the moment Byron was hit by a car he was transformed from a strong, physically able, and independent man to one who was debilitated and dependent. His reliance on strangers was immediate as other cyclists, and then the police, provided initial support on many levels. A stream of health professionals then followed (paramedics, emergency doctors and nurses, X-ray technicians, surgeons, occupational and physical therapists, etc.).

Some of these relationships would last for only several meetings, others would last for more than 18 months with some of these people becoming intimately involved in aspects of his life. The following passages provide examples of the immediacy of his reliance upon others for emotional, informational, and tangible social support, as well as the converging and overlapping potential of various forms of social support.

> B: When I woke up [regained consciousness] there was another cyclist…who had stopped and he was holding me—ahh supporting my head. And I said *AHH, forget about my head, what about my **LEG!?***—'cause it felt like it was up in the air. And he said it was on the ground!…Then they asked do I think I need an ambulance, and I said I didn't think I'd be getting up.

The tone of this passage suggests that he was in significant emotional distress. Here Byron clearly requires emotional support. He also requires information about his injuries, and further he needs someone to assist him. However the cyclists who intended to comfort Byron, became the providers of all three types of support.

> B: …and they [the paramedics] put my leg in a splint, and a cervical collar on my neck …the ambulance guys worked on me for quite a while!…I was in a lot of pain and they gave me an inhaler for the pain.

The primary role of a paramedic is to provide medical attention to an individual, support that is informational and tangible. But, as Byron described this scene to me, I noticed an expression of relief in both his tone and in his body language. Being in the safe hands of medical experts likely also provided a sense of emotional support for Byron. In the hospital, Byron was also distressed and in emotionally vulnerable states. Therefore, hospital staff, in addition to their primary role of ensuring the Byron's physical welfare, would also have (intentionally or unintentionally) provided emotional and even esteem support.

Once out of hospital, Byron was still dependant upon a large number of people to assist him. Many of these individuals intended to help Byron in some way—that is provided either informational or tangible support. Several examples included:

B: After I got out of the hospital I had in–house care; people to help me shower and do some chores…and a nurse to come and dress the wounds.

And the physio started coming fairly quickly, ahh, he was visiting here.

At the pool I got assistance and had to use the geriatric chair to get me in the water, um, I was in a lot of pain.

It was that difficult to get a drink of water…fortunately a mate of mine brought me a trolley. I'd sort of take a step and push it and take another and push…

After three or four weeks I started going back to work part time and I'd get one of my work colleges to pick me up in the morning and my brother to pick me up around lunch time.

On the surface, the preceding social support exchanges appear only to deliver informational and tangible support to Byron. Something even more basic, however, occurred during these meetings. It may not be obvious in these *tidy* examples, but Byron desired company. As a result, social exchanges like these also served to provide Byron emotional and esteem support. For example, in excerpt 2 the physiotherapist would have provided Byron with exercises, equipment, and information relating to his injury status. It is also likely that engaging in physical activity, however slight, elicited in Byron feelings of competence and an enhanced self-concept. Therefore, by helping Byron with his exercise program, the physiotherapist unintentionally also provided esteem and emotional forms of social support.

Bianco and Eklund (2001) referred to various social support structures (the various groups which provided support) and the function of these exchanges. Byron received support from four different groups of people: (1) family, friends, and co-workers; (2) team-mates and other athletes; (3) medical and allied medical professionals; (4) other members of his community (e.g. the cyclists who stopped to help or staff at the pool). Groups three and four have been the primary focus in the examples above. The intended function of social support in their exchanges was largely based upon looking after Byron's immediate

and ongoing physical rehabilitation needs. In contrast, groups one and two were the primary providers of emotional and esteem support.

Byron has a fairly large family and is a popular member of a large team. Consequently, he received many visitors, cards, phone calls, and supportive text messages. This outpouring of support had both a positive and negative effect on Byron. At times he recalled being overwhelmed:

B: The week, um, straight after the accident there was a big stream of visitors and I was actually exhausted.

At other times being around or hearing from his team-mates only served to highlight that Byron was not with them:

B: It's been pretty hard [voice drops and becomes shaky] this week was quite lonely…you know all your buddies are into training.

More often, however, support was welcomed and served to elicit positive affect and feelings of increased self-worth. Many of the individuals who provided emotional support also indirectly provided esteem support. As we sat in his living room Byron picked several cards up off the coffee table, he handed them to me and commented:

B: I've got heaps of phone calls, text messages and I have some wonderful cards sitting around the house—nice ones that I've kept up. They make me feel good when I read them.

In feeling good there is likely an unconscious process that bolsters ones' self-esteem. The process may go something along the lines of, "If this many people are taking time to send me cards, phone, or come and see me then I must be a competent and worthy person." Also, simply hearing from or seeing someone familiar can be reassuring and comforting.

Although Byron had a considerable support pool some of his support needs were not being met. Bianco and Eklund (2001) discussed the importance of support appraisals. For example, if a discrepancy between the social support received and the support desired exists the recipient may feel unsupported. This may then increase their experience of negative affect. Above all, Byron was disheartened by the support he received from his

partner, Deborah. The following example is from my fourth interview with Byron. More than one year after his initial accident he was still struggling with the support (or perceived lack of) he received from Deborah and the consequent demise of their relationship.

T: Well that's been a really salient theme all the way through the [interviews], the uncertainty of your relationship with Deborah.

B: Well you know I [pause] initially, I was, err, lost at sea without a paddle [he laughs vulnerably], and, and, um after the accident I felt just let down and, uh, unsupported by what she contributed....I think in her own mind she felt like she was putting in but it was by no measure, um, enough!, and maybe too much mightn't been enough.

As time passed, Byron explored his role in the social support exchanges. In particular, he recognised that he might have asked for more assistance or for Deborah to spend more time with him. His conflict, however, stemmed from the recognition that he did need people to provide tangible support (to make his meals, help him clean, or move about). Deborah did some of these things but, more than anything, Byron wanted somebody to simply *be* with him. Deborah, for the most part, was unable (for whatever reason) to simply *be* with him. In the following examples Byron explores this conflict, recognises his part in social support exchanges, expresses how surprised he was to find this support from a friend, and comes to understand what he really wanted from Deborah.

B: I had my mother, sister, and my brothers come from time to time, but I felt pretty bad that first week back home–pretty abandoned. Deborah had gone off [and was] having a good time and I was stuck here struggling to get myself a, a, meal or anything! And that was the difficult part.…On the outside I'm the type of person who'd shrug off something and say I'll be ok, I don't need any help, but on the inside you know you're ah [pause] you're really struggling and you *really* do need the help. And that's my personality. Um, it's probably a fault, I should have said ***yeah I really need help***…. But you'd think that after such a long time in a relationship that Deborah would pick up that you're not really doing that well, that it's a bit of a struggle…uhh, it was difficult just to get a drink of water!…The hardest part is dealing with the relationship—more than anything else. You can't get the other person to understand what's going on and, ah, it's hard [Byron's voice breaks and he begins to cry—long pause–crying]. I, I, expected Deborah to be more supportive. I expected her to find the time to [pause], to spend with me. So that was a surprise!

T: You wanted a, a [pause] close friend, somebody to just sit with you…

B: Yeah! [interrupting me] And not necessarily do anything, but just to [pause] even if she just sat and read the paper and, uhh, or whatever. You can forgive some of your friends who are busy with family or whatever, but you've gotta make room; if you can't make room at that point then…[long pause]

T: Well I suppose you expect a fair bit more from a partner.

B: Yeah, that's right. One of the guys from swim squad—like he just turned up and, at the hospital. And I thought, oh gee, this is good of him to come. And like an hour went by and he was still just sitting there; just talking or something, but he was just sitting there. And 2 hours went by and he's still here. That had a significant impact on me; thinking you know he's just happy to just sit and spend a bit of time and just [pause] talk boys talk, triathlon, bikes and things like that. [pause] And that gets back to the Deborah thing where, where if there had been *anytime* like that I would of thought that's fantastic. Instead, ah, you know, her measure of what she—her input was, you know, hiring a wheel chair and taking me shopping or to the pool. I had half a dozen people offering to drive me to the pool.... It was more just spending time with her, rather than doing activities. It didn't have to be activity based.

As Byron recovered he spent more time thinking about his relationship. He compared what he wanted from Deborah throughout his rehabilitation, particularly during the acute phase of being injured, and what she gave of herself. More than any other aspect of social support, the disintegration of his relationship with Deborah was most closely tied to how he was feeling. Moreover, it added to the complexity of his LTIR experience.

Finally, being injured positively affected some of Byron's social ties. During his time away from triathlon, Byron took stock of his life. In doing so, he realised that there were aspects of his social life that he had previously suspended in order to make time to train. Consequently, he increasingly sought out social exchanges. These ranged from playing guitar with his nephew, to catching up with old mates, to re-engaging with his triathlon team. Byron recalled that during the later phases of his rehabilitation he began to rekindle these aspects of his life.

B: Triathlon is a lifestyle thing is it [Triathlon] just consumes your whole life. [Being seriously injured] gets you focused onto your life and all the things that are important to you. And that's made me closer to my nephew. It's also, um, just simple things like having dinner with, um, with mates. And really, since the accident, we made a point of catching up once a month just to talk crap, and talk about girls, and drink a few red wines.

As the anniversary of Byron's accident approached he had begun to compete in some sports. Two sport events were of particular relevance, a 12 km ocean swim (just weeks short of the one year injury anniversary), and competing in a short-course triathlon (which was on the anniversary weekend). When I asked him about the anniversary Triathlon, Byron reflected sadly:

> B: Look it was a strange day, Deborah wasn't around, but everybody that I trained with were really pumping me up [pause] that was a real bonus to see people out there and have them, um, come up to afterwards…BUT afterwards I, I just went off and had a quiet moment of reflection for about ten minutes and just sort of thought what a, um, a big deal it was. [pause]…But it was a bit of an anti-climax really, I think. There was no, no fan fare [laughs sadly].

Returning to triathlon was a significant event for Byron. It marked his triumph over being injured and summarised a year of hardship and determination. However well meaning the support from team-mates and co-competitors was, Byron still felt emptiness upon completing the race. Throughout our conversations, Byron often commented on the meaningfulness of sharing experiences with people close to him (e.g., his family or his partner). Those who shared the whole experience with Byron were there to support him on his marathon swim. On this event he recounted:

> B: For me the, the more emotional time was the week before, when I did the big swim, because my whole family was there. And my mate Matt also came up to do the swim so there was friendly rivalry and a big cheer squad there. And my family had lived through the whole 12 months. They—my close family did the whole nightmare.…so to complete something like that and to have them all cheering you on was quite emotional. We were all in tears. For me, it was more significant than the Triathlon…just better to share it with family.

Affective Responses Throughout Rehabilitation

Experiencing a host of different emotions simultaneously or in close succession can be overwhelming. Quinn and Fallon, (1999) and Wiese-Bjornstal et al., (1998) implied that the convergence of various (sometimes conflicting) emotions further exacerbates an athlete's distress. Byron described a range of emotions as he recounted the moments that

surrounded his accident. For example, he recalled how good he was feeling during the ride the morning of his accident,

B: …we were starting to freshen up, we weren't tired anymore…Yeah!, I was excited!

And then he was hit by the car; he was physically and emotionally shattered:

B: To say that I was devastated is probably…[an understatement] [Byron slipped into quiet reflection].

He also experienced anger:

B: Bring him [the car driver] here and I'll get up and belt him, I'll smash him one.

In addition, there was an undertone of humiliation; as he recollected why he was riding by himself his head dropped, his eyes averted mine, and his voice was quiet and a little shaky:

B: I thought about Deborah, [pause] if we hadn't had that argument…if I hadn't gone off on my own maybe it wouldn't have happened?

He expressed sadness and empathy for how his friends and family might respond:

B: …thinking about my family and how, uhmm, my poor mother would react.

Add to this already confusing mélange pain, feelings of vulnerability, and uncertainty about one's future. As Byron expressed:

B: There were lots of emotions…it really spun me out.

It is not only the additive effect of experiencing multiple emotions, however, which can have deleterious consequences for an individual. Simultaneously experiencing these emotions is in itself traumatic. Researchers have begun to find that athletes' emotional responses present in a dynamic and sinusoidal (Quinn & Fallon, 1999) or nonlinear fashion (Wiese-Bjornstal et al., 1998) throughout LTIR. Moreover, individuals may also concurrently, or in close succession, experience a variety of different emotions throughout LTIR. Some of these emotions may be particularly disharmonious (e.g., anxiety and relief) whereas other emotions may commonly co-occur and act to increase the perception of

overall negative affect (e.g., anxiety and depression). In either case the emotional landscape during LTIR may be rough or especially unsettling.

Similar to the emotional sequelae in the preceding examples, Byron also experienced fluctuating positive and negative emotions as he progressed through his rehabilitation. For example, as he returned to running:

B: There was the jubilation that I could run and then the frustration that there was just no, um, proper functioning in the leg yet.

Also recall the quote wherein Byron recounted the emotions he experienced in the weeks surrounding his one year anniversary (cf. last paragraph and quote of social support section p. 97). In that quote he expressed feelings of excitement in returning to competitive sport, a sense of belonging as he reintegrated with his team, increased vigour or feeling activated as he experienced the rush of competing, and support from his team-mates. He also reported negative and confusing emotions:

B: I felt very empty…and I was quite emotional too. It was an achievement, umm, it was another step in the rehab process, but you know it wasn't a shared one. So that was a bit of a downer.

The compound effect of being injured, feeling abandoned (by Deborah), and being confronted with strong and unfamiliar emotions took a heavy emotional toll on Byron. Being alone (i.e., feeling he did not have someone with whom to share rehabilitation success or someone who could simply *be* with him) was a theme we often discussed. Within several of the quotes presented in the social support section (cf. above) there were tones of stoicism. For example:

B: …on the outside I'm the type of person who'd shrug off something and say I'll be ok, I don't need any help…

As previously mentioned, however, Byron struggled to come to terms with the support he received from Deborah. His perceived lack of support from Deborah, and the resultant breakdown of their relationship, significantly contributed to the negative affect Byron

experienced. Although Byron often sounded frustrated as he spoke about the support he received from Deborah the overriding emotion was that of loneliness. For example:

B: I expected Deborah to be more supportive…[pause] I expected her to find time…and not necessarily do anything.…it was more just spending time with her, rather than doing something activity based.

Byron admittedly had many people who cared about him, nonetheless, he often felt alone. Being alone intensified the emotional consequences of being in LTIR. In particular, not being able to compete (or be among his team-mates) and progressively losing Deborah presented an intrapsychic conflict replete with emotions with loneliness and depression being the strongest. During LTIR Byron grieved the loss of his athletic identity, associated with the uncertainty of his athletic future, and the loss of Deborah. So, unlike many injured athletes, Byron had the additional emotional burden of grieving the loss of a close interpersonal relationship.

A biopsychosocial interplay was brought to light in the coping (cf. quote on p. 88: "when things are going badly…"). The following passage presents an additional example of the complex, biopsychosocial, interplay.

B: I don't think you can isolate one specific aspect…the ripple affect is far reaching.

T: I guess one [element] compounds the other and so forth?

B: That, that's it exactly! I was conscious of not slipping deeper [into depression]. I, I mean, I, never for one minute thought that I was invincible. And it could happen to me; but even so, at the time, there's not a lot you can do about it.

The compound effects of the biological, psychological, and social strains, which can result from being injured, may be so overwhelming that an athlete feels paralysed or devoid of the resources necessary to cope. As Byron described these interactions, however, it occurred to me that although Byron might have been able to identify this relationship his awareness was a sort of para-awareness. That is, a sort of vague recognition that his emotional state was worsening combined with an inability to take action.

As Byron continued to explore the depression he felt in response to being injured, dependant, and isolated he stressed the relationship between affect and coping. In particular, he explored how close he did come to not coping even with many people supporting him.

B: It's very easy for the male of the species just to shrug it off and say: *oh look you know its just a bit of pain give it a few weeks and things will be back to normal*, but the depression or the depressive aspect of an injury, um, is something that you can't, you can't see like a bruise or on an X-ray. It could be underlining. It's silent; it's like a cancer that, um, could be just be below the surface and if its not fixed then I think [long pause, and Byron's tone becomes sad and concerned] I mean, I, I think I could've got a lot worse [*Uhmhum*, I encourage him to continue] and, um, started hitting the booze or, or, um, come down majorly depressed. I was probably lucky that with all the supports around, you didn't really have a lot of time to wallow on your own you'd have to pick yourself up um and do something.

T: Those are pretty powerful emotionally laden images: bruises and a cancer. It sounds like you were very concerned about the direction you were heading in and that you were not in a good place…

B: I think that, um, there is a stigma attached to people that, umm, suffer from depressive illnesses [pause], I wouldn't tell people at work I'm getting counselling unfortunately society doesn't accept it as readily as they should.

T: So you feel you've also got that [societal] hurdle to overcome?

B: Exactly!

In this example there is a strong sense of what is and is not appropriate. Social stigmas, gender roles, and implicit athlete roles (i.e., athletes are mentally tough and can play through pain and injury). These types of views are frequently supported by society, in general, and further enforced by overt and covert behaviours within sport clubs (e.g., when well-meaning team-mates encourage and support *brave* returns to sport). These values are so ingrained that, as Byron talks about feeling depressed, he remains distant and uses the second person "you" to refer to himself and become the subject of discussion rather than the object. As he acknowledged his feelings, and felt safe to talk about them, he shifted to first person. From a BPS perspective, the carryover effect of these social(izing) elements might include not seeking out support (either talking to a friend, or a professional), and

higher levels of stress with concomitant psychological, physiological, behavioural consequences (cf. *Figure 2.2.* stress model). These factors may then lead to poor adherence to rehabilitation exercises and consequent slow rehabilitation progress, which intensifies negative affect and perpetuates the cycle.

The above example also provides an example of the therapeutic aspect of research. Tracey (2003) noted that participants commented that they felt being able to share their stories with someone who cared (i.e., the researcher) helped them rehabilitate from severe injuries. Strictly speaking, Byron and I were not involved in a therapeutic relationship. Byron was a participant and I was a researcher, nonetheless, a therapeutic or *working alliance* (Horvath & Symonds, 1991) did evolve during our meetings. At the core of this alliance was a collaborative empiricism; what Andersen described as:

> …two people engaged in collaboration, trying to figure out the experiential world of one of them, a world often filled with terrors, hopes, frustrations, joys, anxieties, and failures to change.…the empirical data are the data of life. And the two scientists are on a journey together to understand those data. (2005, p. 290)

The *terrors,* and so forth, that Andersen mentions are not easily addressed. Once these terrors have been acknowledged the individual (Byron in this case) will often, or soon thereafter, retreat to safe ground. As I listened to, and reviewed, the transcripts I recognised that Byron and I were involved in a kind of therapeutic *dance*; one in which the sharing and telling of tales moved between being emotionally distant, coming together, and moving apart again. Respectively, the dance involves first telling tales with undemanding or universal themes, then progresses to telling tales that expose one's insecurities and vulnerabilities, to telling undemanding tales, and so forth. In whatever way, all of Byron's tales, safe and terrifying, helped both Byron and me to understand his story of the processes and events related to LTIR.

Psychological Intervention

I have not yet taken time in this case to discuss Byron's impressions and use of psychological interventions during LTIR. Byron was keen and did engage in psychological intervention from our first meeting; however, he also often took time, during our meetings, to discuss the affective experiences he encountered during the weeks in between our meetings (e.g., his general depressed affect; and sadness, anger, and confusion related to his deteriorating relationship with Deborah). As a result, I have reserved only a short space, here, to review Byron's comments on the psychological interventions.

Each time we met, I engaged Byron in cognitive behavioural interventions (e.g., goal setting, relaxation, imagery, cognitive reframing, etc.). During our first post-interview meeting, for example, I took Byron through an autogenic relaxation induction and provided him with a compact disc, with the script on it, so that he could use it whenever he wished. Each time we met we reviewed the intervention(s) he was using. If it was appropriate, I then taught him a new strategy (e.g., cognitive restructuring, goal setting, and positive self talk) or we revised or augmented a strategy that had been established at an earlier time. For example, after teaching Byron autogenic relaxation, we added healing imagery (e.g., images of the tissues healing and reduced swelling and bruising), later we changed the imagery to rehabilitation imagery (images of Byron completing exercises, coping with pain etc.), and later again images of him returning to sports. My case notes and the interviews are dotted with examples of the various interventions; but, during our last interview, Byron quite succinctly expressed his thoughts relating to the interventions we applied throughout his LTIR.

B: You've said if there's anything else I want to comment on….Uhmm [pause] When I've spoken to people about getting through the last twelve months, and how I coped with it, um, a lot of the time I tend to come back to things that we've talked about and what you've taught me. Things such as the pain management and relaxation—they helped me with get off medication and deal with the pain. I couldn't have done that without that support there. And little

> comments along the way stuck in my head; like turning a negative into a positive or a challenge.
>
> …For somebody like me, who has training weeks all mapped out in front of you, and then to have all that sort of pulled out from underneath, to try and get some focus back [pause] it has really helped to talk about goals and [plan] contingencies if you can't achieve a goal. The goal setting has really helped me get on track and stay focused.

In addition to expressing his opinion of the PST and psychoeducational interventions, Byron also reflected upon the therapeutic aspect of being involved in the study.

B: Talking about it [the accident] at this level, really, I've found to be significant. I think that the most I achieved out of all of this is talking to someone about it, getting it off my shoulders. Just being able to say to somebody, uhmmm, I'm really hard done by or I'm really pissed off, it's just a release and it relieved a bit of anguish. Ah, to talk about how depressed you're feeling or how pissed off you are that life's given this blow to you. [long pause] And, uh, I think it's something that people are very reluctant to talk about particularly guys…. guys talking about their feelings, it's not a guy thing to talk about.

…But it's been a big journey, and, uhhh, been good to ah be able to have your, ahh, support along the way, and, and uh…bear some of the weight for me. It helped me from point A to point B [pause] Ahhhh, you made getting to point B so much easier without a lot more heartache and stress and pressure and tension. To be able to speak someone that is not only interested and can sympathise, but someone that had, uhm, actually trained and could see where I was coming from....That made it a lot easier.

He first identifies a process of projective identification (Luepnitz, 2002), whereby sharing his stories and his anguish with me gave him the emotional space necessary to direct his attention towards healing. He also voices his appreciation of the therapeutic aspect of having been involved in this research project, a claim also made by participants in Tracey's study (2003). It seems, therefore, that one of the indirect interventions I provided for Byron was an opportunity to talk about and explore his emotional experiences.

Lastly, I feel it is important to briefly note that Byron did engage in several forms of psychological intervention. Although it was not my intent in this dissertation to engage the participants in a psychotherapy process throughout LTIR (this project sought to engage participants in psychoeducation and PST), Byron was often keen to simply talk about the

things he has experienced in the intervals between our meetings. In as much as I taught Byron therapeutic skills directed at helping him cope with various aspects of his LTIR experience, I often found it difficult to not enter into a therapeutic (from a clinical perspective) mode of being with Byron. During the fourth interview Byron commented on the value of the intervention work we had done, but also noted that he was also aware that our relationship was not, by definition, a therapeutic one.

B I think [pause] I mean this is, primarily, this has been a study for you, so I didn't look upon it as your role to be having input as to um…treating my, my issues. [mmm] Where as you did give me things to help and cope along the way, I, I didn't, I didn't see it as being your job to [pause] if I needed counselling then I'd see a counsellor. I couldn't be critical in terms of what you've missed [pause] Naw, I couldn't comment on any down side at all. Being able to, to chat to you has been good, great really. Thanks, thanks, for all your support.

T Thank you.

Post Script

It has taken more than two triathlon seasons for me to complete this dissertation and I have kept in touch with Byron. Since our last interview, he has undergone additional surgery, to have the remaining hardware removed from his leg, and has successfully returned to competing in Ironman and other ultra-endurance events.

2: The Story of Lucy

At the time of the study, Lucy was a 19-year-old state level basketball player. Like many athletes, she first became involved in sports at a young age, participating in a variety of school sports. She ascended quickly through the junior-elite ranks, competed internationally, and by the age of 16 years had been recruited by a state-league team. Lucy's athletic history was not without injury, but recently, she had experienced more serious and season-ending injuries such as a vertebral fracture—an injury that ended her previous season, and a dislocated patella (her injury at the time of study). Initially, Lucy had been told that she would not be able to play for six weeks; however, like many athletes, her prognosis was later adjusted. After four weeks of unsuccessful rehabilitation, she was reassessed and told that it would likely be at least another six months until she reached full recovery.

Initial Meeting

I met Lucy at her house and she greeted me with a friendly, but somewhat nervous, smile. She was casually dressed in grey sweat pants, a t-shirt, and thongs. She was not on crutches and walked with only a slight limp. As we moved to the lounge room I remember wondering: "Is she injured enough?" Lucy offered me a cup of tea and I accepted. As she fixed tea I again thought that she might not be injured enough and that her story of LTIR would not be long or rough enough. I became aware that if I did not keep this in check it might get in the way of Lucy telling her story of being injured. After all, Lucy had read the criterion for participants, felt that she qualified, and volunteered to participate. However, it was athletes' stories of LTIR that I was interested in—**their** stories, **not** the stories I hoped or wanted them to tell.

A few moments later Lucy came back into the room with the tea, she seemed apprehensive about the interview so we chatted superficially for a little while. As Lucy

relaxed she began to ask about my background and then about the study. After outlining the study, I asked her if she had any further questions. She did not, so we formally began the interview.

Initially, she talked about her early sport experiences. It was clear from her stories that her whole family endorsed sport and physical activity. As she continued, she began to explore the meaning of being a basketball player. Like Byron, Lucy enjoyed the mate-ship, camaraderie, and shared challenges that being a member of a team provided.

> L: Our team is really close.…Its hard to explain [pause]. We're a team and work for each other rather than have our own individual agendas….I've made heaps of friends, and the girls that I played with when I was younger—we are all still friends now.

As Lucy continued to talk about a sense of belonging and support among her team-mates she also began to bring up her injuries. I found it interesting that some of Lucy's examples of belonging were related to times that she was injured. For example:

> L: I've had a few injuries. Last year I had a really bad injury and they've [her team-mates] been really supportive…and that keeps you positive.

When I asked her about her past injury experiences, she responded by casually listing off several relatively minor injuries and then her two most serious injuries:

> L: I've done my ankles a couple of times—sprains and stuff…did my right knee—swollen meniscus…and stuff like that.
>
> …The last two years have been—well, last year and the start of this year, has been the hardest because they've been the most serious of injuries…I couldn't push it like I had [with] the other not so serious injuries…I really had to look after it. So it's sort of a time thing. That is the most frustrating part of recovery. I hate sitting there watching and waiting.

While Lucy commented on the nature of sustaining more severe injuries, waiting to heal, and having to watch her team (in particular), I sensed that being on the bench—on the periphery of her team—equated to her feeling that she was somewhat of an interloper. During our meetings Lucy reflected upon her experiences of being injured and LTIR. Her recollections of being injured and how she coped with not being able to play basketball

were interwoven with several other key issues. She described the emotional consequence of being injured and feeling isolated; experiences that she frequently, and collectively, referred to as feeling ‘frustrated’. She also spoke of the support she received from people around her and of a great sense of urgency to return to playing.

Coping

Frustration

During our meetings, Lucy’s overriding comment on LTIR was that it was *frustrating*. There may be several ways to interpret her use of this term. It may have been that Lucy did not have the emotional vocabulary to articulate the range of emotions she was experiencing, or that it was the predominant emotion she experienced throughout LTIR. Her paralanguage and frequent, often immediate, use of the word *frustration*, lead me to suspect Lucy was using this one word as both an emotional descriptor and a way of coping. For example:

L: It was frustrating when I’d go to training and I couldn’t do certain drills.

> …It [going to training] has been frustrating, but then again it’s been good to just come out and be involved.
>
> …It’s frustrating because they’re [the coach and physiotherapist] always on the more cautious side than you are.
>
> …I’m nowhere as fit as I should be, so that’s just frustrating.
>
> …You wanna get out there and help or change something or do something. So that is the most frustrating part ‘cause you can’t *DO* anything physically [referring to watching the team lose a game].
>
> …I couldn’t go back on the rest of that game. We ended up losing by a goal. So that was really frustrating. If we had won we would have definitely got into finals [on hurting herself again late in the season and the team losing and not qualifying for finals].

The term *frustration* may have represented one or several coping mechanisms that were individually or collectively in play. For example, it may be that instead of acknowledging and having to manage a variety of emotions (e.g., being upset, depressed,

scared, anxious, excited, angry, vulnerable, or nervous), related to being injured and not realising her goals, Lucy simply stated she was, or felt, *frustrated*. Alternatively, it may have been difficult, or even emotionally threatening, for Lucy to readily identify and understand the various emotions she experienced. For example:

T: Can you describe how it's been since the last interview and since you've been playing?

L: …Um, probably not as frustrated or upset, um, or whatever people feel.

Though subtle, comments like these implied that she might not be particularly in touch with her emotions, how to express them, or that she does not quite know which emotions are alright to express. Furthermore, substituting these emotions with one that was less threatening may have been ego protection mechanism that helped Lucy cope with being injured. In whatever way this term was used, Lucy did not reserve it for any one particular period or element of her LTIR.

Byron predominantly avoided the emotionally salient component of LTIR during the acute phase and gradually worked to understand and resolve distressing emotions as he became physically stronger. Lucy, on the other hand, generally used avoidant modes of coping to deal with the emotionality of being injured throughout her rehabilitation and return to sport.

L: …it [being injured] makes you think about everything and I practically get asked how's your knee going and I just think that I shouldn't even be like **I shouldn't even be talking about this!** But I don't let things get to me. Like, there is no point, life's too short to let things get to you. So I just ignore a lot of things.

…I don't like being negative or get upset over things, like, I just ignore it [she laughs nervously].

Heil (1993) commented that denial of some of the emotional aspects of injury rehabilitation may be a safer and more energy efficient mode of responding to the emotionality of athletic injury. Although the examples above do not indicate a process of

denial, they are evidence that she did work to avoid the painful or distressing emotions related to LTIR.

Avoidance and denial are forms of emotion focused coping (Lazarus & Folkman, 1984; 1988). Although Lucy did, occasionally, identify a variety of emotions, she overwhelming used the term frustration to describe how she felt and her experience of LTIR. Specifically, Lucy's application of one umbrella term, frustrated, was an emotion focused strategy that helped her cope with the emotionality of being injured in several ways. First, it was a way of evading an array of confronting or confusing emotions associated with LTIR. Consolidating the various affective responses to LTIR into one term allowed Lucy to avoid those emotions. Consequently, it may have also been a more emotionally efficient mode of responding. This process, therefore, may have freed up emotional and attentional energy that Lucy could then direct toward her physical rehabilitation.

Second, expressing and admitting to feeling frustrated may have been one of only a few emotions Lucy felt would be acceptable within the culture of risk (Frey, 1991; Messner et al., 2000). More specifically, Lucy may have perceived that she would be admitting to a weakness if she were to confess to experiencing confusion, depressed mood, fatigue, fear, and sadness, or that she was having a difficult time coping with being injured. Within the culture of sport, athletes are frequently praised for their tenacity, mental toughness, and playing through pain. It is likely, therefore, that many athletes feel that admitting a weakness of any kind is not acceptable. For that reason Lucy may have felt she could not confide in her coach or team-mates that she was feeling lost, hesitant, or that she just wanted to take it easy and slowly test her knee and build confidence in it. Such a confession could even prove to be career ending. Admitting to feeling frustrated, on the

other hand, may have been an emotion Lucy felt would be accepted by others. For example, as Lucy returned to competition she recounted:

> L: I feel really lost when I play. I'm a bit hesitant at doing some stuff. Like at the back of my mind I sometimes think well I just won't do that or I hesitate a bit.
>
> ...It's quick and full on [basket ball] and I haven't really been able to ease into it—like I probably should have been able to ease back into it.

On another occasion she told me that she held off letting her coach know about the doctor's second assessment on her knee for fear that her coach may write her off completely.

> L: At training I didn't tell him that it was going to be [another] 3 to 6 months…I just didn't want him to think well you're fully out…I didn't want him to go all fully negative and think well you're not going to play.…**I** hadn't even accepted it yet.

In addition to fearing that she might be disregarded by her coach, Lucy was not ready to accept that this injury was season-ending let alone career threatening.

Third, for many athletes, injury and the concomitant negative affect they experience poses a threat (real or perceived) to their athletic careers in addition to symbolic losses—such as a loss or even death of one's athletic identity or self-identity (Evans & Hardy, 1995; Gordon, 1986; Gordon, 1988; Heil, 1993; Rotella, 1988; Silvia & Hardy, 1991). Therefore, without delving too far into a psychoanalytical explanation, offering a generic response (i.e., frustrated) instead of experiencing or acknowledging more threatening feelings likely served as an ego protection mechanism (e.g., substitution). Lucy feared that her value as a basketball player (at least), might depreciate after her injury was reassessed. In the last line of the quote above, Lucy confirmed she was not yet ready to confront or accept the potential losses related to being more seriously injured than previously thought. At one point, Lucy even equated the loss she experienced as a result of becoming injured and not being able to play as "a loss of life" (cf. first quote in Affect section, p.117). Injury

threatened both Lucy's self-identity and athletic-identity. Both were closely interwoven and had been reinforced by being a good basketball player. For example:

> L: People always say to me 'oh it's not everything'. **Like basketball is not everything!?!**…it's easy for people to say because they don't know what it's like.
>
> …So that's my main tiff, and probably uhm...well not a fear [in self doubting voice] but a concern that I'm not going to play at all. And that I don't know what will happen if I don't.

Lucy frequently talked about fears that she would not be able to play again, or that if she did, that she would be too hesitant to play at her full potential. It was apparent from the tone in her voice and her body language (e.g., she was frequently hesitant, stuttered, raised her voice or whispered, fidgeted with her hands, or laughed nervously) that she was experiencing many different emotions and was highly invested in being an athlete. Therefore, only expressing that she was frustrated likely minimised the affective consequence of LTIR.

Control, Trust, and Coping

Whereas Lucy's use of the word frustration was often in reference to her emotional states, frustrated also refers to being blocked, impeded, or thwarted. However unintentional, Lucy's choice of the term frustration to describe her injury, being injured and undergoing LTIR was functional. Once Lucy overcame the acute phase of being injured, during which she was quite dependant upon others for a variety of things (e.g., getting food, transportation, company, etc.), there were a few but constant, aspects of her rehabilitation and return to sport that she had little control over. One was the league rule that she must play majority of quarters during the regular season to be eligible, should her team qualify, to play in the finals. She explained:

> L: We're just going through a process with the sport's governing body; there are a minimum number of games you gotta play to qualify [for finals]. They're not gonna let me play…and not be a part of it at all!!...I really want, and *need***,** to know how many quarters they are going to make me play!

As Lucy commented on the league rules, emotions such as anger, worry, and confusion were expressed in her tone and body language. Lucy did not dwell long on these issues. Instead, she branded them, and her concomitant emotional responses, as *frustration* and then directed her attention to those aspects of rehabilitation she could control (e.g., her physical rehabilitation).

During our conversations, Lucy expressed that it was not always easy to be open and honest with everyone who was offering advice. She often found their advice, albeit well-intentioned, irritating. It also tended to erode her sense of independence and control. Lucy summarised this conflict:

L: You just need people to support you rather than trying to give you information that they don't really know [about].…They all mean it in a positive way but you just think, oh my god ***it's my leg let me decide!***

T: They?

L: Yeah, physios, coaches, parents, friends, friends' parents, everyone [pause]…So I'm frustrated, tired, um annoyed, and [pause] dependant upon other things, other people…

As she continued, Lucy began to explore the power imbalances in the relationships she had with some of these *gatekeepers* (i.e., those people who had an influence on her return to play). Trust was an implicit issue in relation to how much and to whom Lucy yielded control. On this point she expressed:

L: Yeah, like um …like I suppose I let my physio control me more than I did the surgeon 'cause I knew I'd never see him [laughing] again. Not that I don't trust the surgeon, but I trust the physio 'cause I've been to him heaps. And my coach, he sort of had some control; but because I knew he wanted me back as quick as possible I was sort of weary about what he was sort of saying…I wish I could just go up to him and say can I only play a half today? But I know that I can't say that unless I want to miss out on the finals [pause] it's pretty draining [because] you can't do what you expect and think you can. [Her tone becomes angry] You've got someone [pause] you don't really control it [rehabilitation/return to play].

The relationships outlined in the quote above can be delineated according to the level of trust Lucy has in these individuals. It is not that she questions their respective

skills, rather, trust is related to Lucy's belief that these individuals are her allies in rehabilitation. Lucy invests very little of herself into the relationship with the surgeon—it is strictly his medical expertise she requires. As a result, Lucy was only concerned that he could physically repair her injury. Lucy's relationship with her coach was more complex. Again, trust was an important factor because she was uncertain of his motifs. As a result, she was less than fully honest and committed to their alliance. Finally, Lucy expressed that she had a longstanding relationship with her physiotherapist (Jim) and that she implicitly trusted him to support her. As a result, she was prepared to let Jim guide her through her rehabilitation.

Lucy used avoidance to minimise emotional distress associated with her protracted rehabilitation. She also used avoidant behaviours in an effort to maintain or shift power or control in her favour. Much of Lucy's sense of subjection was related to the influence of others on her athletic future. As her sense of vulnerability increased so too did her avoidant behaviours. For example, Lucy attempted to deceive the individuals (e.g., her coach or surgeon) who might recommend any extension to rehabilitation or further absences from playing. On another occasion, Lucy explained how she avoided her coach at training so that she would not have to tell him about the surgeon's re-appraisal of her leg. In this case, she feared he would write her off for the season (cf. quote in coping section, p.111, "…At training didn't tell him…") and avoiding her coach, even for a little while, helped to minimise, or put off, further emotional distress. Two additional examples of this emotion focused (avoidant) coping included Lucy trying to downplay her condition to the surgeon to evade an unfavourable reassessment, and her not going to see the physiotherapist when she rolled her ankle during a game. After spraining her ankle in a game, she simply did not go to her physiotherapist.

L: So I went in there [to the surgeon] and he like did tests and stuff and I was trying to make it [out to be] better than it was. Like, oh yeah, I can do this and

> I was bending it and it was sore and stuff.…and he said OK you don't need an operation.…I though *PHEW*!…but then he said three to six more months…and I just thought *SIX MONTHS*!…that just puts me out of everything…and I started crying.
>
> …I didn't even go to my physio because I was just like, ahhhh, he'll just say I'm out. So I just stayed home and iced.

In many ways, Lucy's sense of frustration was related to her perceived lack of control. The basketball league officials, in particular, and her coach (to a lesser extent) each presented the message: *you need to return as quickly as possible if you want to play finals.* As a result, Lucy experienced a ubiquitous sense of urgency that had both a positive and negative effect on her. Because the message amplified feelings of uncertainty about her athletic future it heightened her negative affect. On the other hand, Lazarus and Folkman (1984) suggested that some individuals may become activated as they make themselves feel worse or put themselves under greater stress. (e.g., students sometimes procrastinate until they are under a great deal of pressure and then they work through the night to finish an assignment). Similarly, the sense of urgency Lucy experienced seemed to help activate or motivate her in her physical rehabilitation. As Lucy described having to return to full training, and really test her leg, the pitch of her voice increased and her facial expression suggested that she had felt anxious. As she continued, however, she spoke of her increased diligence in physiotherapy and the goals her physiotherapist set for her (cf. next quote). Focusing on rehabilitation, in turn, appeared to increase her sense of control.

Similar to Byron, Lucy used problem focused coping strategies (e.g., active strategies such as seeking out activities and information that could improve her condition) with her physical rehabilitation. For example, Lucy worked with her physiotherapist who set strict but clearly defined rehabilitation goals.

> L: He [the physio] set me goals every time I saw him [and] I had to achieve them, and he made them harder every time so I had to keep up. If I passed then I was a step closer to playing. So I'd concentrate on that, and I could do

> that no problem, so this is really good….he was looking after my best interests.

Several aspects of the working alliance Lucy had with her physiotherapist enhanced her sense of control over physical rehabilitation. Collectively, these included: (a) her perception that the goals were achievable, (b) an increased focus or direction, (c) increased knowledge about her injury and rehabilitation expectations, (d) and her belief that Jim was there to help her achieve her goals.

Channelling her energy towards rehabilitation and training in an apparently active mode of coping may have also helped Lucy to avoid dwelling on some of the painful or scary emotions associated with being injured and uncertain about her basketball season. She commented on being alone with her thoughts and feelings.

L: I hated sitting around knowing other people were training, I was bored as hell and I felt unfit and I felt **yuck**. I didn't want to be by myself thinking about it [her knee]. So when you are injured, like I am now, it helps to keep going to training. It's also a social thing. Even though I'm not playing on the court, I still feel a part of the team. And the other girls are really supportive…

T: So, for you, that social contact is also really important…

L: Yep!

L: You're by yourself [and] you go in circles just keep thinking about stuff.

T: Stuff?

L: Oh what you're missing out on, and how annoying it all is, and my knee hurts, or not being able to walk around properly, and just being able to do normal stuff by yourself and not feeling like a baby.

Lucy's received intrinsic and extrinsic rewards for her determined application of energy towards her physical rehabilitation. On one level, being engaged in physical rehabilitation distracted her from distressing emotions she experienced when she was alone. There was also a social aspect to training. Her team-mates acted as both a distraction, and they provided encouragement and praise. One of the biggest accolades Lucy received from her team was to be nominated as captain for the following season. Finally, Lucy often

commented that she simply enjoyed training, that it was often fun, and that she felt good afterwards.

Affect

L: I was just in shock...and I think the whole loss of life went through my [mind]. I was like now I can't do this [she paused, her tone changed, and with a tenor of anguish she expressed] **I can't do this!** [another year of rehabilitation] And I laid there.

As Lucy recollected these acute moments of becoming injured, she expressed the enormity of being injured and the insult to her self-identity as a "loss of life." Moreover, Lucy's feelings of hopelessness and loss were palpable to me in both her tone and body language as she repeated "I can't do this!" It is common for highly invested athletes to experience negative affect as a result of abrupt exits from sport such as injury (Brewer, 1993; Ford & Gordon, 1999; Heil, 1993; Smith, 1993; Smith et al., 1990). Injury stymied Lucy's ability to participate in an activity she loved, be among friends, and in which she could experience a high level of mastery.

Her injury experience is replete with emotions: frustration, helplessness, sadness, loss, isolation, and confusion are examples of some of the emotions Lucy experienced. During my meetings with Lucy, I recall thinking that what she was expressing and how she was expressing herself were not always congruent. This was most often the case as she expressed that she was frustrated. Although Lucy did at times experience frustration and was or felt frustrated by being injured, the tone of her voice and her body language suggested that she experienced other emotions also. I could not help but think that in addition to being thwarted, Lucy's sense of frustration included more demoralising features including feelings of being ineffectual or even invalid. For example, although she was asked to contribute by coaching and talking with her team during games, she could not participate, physically, in the game. Moreover, she was replaced by someone else.

Frustration was a complex and confusing emotion for Lucy to clearly articulate. I asked Lucy if she would attempt to identify the constitute emotions she expressed as frustration.

T: You've used the term frustrated a bunch of times…

L: Yeah [she laughs].

T: Can you tell me what that means for you…to be frustrated?

L: Um, it's like I—its just frustrating. [pause], um, I just can't do what I want to. And just because I can walk I think that I should be able to run, but physically I can't…and it annoys me.

> ...I just feel angry and just upset because it just frustrates me [laughs again, pause]…. It's really hard to explain [pause] I can't do what I want to do, and it just has stopped a whole lot of stuff that I should be doing or could be doing.
>
> …And I didn't want to keep asking people to, ya know, get this [or] can you hold that for me?
>
> …Why do I have to miss out on this stuff? I've already missed out on so much last year so [pause] that's it.

As she spoke, and tried to explain just how she felt she almost appeared tormented. She sighed, stumbled over her words, fidgeted with and clenched her hands, and the tone of her voice hinted at emotions such as confusion, anguish, and anger. Injury thwarted her season, her interactions with her team-mates, and her athletic career.

Throughout our meetings, Lucy repeatedly spoke of feeling frustrated (held back) and restricted from doing many things she usually did and enjoyed (e.g., school, work, social activities, and sport) as a result of being injured. As she explained how she felt, the issue of control again emerged. Feeling impeded, because others did not think she was fit to play, was particularly distressing. During our fourth interview, I asked Lucy if she would reflect upon and describe her emotional experiences of LTIR. She spoke of a number of emotional responses.

T: How would you describe rehabilitation [pause] emotionally?

L: Ummmmm, [long pause, and then in a shy voice] I don't know.…it's like draining.

T: Draining?

L: Annoyed, frustrated, tired, um, and…dependant upon other things. And you don't really control it [rehabilitation] you've got somebody else controlling how far you go and what you can and can't do.

T: Like who?

L: The physio, coaches, parents, friends, my parent's friends, everyone! Like everyone's there to help you but it's [pause] **YOU'VE** always got people giving **their** opinions and telling you what you should and shouldn't do.

If I was sitting here [at home] and they were training, I knew that I'd be thinking about it and going oh why? And I'd be such a grump, so I did something or saw someone. When I was out with people I wasn't thinking about it at all. [And in a low voice she said]…like I wasn't depressed I was probably more upset and worried than anything. But um, it wasn't depressed. And I don't like being negative or upset over things so I just ignore it [laughs self consciously].…But then the more you're by yourself the more you think about it and the more you just get down and you go funny.

Occasionally, Lucy identified some of the other emotions she experienced. At other times, I gained perspective into Lucy's affective responses by both listening to what she was telling me and by observing how she expressing herself. For example, in the excerpt above Lucy talked about how being injured diminished her sense of independence and control, and states that she also felt, annoyed, upset, down, worried, drained, and grumpy. Feelings she typically summarised as frustrating. Additionally, her tone and accompanying gestures (e.g., clenched jaw, fists, and throwing her arms into the air as if to say: *what's the point?)* indicated that she also experienced a sense of angst, helplessness, or futility.

I often suspected that Lucy felt deeply saddened, even depressed about (or as a result of) being injured. In the last segment of the statement above, Lucy is wrestling with the possibility that she might have felt depressed at times. Although Lucy identified depression as a possible affective response she was not really ready to acknowledge she was feeling depressed. Although Western cultural attitudes towards mental health issues are slowly changing, they are still largely taboo and, therefore, closeted topics. In sporting

cultures emotional language revolves around toughness—mental toughness. Depression, sadness, and other emotions that imply even the slightest vulnerability or weakness are almost never spoken about. Lucy's reluctance to admit to or even talk about feeling depressed and risk being stigmatised as weak is therefore understandable. In the end Lucy decides it is enough to simply state that she "goes funny."

Fear of Reinjury

As Lucy explored how she felt about returning to play, she often commented that she felt she was rushing back and that she was less than 100% rehabilitated. Although Lucy identified several emotions as we discussed returning to training and competition, she again summarised this process as frustrating:

L: I was excited [about coming back] 'cause I felt more like part of the team…

> …I reckon I'm confused because I don't know whether–like I should be happy because I'm playing, but then I'm like pissed off 'cause like I'm not playing well. I haven't played for ages so I'm a bit back, so many steps behind everyone with 13 weeks of fitness. So it's frustrating!

I suspect Lucy might have elected to push and return before she was 100% rehabilitated on her own accord. Nevertheless, during our bi-weekly meetings and in our interviews, she voiced her discontent with the league's rules. Specifically, that she felt they were forcing her to return before she was fully recovered.

L: I just feel **really** lost when I play. I thought I'd just come back and, and play like I just did before. But I don't think I can at the moment.

T: Can you explain that a little bit more?

L: It's the lack of practice. I'm a bit hesitant to do some stuff. Like at the back of my mind sometimes I think, 'ah well I just won't do that', or like I just don't do it. I hesitate a bit.

T: Are you protecting your knee? Or do you feel you haven't trained enough?

L: Probably a bit of both. It's also hard 'cause everyone else is like fully in the season now. It's quick, and a bit um…**like full on!**

> …Like I haven't really been able to ease into it [playing]. I probably should be able to ease into it. It'd probably be better if I came back and played like a

> quarter for a couple of weeks and built it up. But I've got to concentrate on being able to play a full game and play it well.

In this excerpt, Lucy's tone was at times angry, and at other times she sounded upset and almost defeated.

As I listened to and watched Lucy describe this issue, I suspected that what she was not saying was that she feared reinjury. Becoming injured again was something that Lucy clearly stated she would struggle with.

> L: …my driving thing [is] not to get injured this year; like it would kill me if I got injured again this year.
>
> T: Do you have a fear of reinjury?
>
> L: I don't think about it. But it's a joke around the town, around the whole club. Like our coach said 'Hopefully we can get a full season out of Lucy.' [pause] **I cannot get injured this year!** I've said that if I get injured again I'm not going to go through this again.
>
> T: So I'm just wondering if the [mantra] 'don't get injured, don't get injured, don't get injured', is really just a way of thinking about reinjury?
>
> L: Yeah. Oh, that's why I don't think about it. I think, the more you think about it, the more likely it is to happen. So I just don't think about it. I mean, I'm not going to say that I don't ever think about it but it doesn't even cross my mind. That's why I don't want people talking about it….

In this excerpt, Lucy expressed her avoidant coping tendencies. However Lucy tried to avoid thinking about injuring herself again, it was difficult for her not to think about re-injury. Her team-mates and coaches regularly remind her of her injury history and, in the end of the passage above, she reluctantly admits she entertains thoughts of reinjury. It is therefore likely that her team mates' jokes and her intrusive thoughts of reinjury heightened her anxiety, distracted her on and off court, and left her feeling out of place on and off the court. Moreover, comments and reactions such as these ones point to areas where psychological interventions may be applied within the realm of LTIR.

Psychological Interventions

Throughout the section on affect (above) I suggested that Lucy experienced a variety of negative and distressing emotions which she frequently summarised as frustrated. During our early meetings it was clear from Lucy's verbal and non-verbal expression that she was anxious and experiencing a high level of negative activation. As a result I discussed several arousal control strategies with Lucy. These included increasing her awareness of her arousal levels as well as her arousal or anxiety triggers. This was then followed by learning constructive responses such as focused or calming breathing (e.g., inhale to a count of 4 and exhale to a count of 8) accompanied with cognitive restructuring, autogenic relaxation, and healing imagery. As we proceeded, I reviewed Lucy's application of the various strategies we had discussed and, where appropriate, I either suggested new strategies or ways to adapt the strategies we had previously discussed. When I enquired into how she was doing with the interventions, however, she would typically indicate that she had "used them sometimes" or that they were "OK." I interpreted these, relatively nondescript, responses to actually mean she was not really using or applying the interventions.

Over the next few months, I found that I was unpacking my entire bag of sport psychology tools in hopes that Lucy would find value in some, any, or one of them. As time went on, I remember struggling with my own feelings of frustration and even a little anxiety. I recall thinking something to the effect: *I believe in these tools, why doesn't she?* As I reviewed my case notes, and re-examined the interview transcripts, however, I realised that Lucy was actually using some common CBT strategies. For example, she told me about goal setting with her physiotherapist and coach.

L: He [physiotherapist] set me goals every time I saw him. And I, if I, passed them then I was a step closer to playing. So I'd concentrated on that [achieving the goals]. So that sort of made it easier, because I could see that if

I didn't do this then I'd be that step behind, so I just had to keep up with his steps.

T: OK, It sounds like the physio set pretty good standards for you to try to achieve each week. So having those really specific tangible goals for your physical rehabilitation, was something that facilitated rehabilitation and helped motivate you?

L: Yeah. And I think he [Jim] made them harder every time to sort of maybe draw me back a bit.

T: And what about laying down a plan for your return to basketball?

L: I have goals for each week at training…what I want to be able to do in that session and if I could do them, well then I could move onto the next level.

Though not every athlete is going to seek the services of a sport psychologist (even if the service is free), it may be that some of the tools of the trade (sport psychology) are employed by others too (e.g., goal setting is likely to be used by coaches and physiotherapists).

In retrospect, presenting Lucy with a *menu* of tools to choose from was about more than just trying to help Lucy during LTIR. It was also about me. More specifically, about my desire to be validated as a researcher and (and ultimately a psychologist). As I reflected upon this process, however, I realised that my *menu* approach might not have been the most effective choice (a more focused approach would probably have been better).

In hindsight I also have come to realise that I may have been providing another form of intervention. Lucy and I had met regularly over the course of nine months, and during this time I was listening to her stories. Among other things, these stories were about spending time with her team, receiving support from her coach, her relationship with her physiotherapist, and the frustration (and other emotions—although not often explicit) she was experiencing. As Tracey (2003) commented, having the opportunity to tell one's story is therapeutic in itself.

In addition, Lucy and I discussed a variety of her other LTIR experiences (e.g., rehabilitation expectations, goal setting with her coach, etc.). As a result, I also worked to

support and reinforce the efficacy of others' interventions, therapy, support, or treatments. For example, Lucy frequently mentioned feeling distressed and that she did not have a lot of input or control over her return to play.

L: I liked going down to the club and having them [her team and coaches] talk to me. Sometimes I'd want my coach to say something to me so I would still feel involved, like he was including me and stuff. And I really didn't want to be by myself either.

T: Those sound like things you can control…being among the people who you needed around you. For you that social contact is really important.

L: Yep! The more you're by yourself the more you think about it and the more you just get down, you go funny so…yeah, it helps you stay involved.

In this passage my reiteration of her expressed value in social support, though subtle, reinforces her investment in support from her team. For the most part, though, Lucy did not engage or invest heavily in the interventions I had proposed. There may be several reasons for this; for example, it may be that I did not explain the interventions well enough or that Lucy did not understand how to apply them, that she did not see the efficacy of them, or that other individuals (like her physiotherapist) were engaging her in similar processes.

Social Support

Lucy was highly invested in basketball and valued both the physical and social elements of being involved. Sport and, more specifically, basketball were also mediums in which she had developed self- identity and self-worth. During our meetings, Lucy talked about the strong social bonds she had created as a result of being a member of her team and playing basketball over the years. She also talked about the support and sense of belonging she experienced within her team. Injury threatened these aspects of her life. Lucy also impressed upon me that she had a strong sense of independence and did not like to rely upon others for help, and being injured forced her to ask others for help.

Generally, it appeared that Lucy's support needs were met. The individuals, or groups, that might be expected to provide these forms of support were available and tried

to support her. Paramedics, and then doctors, were the primary providers of informational and tangible support in the hours immediately following her injury. At the same time Lucy's team-mates did their best to comfort her and provide emotional support (mostly by trying to distract her). At times there was dissonance between what kind of support was provided and the type of support Lucy wanted or needed—what Bianco and Eklund (2001) noted the importance of "perceived fit" between support an individual needs or wants and support that is offered. In these circumstances, Lucy tended to report increased levels of distress. Without a good fit, support may be perceived as negative or not valuable.

During those acute moments of being injured Lucy was scared and needed to know that she would always be loved and valued, irrespective of her athletic prowess. Her team-mates did their best to comfort her and provide emotional support (mostly by trying to distract her). They said things like "it will be OK, don't worry," and "don't look at it." But they were not scared or in pain. Lucy was though, and she did look at it, and she worried that it was not OK. Young, White, and McTeer (1994) suggested that athletes depersonalise or objectify their injured body parts so that those broken parts become *other* allowing the athlete to maintain a fit and competent self-image. Isolated from her team-mates by injury, her self-concept shifted from athlete to alien object; that is, to something injured, feeble, and needy. Her team-mates seemed to fear what had happened, and as Lucy recalled "no one wanted to touch it" (cf. quote below). As Lucy and her team-mates referred to her injured knee as "it" Lucy also became an "*it*" among her team-mates. Like Byron, in the moment that it took to become injured, Lucy was transformed from a competent and valuable member of her team to something other.

Two elements of support, in particular, were not being met in these acute moments of LTIR. First, her parents were not there, court-side, when she hurt herself and it was their emotional support, more than her team-mates, Lucy required. Her parents' understanding

and unconditional love could convey both emotional (comfort and security) and esteem support (a sense of competence) that Lucy needed during those most acute hours of being injured.

L: And I didn't hear anything. I just fell to the ground and sort of looked at it. … And Mum and Dad both weren't there, they didn't come out [to] that game, so I was sort of….all alone. Then the ambulance came and I was scared of the whole situation. Like [the] ambulance [meant] something must be bad...this is actually serious.

…And then my Mum and Dad came. And I was glad they were just there. And I thought, thank God they know and that's a relief. And they were just there [she repeated with relief]**.**

Lucy was typically casual about expressing her appreciation for her parents support. Nevertheless, as she discussed the acute moments of becoming injured her body language and tone changed. Her shoulders became raised and tense, her face twisted, and she tended to hold her breath. Then, almost with a sigh she said, "And they were just there"—relief.

Second, Lucy also experienced discord between how she was treated and how she thought she would be treated in the moments soon after she hurt herself. For example:

L: Last season a girl on our team did exactly the same thing, and she was treated completely different…What I expected to happen never did happen so I think that made me more worried.

T: What did you expect to happen?

L: I expected to be taken off the court and straight into the physio rooms and that they'd pop it [the patella] back in. But no one touched it, and I laid there for about half an hour. And when the ambulance came I thought, ahh, cool now the paramedic will pop it back in, **but they didn't!** They just gave me morphine. And then my Mum and Dad came…

In addition to informational support (e.g., what happened to her knee, how long things were going to take, etc.), Lucy also needed tangible support (e.g., for someone to correct the subluxation—to *pop it back in*). Because these expectations were not met, Lucy became further distressed.

Lucy received a considerable amount of positive social support from her team-mates and coaches. One particularly beneficial aspect of the social support provided by her

coaches was their continued efforts to include Lucy in the team activities (practices, meetings, games). They also engaged her in activities such as coaching, and keeping statistics during games. On several occasions, Lucy noted that these efforts increased her sense of belonging and that she was contributing to the team's performance.

> L: My coach has been really good. He has give me jobs to do at training and games…so that keeps my mind off it and I can also give input and improve what they're doing [on court]. And he'll [the coach] get me to talk to the group, so I still feel a part of it even though I'm not actually in the playing group I'm still in the GROUP. I'm a member still.

Her team-mates also encouraged her to complete her rehabilitation at the club and progressively reintegrate into regular training. Her squad may have been the most beneficial support network during rehabilitation. She not only had access to the team resources (e.g., coaches, trainers, and equipment), but also felt she was involved and actively contributing to the team. Lucy commented:

> L: When you are injured like I am now, it helps you stay involved. That's one of the reasons that I go to training. It's also a social thing, so even though I'm not playing a part on the court I still feel a part of it all.…everyone is really supportive.
>
> …Just to do activity, that improves everything 110%. I feel healthy and happier just to be part of it [and] not on the outside watching others do stuff.

As a support network, her squad (and the coaching and support staff) likely provided all four elements of support (informational, esteem, emotional, and tangible) outlined by Reese and Hardy (2000). As Lucy put it: "it (being among her team) improves everything 110%."

Although Lucy generally felt supported by her coach, she sometimes questioned his motives and support. Her mistrust grew as she re-entered competitive play. Sometimes Lucy directly expressed this mistrust (e.g., "I knew he wanted me back quick…so I was weary about what he was sort of saying". cf. last quote p. 113) whereas, at other times it was more subtly expressed. For instance, during one of Lucy's first games back she hurt her knee. Lucy recounted her coach's response,

> L: I got cleared from my coach, but he was going to say that anyway.…So I started out…then in the 3rd quarter I felt a pull and came off for the last 5 minutes. And my coach said: 'We need you to go back on.' 'Are you alright?' And I was OK but normally, if we weren't in a [must win] situation, I would have sat off the rest of the game.

During our meetings, Lucy recounted several stories with a similar message: *you can stay off the court if you need to, but we really need you out there—it is your choice.* However subtle, there are elements of coercion in messages such as these ones. In front of her team-mates and in a culture of risk, where *no pain, no gain* is the ethic and where putting one's body on the line for the team is praised and rewarded (Messner et al., 2000), Lucy probably felt considerable pressure to play. So, was she really free to choose not to return to the game?

The disparity between the support Lucy desired from her coach and the support she perceived to be receiving increased her feelings of distress. Although it is unlikely that the coach was acting maliciously, statements like those in the quotes above are subtly laced with a subtext that can portray conflicting messages. As I listened to Lucy talk about the support she received from her coach, I got the impression that, regardless of the rehabilitation status of her injury, what Lucy really needed from her coach was emotional and esteem support. Both seemed, however, to be contingent upon her returning to play and were offered as an after thought, if at all. His comment: "All you alright?" (cf. quote above) suggests he has some concern for her well-being but it may also be interpreted as: *Are you capable of playing and helping us win?* Therefore, esteem support that is contingent upon her playing likely increased the pressure Lucy felt, decreased her sense of security, and left her feeling more isolated.

Lucy had a long-standing relationship with her physiotherapist, Jim. He was someone Lucy trusted and felt was on her side. He was an ally who helped her work to

return to play, meet the required number of quarters, and set rehabilitation goals and boundaries.

L: [Jim] was surprised that the doctor said 3-6 more months. He said that sounded conservative and if I work really hard, do what we talk about, do it by the book, don't have any obstacles, and blah, blah, blah, he'd give me 6-8 weeks.

So I was like OK, just what [do I] have to do to make this [LTIR] less? He told me, so I was like, right I'm gonna do it.…So with the whole physio thing I've been heaps more positive because I'm doing more.

Jim was also a source informational and tangible support throughout her rehabilitation. For example, he took time to test and explain the injury, set out a rehabilitation program, strapped and monitored her leg during training and competition, and made referrals for further medical assessment. Lucy's tone and body language also indicated that Jim was a source of emotional and esteem support. He helped Lucy stay focused and build confidence and momentum throughout LTIR. Near the end of her rehabilitation, she reflected upon her Jim's role in her rehabilitation and why she put her trust in him.

L: I get on really well with my physio 'cause I've been there so often…He was probably the most beneficial [person] because they [physiotherapists] have studied it. They know every in and out, every detail about it. So you think theirs [advice and support] is the most beneficial. They do know.

Finally, Lucy spoke about the support she received from people other than her family and basketball team. Lucy explained that these individuals (e.g., school and work mates, and family friends) were the source of both positive and negative support. Moreover, the same person could provide positive support at one time but be an annoyance at another. For example, Lucy talked about friends outside basketball being a great source of distraction and emotional support when she just needed some company or did not want to think about basketball and the things she might be missing out on. Lucy recalled,

L: I always wanted friends around...sometimes friends that didn't have anything to do with basketball because then I wasn't reminded of it.

But Lucy also explained that she felt individuals who were not athletes did not understand what she was going through.

T: You mentioned there was a bunch of different people who gave you support, or maybe a little bit of grief, depending upon how it was perceived on the day?

L: I'd accepted all of it. Like I would never say to anyone shut up. But it was all basically all the stuff I'd heard before. I knew what I had to do and what I could and couldn't do, so I either ignored it or used it as reinforcement. But they don't really know what it feels like to hear comments like, don't rush back or why don't you take the year off? I felt like saying why don't **you** take the year off working or doing something **you** like to do. **Then tell me how you feel!?** [snickering, but also angry].

Once again, these examples support the notion that there needs to be a fit between the support provided and the support desired if social support interactions are to be perceived helpful.

Summary

I felt Lucy put a great deal of pressure on herself to return as quickly as she could. In doing so, she tried to ignore many of the emotions related to being injured and unable to participate in the activity she loved. Our emotions, however, are one way our body has of letting us know something about what we are experiencing. Lucy tended to try and ignore some of the signals her body was sending her. Some of these signals were saying rest, heal, build your match fitness slowly, and take time to re-build your confidence. Lucy was conflicted between wanting to slowly return to training and competition and not wanting to miss out on playing, particularly in the finals. She expressly said so on many occasions. Without a premature return, however, she would not only miss out on opportunities to build and reaffirm her self identity but she would also miss out on playing finals and potentially winning a GRAND final. As a result, she reported to me an enduring sense of being frustrated throughout LTIR.

Ironically, I found working with and interviewing Lucy frustrating—which is really just my way of summarising an array of emotions. As the weeks passed, I contemplated

why I was affected. I increasingly thought about my frustration and considered how my world view and Lucy's world view differed. As I did, I began to recognise one emotion in myself that was buried way beneath a host of others (e.g., frustration, anger, confusion, etc.). I began to wonder if this one emotion that I was experiencing might also be the one emotion Lucy was experiencing. I was scared. Scared that Lucy might not value me as a research student; scared that I might not succeed with my thesis; and, on a deeper level, scared that I might not be admired, respected, and loved by my family and friends should I not succeed. I was highly invested in the success of this project and my budding identity as a psychologist. Like many other athletes, a huge portion of Lucy's self-identity (and self-worth) was invested in being an athlete—a good athlete. Being injured, therefore, threatened who she was and how she thought of, and related to, herself. I think that underneath all of Lucy's frustration was a young woman who was scared that she might not be successful, admired, and loved. So Lucy's and my worlds are not that far apart after all.

3: The Story of Doug

Initial Meeting

I first met Doug, an 18 year old Australian Rules Football (AFL) player, on the morning after his anterior cruciate ligament (ACL) reconstructing surgery. I had been invited by his surgeon, who was interested in my study, to join him on his post surgical rounds. The surgeon had indicated that there might be a couple of athletes who might be suitable and interested in participating in my study. When I was introduced to Doug he was in pretty rough shape. He had not slept well the previous night due to high levels of pain and feeling ill from the anaesthetics, and he was visibly upset about having "done his knee." The doctor asked Doug and his mother, who was also in the room, if I could introduce myself, outline the study, and leave them with more details (including my contact number) should Doug wish to participate in the study. Two days later I received a telephone call from Doug's mother. She sounded distressed and told me that Doug was not coping well, but that he was particularly interested in the intervention aspect of the study and would like to participate. My first formal interview with Doug was later that week, eight days after his surgery.

Doug was a quiet, friendly, polite young man who was highly invested in being an athlete—specifically, an AFL football (footy) player. When I asked about his early footy experiences, Doug recollected:

> D: Every Sunday morning I just had a kick with my friends, and I've never looked back. I met new friends out there every Sunday. It's a reason to have a kick, and your Dad can come. I basically loved skipping around the field and seeing how many kicks I could get, and that's about it.

While Doug spoke of those days, I imagined a bunch of little boys running around getting dirty, wet, and muddy, and without a care in the world—other than having fun. It was an image that I related to as it took me back to my early sport participation. As Doug became a better player and competed at higher levels, football had become more serious, and the

role it played in his life changed somewhat. He again spoke about his investment in being a good football player.

D: Footy is basically the only thing I'm good at, so it's the only thing I want to be doing.

T: You sound pretty passionate about it…

D: Yeah! You could say that [laughs] you sort of live and breathe it.

Historically, Doug had been involved in sport all his life, and played footy since about the age of six. Presently, he played in the highest league for someone under 18, the TAC cup, which is also one of the most direct paths to being drafted to a professional AFL team.

Although our discussions frequently included themes of mateship and his love of the game, they also revolved around winning and striving to compete at the highest level possible.

D: I reckon the higher the level you play, the more you want to win. Winning's great! It's the best. Losing is just nothing, you feel like you've done the training and all the hard work for…nothing! It's not actually about going out and getting a kick anymore it's about actually winning. I'm not just trying to get match fitness up, I'm trying to **win!**

…Like we just won the grand final, and you **do** play for the premiership medallion, and the cup. That's what you put all the hard yards in for, winning on the way is good, but winning the grand final is great. It's the greatest feeling I've had.

…Being with your mates you feel like you're ten feet tall and bullet proof! And your photos will be on the club wall forever!…Ahhhh, winning is the best part!

AFL is a fast, hard running, hard hitting game, and injury is a common experience at all levels of participation. Doug's AFL experience was no different; he had experienced a broad spectrum of injuries including bruises, sprains, a broken nose, broken fingers, and an ACL tear when he was 14 years old. Doug had ruptured his ACL again and the timing of this injury had the potential to impede his future significantly as an elite footballer. As a result, his identity (which was largely comprised of being an athlete) was now under threat

(Brewer, 1994). As he put it, he went from feeling “ten feet tall and bullet proof” to feeling like *a* “vegetable in bed”.

Doug’s story of LTIR was not a particularly extraordinary case. In many ways, Doug’s rehabilitation was rather predictable. He followed routines set forth by his physiotherapist, trainers, and coaches. He also engaged in the psychological interventions that I proposed throughout his rehabilitation, albeit with some initial scepticism. In sum, he applied himself to rehabilitation.

D: I did what the physio or the doctors, and everyone told me to do, and I got back in the time they said I should. So I was happy with that.

Accordingly, Doug’s story of LTIR is not a particularly extreme case. This does not mean, however, that he did not experience any road bumps or emotional distress. He had plenty of challenges along the way; and like Bryon’s and Lucy’s stories, in this case study I will explore Doug’s affective responses to LTIR, as well as his coping responses, support networks, and his application of psychological interventions throughout his LTIR experience.

Affect

During our first interview, Doug was noticeably fatigued and also distressed as a result of the acute effects of surgery. These early and acute weeks of being injured posed a major disruption to Doug’s life, both on and off the field. He experienced high levels of pain, he was disappointed about being injured and having to undergo LTIR, he could not participate in his footy training, and he was uncertain and anxious about his (professional) athletic future. During this interview, he recounted receiving the diagnosis of a torn anterior ACL (again) from the doctor. Teary eyed, Doug recalled how upsetting it was.

D: I just knew from that point on I just had to get into rehab. I mean you can’t really have a cry and a whinge about it cause you can’t do anything about it.

T: Do you feel like having a good old cry and a whinge?

D: Oh you do, [but] you basically keep to yourself ‘cause you’re a bit upset. (pause) **A lot upset!**

Although Doug never cried during any of our meetings, comments like these lead me to suspect that having a “cry and a whinge” was exactly what he wanted to do. Doug, however, was a self confessed Australian “Blokes’ Bloke” and, therefore, unlikely to express too much emotion. I suppose that in some ways, though, the interviews provided him with the opportunity to express some of those difficult emotions that *Blokes’ Blokes* typically keep buried deep inside.

Like Byron and Lucy, Doug also experienced considerable emotional distress in the acute phase of LTIR. The magnitude and period of Doug’s elevated negative affect, however, was markedly less than for the other two participants. Doug seemed to accept that injury was a likely outcome of playing AFL. In addition, he had successfully recovered from the same injury several years earlier. As a result, he generally knew what to expect of rehabilitation and that he could come back from his present injury (although there was uncertainty about the level of competition to which he might return). Individuals who believe that they have the resources to deal with a particular stressor typically cope better than those who struggle with such belief (Lazarus & Folkman, 1984). As a result, negative affect was a less prominent feature of Doug’s LTIR experience. There were, however, several aspects of being injured that triggered relatively strong affective consequences: helplessness in the acute phase of LTIR, feeling isolated from his friends and team-mates, and fear of re-injury as he returned to competition.

Little Things

In the early postoperative phase of being injured Doug’s mobility was limited due to being in pain, wearing a leg brace, and having to move about on crutches. His sense of frustration and helplessness were particularly distressing during these first couple of months. During our first and second interviews, Doug tried to describe the cumulative and

upsetting consequences of not being able to do simple or every day things. As he spoke there were tones of anger and angst in his voice.

D: The worst thing about this is the **little things,** like walking from your room to the fridge, or going to the toilet. There are the little things you take for granted like there's a little lip you have to get over to walk into the shower**!** It takes a while to get changed now and you have to have someone to tie up your shoe or something, which makes you feel a bit helpless, which isn't very good!

…and you have to help your leg out of bed, and you have to get the crutches, and it takes a bit longer, and you can't carry stuff back to your room, and you can't pick up dirty clothes on the floor [we both laugh at the irony that not being able to clean up his cloths is distressing to an 18 year old male]. Or turning off the DVD player. You have to get up, in pain, just to turn it off! You have to get other people to help you, which basically makes you feel like you're helpless, **but you don't really want their help!** You want to do it yourself—just so you can actually do something!—instead of being some vegetable in your bed!

Several issues seem to stand out in this passage. Sitting across from Doug it was evident from the tone of his voice, in addition to what he was saying, that he was upset, frustrated, bored, and that he did not want to be reliant upon others for even the simplest things. These passages also highlight the diminishment of his sense of self-worth that occurred in conjunction with his reduced independence. For instance, his sense of helplessness and frustration culminated in likening himself to a "vegetable"—someone utterly incapacitated and dependant upon others. As Doug was expressing his diminished sense of self, I recognised that Byron had also referred to himself as a "cripple" and a "gimp." In both cases I sensed that, in addition to the obvious physical incapacity both men experienced, their self-worth and self-identities were *crippled* by their self-perceptions as well as what they thought others might think of them. Doug summed up his experience with one simple statement:

D: Whatever you did hurt so you just didn't move; them little things just escalated into the big things.

Isolation

Being injured often means athletes are separated from their team-mates and friends. Feeling isolated from his friends and team was a prominent factor contributing to Doug's negative mood throughout the acute and middle phases of rehabilitation. Doug spent most of his time at home for several weeks following his operation. Even after he had regained some of the basic functional mobility in his knee (e.g., increased range of motion, ability to weight bear, or walk) Doug still frequently experienced loneliness and isolation.

Regardless of the social environment, most of Doug's social network was comprised of young, boisterous, male athletes. A simple oversight by one of his friends could result in Doug straining or re-injuring his knee. This was not a risk Doug wanted to take. Thus, Doug found it difficult to be amongst his friends.

D: At first I ate [sad laugh] ate lunch alone at school and they [friends] did what they wanted, but as soon as I was off crutches I was more in the group trying to get in there as much as I could, like play fighting or something. But it's about [not] getting hurt [laugh] so [pause] it was it was sort of hard cause you wanted to be a part of it and do what they're doing otherwise you felt a bit like a loner.

T: It sounds a bit sad and lonely…

D: Yeah sometimes [pause] I sat and [pause] just ate food and no one was there [sad laugh] and just kept eating.

These stories of being alone echoed throughout Doug's LTIR experience. In fact, each of the athletes who took part in this project had stories of loneliness and isolation. Gould and colleagues noted that injured ski racers reported similar experiences of isolation. I have also heard similar stories from injured athletes I have worked with in private practice, stories describing feelings of isolation or abandonment. Seriously injured athletes may experience heightened self-doubt and a personal sense of loss as a result of being isolated from their teams and sports for long periods of time.

Doug's coach and team-mates encouraged him to spend time around the club and to participate in as many of the training activities as possible. This aspect of social support is

in line with the findings of Ford and Gordon (1999) and Ford et al. (1993) who reported remaining engaged with ones club or team-mates facilitates injury rehabilitation. Nonetheless, as much as Doug tried to be vigilant, and avoid situations that could put his leg at risk, his fears of reinjury (and looking foolish) were nearly realised. During a preseason training camp he was "mucking about" with his team-mates, playing back yard cricket, when the ball was hit hard and fast toward him. He tried to dive out of the way, and, in doing so, he accidentally shifted his weight onto his injured leg and strained it. He retold this story with a tone of angst in his voice and a screwed up face as though he was reliving the wave of pain (physical and emotional) that had flooded over him at that instant.

D: I shifted all my weight to my bad leg! It was just a reaction and it gave way and bent under me which wasn't too good.

> …I felt like a **dickhead** in front of me mates. But I [pause] it hurt really bad so I just laid there. Me mates thought it was hilarious. But a couple of me good mates, who know me better, stopped laughing and helped me up. As soon as it happened I'm like 'oh it better not happen again!' I just hope, I hoped, just, just not [to] actually do it again!, and [be another] couple of months behind.

Again, Doug was set apart from his team-mates whom I suspect, only moments earlier, he had felt reconnected with. Doug re-experienced an assault to his self-esteem and to his sense of belonging as a consequence of his team-mates derision in response to his fall and additional (diminished) interactions with his team-mates throughout the remainder of the camp. Once again, Doug was relegated to being an on-looker—worse, an obstacle his team-mates had to run around. Doug explained:

D: It hurt. All I could do is just sit down and, like, if they were running on the beach I was the marker they had to run around which didn't make me feel too good. That was the worst part. [pause] **Just** the worst, sitting there.

As he told me this part of the story his expression became dejected (he was slumped and shoulders were rounded, as though he was feeling shame, and the smirk on his face expressed that he had also felt foolish). Fortunately he did not damage his leg and only had

to rest for a couple of days. However, I suspected that, at the time, Doug was worried he had significantly set himself back.

Anxiety and Fear of Reinjury, or of Looking Stupid

Fear of re-injuring his leg played a role in Doug's sense of isolation. As Doug's rehabilitation progressed, he increasingly spoke of anxiety related to hurting himself when he returned to competition. Doug told me that footy was one of the only things that he felt he was good at, and just about the only thing he wanted to do. His athletic identity, therefore, made up a majority of his identity. Fear of re-injuring himself, due to rushing rehabilitation and returning ill-prepared, was a central anxiety trigger in the later stages of his rehabilitation.

D: I don't want to be one of them idiots who comes back too soon and does it again [re-injure his knee].

The forthcoming season was extremely important for Doug because it was possibly the last direct opportunity to be considered for the professional AFL draft. As a result, Doug reported a sense of urgency that loomed over the later phases of his rehabilitation. This sense of urgency, however, ran counter to his desire to take his time and be certain that his knee was 100 percent healed. Doug feared that a premature return could increase the risk of re-injury, or result in his not playing well (because he was not fully match ready). He was pulled between two conflicting desires: one, to protect his body; and two, to put himself on the line and play as many games as possible in the upcoming season. Similar to Lucy, this sense of urgency amplified Doug's negative affective responses (e.g., performance anxiety, fear of re-injury, and self-doubt) as he neared the return to sport phase of his rehabilitation.

D: Before I did the injury, I talked with the footy coach and he said if I keep going this way AFL clubs will look at me for the draft. So, now this has happened, that just sticks in the back of your mind.

T: So then, is the anxiety about wanting to play or are you still thinking about how it is going to go when you actually get out there?

D: It's more when am I going to play? All I want to do is just get back, basically.

Doug was focused on progressing into the AFL's professional ranks. Returning as soon as possible and playing as many games in the next season, therefore, was critical if he was going to be noticed by the AFL scouts, it also highlighted his anxiety.

It became increasingly apparent, however, as Doug progressed through his physical rehabilitation, that his anxiety was more complex than simply a fear of re-injury. Doug had high aspirations and high self-expectations. He also believed that others expected him to return to competition quickly and (immediately) perform well. His anxiety, therefore, was multifaceted and related to issues such as performance anxiety (e.g., not wanting to "look stupid" as he put it), and a fear that he might re-injure himself (which had consequences related to the physical and emotional pain of being injured, his future as a footballer, his identity, self-esteem, among others). For example, Doug noted:

D: [I'm] worried about making mistakes, more mistakes than I normally do, [and] looking like the dickhead on the field. [pause] But then [pause], well no one's perfect so hopefully they [team-mates, coaches, friends, etc.] know what I've gone through and they don't give me that much crap. [laughs nervously]

In our final interview Doug reiterated some of his anxiety related to returning to competition.

D: I was nervous about making a mistake and getting dragged…nervous about making a fool out of myself and stuff like that. I wasn't really nervous about re-injuring my knee 'cause it's—so many people have told me it'll be alright and I've done all the training so I sort of thought it'd hold up.

In either case, if he played poorly or hurt himself, he believed his friends and team-mates would think less of him.

Doug's self-esteem and self-confidence were related to how he perceived his abilities and how he interpreted others' behaviours toward him. He often told me about the joking and ribbings he and his friends would give one another. Most often this was in

relation to mistakes made in games, but the teasing (or laughter) could come at any time, even when he was most vulnerable—when he was hurt (e.g., when he twisted and hurt his knee at footy camp). Being injured had eroded his self-confidence and self-esteem and, although he recognised his friends' teasing was only in jest, it acted to weaken his already fragile sense of competence. Furthermore, his sense of competence significantly contributed to a fragile self-concept—as a football player.

T: Tell me about the first game back.

D: I was more anxious than nervous; I basically just wanted to get it over and done with. I tried not to think about it a lot, but it's sort of impossible with everyone wishing you good luck on first game…

T: So what were the nerves? Was it a bit of peer pressure? Or was there more to it?

D: Before the game I was pretty nervous, because it was against my old school mates [pause] and I didn't know how I was going to go. I didn't want to make a fool of meself, especially in front of all the boys from the old school!

Doug worried his team-mates might not be entirely sympathetic, should he not play up to his potential upon his return. As he expressed these anxieties I wondered if he was questioning the hard work he had put in throughout LTIR, and whether he could be accepting of himself as he regained his competency. Doug certainly did not want to play poorly or get injured and be subject to others' criticisms, but I sensed he was his own worst critic. Doug's self-disparaging language in these passages (e.g., idiot, dickhead, fool) attest to this, and suggest that he was anticipating a somewhat unforgiving return to play. Furthermore, I believe his expression of *others'* hypothetical expectations and responses was a projection of Doug's own high expectations of himself. Was Doug capable of not giving himself *too much crap*? I wondered.

Coping, Social Support, and Psychological Rehabilitation Interventions

Coping is largely related to individuals' perceptions of an event and the ensuing circumstances (Lazarus & Folkman, 1984). Therefore, individuals who believe they have,

or can gain access to, the resources required to manage or overcome a particular stressor will generally cope better than individuals with poor outcome efficacy. Overall, Doug coped rather well with being injured and having to undergo LTIR. This may be due, in part, to Doug generally acknowledging that his injuries were a likely component of playing footy. This acknowledgment, coupled with his previous successful recovery from an ACL reconstruction, fostered a positive belief in his ability to rehabilitate and compete again.

> D: 'Cause I've done this before and I know what it is like so I was, sort of, ready for this, this time. I was ready for people to ask 'what do you want' and I had expectations [of] being alone all the time and of being on crutches and stuff.

Doug's injury beliefs and experiences, therefore, likely reduced his negative, anticipatory, thoughts and emotions related to LTIR. Along these lines, Johnson (1996) found that athletes who had previously experienced athletic injuries coped better with rehabilitation, experienced rehabilitation as less stressful, had less negative affect, and a more robust self-confidence than athletes who were "first-time injured." Doug was not, however, entirely impervious to negative affect in relation to being injured. Consequently, he coped with the physical and affective aspects of injury by using a combination of emotion (e.g., distraction) and problem focused (e.g., active and instrumental) coping strategies.

Typically Doug employed distraction coping (an emotion focused strategy used to quell internal distress) throughout LTIR in response to the negative affect (e.g., anxiety, worry, boredom, frustration, uncertainty, etc.) and physical pain related to being injured. He also used instrumental and active coping strategies (e.g., problem focused coping strategies consisting of behaviours aimed at changing physical and emotional situations) in his effort to regain his physical ability, and to increase his sense of control, involvement, and self-efficacy. Although there was some overlap among these various forms of coping during LTIR, emotion focused strategies were prominent during the acute phase of rehabilitation, whereas problem focused strategies served Doug well during the more

active portion of his rehabilitation. Doug's shift in coping style is in line with the belief that individuals will adjust their coping style to meet changing situational demands (Albinson & Petrie, 2003; Grove & Bianco, 1999; Heil, 1993; Lazarus & Folkman, 1984; Quinn & Fallon, 1999, 2000; Udry, 1997).

In the following sections, I will explore social support (networks and interactions) and psychological interventions related to Doug's' coping strategies. More specifically, I will look at how social support contributed to both emotion and problem focused coping; although, psychological interventions were primarily used within a problem focused framework.

Emotion-Focused Coping

Distraction

In the previous section on affect, I suggested that Doug found the acute phase of LTIR particularly distressing. During this time his negative affect (e.g., anxiety) was largely related to a sense of helplessness and diminished self-esteem. Nonetheless, because Doug had previously experienced ACL reconstructive surgery, he knew the highly debilitative and painful acute phase would be short lived. Distraction and avoidance coping strategies, therefore, may have been useful in simply helping him endure this phase of LTIR. Furthermore, Hall (2005) noted that palliative coping strategies, such as distraction and avoidance, are often beneficial during early rehabilitation because they are conducive to rest, which athletes often need during this phase. By design or default, an additional function of Doug's emotion focused coping strategies was to help him rest.

Doug acknowledged a host of upsetting or distressing emotions related to being injured and undergoing LTIR. During our meetings, he told me about the activities he engaged in to entertain himself and keep his mind off being injured during the early phase

of LTIR. During the third interview, I asked him to reflect upon the acute phase of rehabilitation:

D: They weren't [laugh] much fun...Doing nothing lying in bed icing all day and struggling with the little things [he pauses, then snickers]…it sucks!

> …But watching TV with my dad… he'd ask how's the knee was and what I've been up to…It wasn't a, a half an hour talk, it was just five or ten minutes which was all right cause it was better than laying in my room.…You just do homework or read books, which isn't that much fun, but it's better than lying in bed doing nothing.
>
> …And you get phone calls and messages on your phone saying get better soon [or] how's the leg? Which is all right but it's better if they did come around. One of my mates came and visited me and he brought me a book of all the AFL stats.…You just want that company, someone you could talk to and ask questions and have something to do instead of just sitting there doing nothing.

For an active young man, however, rest is often boring and can even be experienced as distressing. In the previous passages Doug outlines the value of social support as a form of distraction. Visits, messages, and conversations with his friends, team-mates, and his family helped to keep him distracted from the boredom, pain, and distress he experienced early in his rehabilitation. In short, Doug engaged in almost any form of distraction, even homework, to pass the time and keep from thinking about being injured, in pain, upset, and lonely.

Problem-Focused Coping

Heil (1993) proposed that athletes will employ emotion focused forms of coping, such as denial and avoidance, during the early phase of rehabilitation and instrumental coping strategies later in recovery. During our first interview and the following couple of meetings, Doug made comments that reflected avoidant, disbelieving, and even mild denial processes about having become injured (e.g., utterances such as "I can't believe it!" and "AGH!, not again!"). As Doug regained his basic mobility, however gradual, he experienced a concomitant improvement in affect. In line with Heil's observations, there was a general shift in Doug's coping from distraction to determined (i.e., problem focused)

coping. As outlined in previous quotes, Doug's mates helped him to avoid thinking about his injuries during the acute phase of rehabilitation. Later, however, his team-mates' support would boost his determination and adherence to physical rehabilitation and training. For example:

T: So you're pretty happy to be back down at the club training?

D: Yeah! Whenever I'm running laps they [team-mates] always run with me and they egg me on to go a bit harder or a bit faster.

T: How do you go with that encouragement?

D: It's helpful, but at the end they're still running, doing the hard stuff, and I'm doing half of what they're doing. I want to be doing what they're doing. [Sigh] It sounds funny but I try and bring someone on the run laps with me, just slow laps, so I don't really think about it that much…I talk…I talk more than I think…

But it helped having people egging you on to do more in the gym and stuff. So it's actually a bit easier when you're with your mates.

In this passage the overlap between emotion and problem focused coping styles surfaces. Engaging with his team-mates provided encouragement and enhanced Doug's determination and adherence. His team-mates also provided a source of distraction which helped to minimise boredom and frustration due to being unable to fully participate.

Lazarus and Folkman (1984) proposed that coping is a dynamic process that progresses over time and is dependant upon individuals' appraisals and secondary appraisals of situational factors. Doug's secondary appraisals of his progress and ability to continue to manage his injury rehabilitation were typically favourable. For example:

D: [As you are going along] you think that wasn't much. But to get here has taken a lot: going to the gym everyday, doing weights, riding a bike, [pause] even just straightening my leg, or doing stretches or something. When I look from the start, when I couldn't walk and I was basically bed ridden, to where I am now jogging and stuff…It makes you feel good. So every little thing's, like, an accomplishment! All the little things they add up to make the big picture. So you think of the big picture more than you do of the little picture.

One element of Doug's appraisal process was to compare himself to other athletes who he knew had overcome similar injuries. Essentially, Doug was benchmarking his

rehabilitation situation and progress on that of other athletes who had overcome similar circumstances. He set goals (which he perceived he could achieve) based on others having successfully achieved similar goals and he used their success stories to bolster his belief in his ability to return to competition (i.e., rehabilitation efficacy). For example:

> D: The surgeon told me about a Collingwood player who had two knee reconstructions before he even played AFL. Stories like that give you confidence because he's one of the main players in the AFL now. He basically became a role model—he's had two knee injuries and I've had two injuries. So if I train just as hard and if he can do it I can do it.

Doug also took time to reflect on his previous ACL reconstruction experience (and use those recollections as a sort of template) to assess the progress he was making in his present rehabilitation. His previous injury experiences also helped him to form and set realistic expectations throughout LTIR.

> D: 'Cause I've injured myself a couple of times before this…I'm a bit used to it [pause] I've done this before so I know what it was like [and] I was, sort of, ready for this [LTIR].

These and other similar comments that Doug made during our meetings indicated he had intuitively and informally incorporated strategies into his problem focused mode of coping; which were similar to the psychological interventions I anticipated teaching him. More specifically, positive secondary appraisals, benchmarking, and peer modelling helped Doug have realistic goals and rehabilitation expectations. These, in turn, enhanced his rehabilitation efficacy, adherence, positive affect, and, ultimately, his rehabilitation outcomes.

Psychological Interventions

Similar to Byron, Doug generally shifted from emotion to problem focused coping strategies (which included engaging in Psychological Skills Training—PST) as he progressed through LTIR. Several authors (Durso-Cupal, 1998; Hall, 2005) have found determined coping activities (e.g., engaging with coaches or trainers, seeking more

information, etc.), particularly in the mid and later phases of LTIR, can bolster an athlete's sense of control, increase adherence and positive affect, and improve self-concept (i.e., esteem, identity, efficacy). The psychological aspects of coping that Doug intuitively employed have been discussed previously in this dissertation. In the remainder of this case I will outline and explore Doug's use and responses to PST interventions during LTIR.

Psychoeducational

Many of my meetings with Doug incorporated a psychoeducational component aimed at informing Doug about the various types of psychological skills he might employ and how such skills could contribute to his injury rehabilitation. For example, during an intervention meeting with Doug, I might have explained the relationship between thoughts, feelings, and behaviours and how making changes in one of these factors could lead to changes in the others. We then may have worked to identify and increase his awareness of the various emotions he experienced (and their manifestation) in response to being injured. Understanding, and being able to identify these processes in action, are the initial steps in teaching individuals how to respond differently. Following this type of a discussion, I then taught Doug (or work to modify existing) psychological interventions.

After the first interview, Doug was eager to begin the intervention aspect of the study. As a result, we agreed to meet again the following week. I had taken a little time during our first meeting (in hospital) and then again over the phone to describe several interventions and how they can facilitate LTIR. Nevertheless, Doug had been quite distressed on both occasions, so a large portion of our first (intervention) meeting was psychoeducational. Doug and I first spent time discussing various aspects of his injury and his surgery (e.g., anatomy of the knee, what ligaments he had ruptured, what they look like, their function, their relation to other structures in the knee, the secondary trauma caused by the hamstring tendon harvesting, and the general surgery procedures). Although

the doctor and physiotherapist likely explained these things to Doug, he explained to me (just after our first interview) that he did not have a good sense of the internal structure of the knee, or of the surgery. In addition to helping him understand what he had gone through, my rationale for this mini anatomy lesson was to increase Doug's knowledge of the internal structures and mechanics of his knee as a reference for future imagery work. Doug later commented that he appreciated increasing his understanding of the anatomy.

D: …it's good to know or find out things about your body. Like we [Doug and I] went through all the joints and leg and it's built the confidence up and it's actually its like pushed me in the right direction. I know you've shown me the direction to go, and I have to do it myself [and] it's worked.

In the affect section (cf. above) I outlined several aspects of LTIR that generated particularly high levels of distress for Doug. Consequently, during our first intervention session I also began to talk with Doug about the distress he had been experiencing over the past two weeks and the negative effect it was having upon him. Doug described heightened sympathetic nervous system responses (increased heart rate, sweaty palms, reduced ability to concentrate, butterflies or a queasy feeling in his stomach, etc.).

T: Can you describe what you feel in your body when you feel anxious?

D: Sweaty palms and you're, you can't, you've got to move all the time [pause]

T: Fidgety?

D: Yeah, Fidgety! [And] you're thinking a hundred miles an hour and sometimes you just tune out which isn't the best…It's easy to zone out but not easy to go back into it….

Doug had expressly told me that he wanted to learn techniques that would help him rehabilitate as soon as possible. Consequently, as we spoke of the distress he experienced, I taught, and immediately engaged, him in a controlled breathing exercise I call *backward breathing* (e.g., counting backwards from five to one—repeating each number twice, saying the number '*n*' in your mind throughout the entire inspiration, and then saying *I am now more relaxed that I was at 'n'* throughout the entire expiration; taking deep breaths—

filling the lungs from the bottom first, using one's diaphragm, then mid and upper lungs, by expanding ribs and raising shoulders). Finally, towards the end of the first session, I took a few minutes to outline briefly an autogenic relaxation technique. I told Doug that I would take him through a relaxation induction and provide him a copy (on audio tape) during our next meeting. During the remainder of our intervention sessions we typically moved between psychoeducational and PST interventions.

Arousal Control

Doug's high levels of arousal (i.e., anxiety) were expressed during our interviews and meetings in his tone, body language, and in what he said. As I mentioned above, I taught Doug a controlled breathing technique during our first intervention meeting, and in the second we went through a progressive muscle relaxation (PMR) induction. At the end of the relaxation session Doug told me that he found it deeply relaxing (he almost fell asleep), he felt heavy, his mind was clear. Doug commented:

D: After the counting backwards I was more relaxed, it was good.

Throughout LTIR, I taught and helped Doug apply arousal control techniques, such as controlled breathing, progressive muscle relaxation, thought stopping, and relaxing or calming imagery. Sometimes these techniques were applied individually and at other times they were used in concert with one another. For example, controlled breathing was coupled with progressive muscle relaxation (PMR), and imagery (calming, healing, or skill related imagery, depending upon Doug's needs at the time). During the acute phase of LTIR, Doug was also in considerable pain, and he did not like the idea of being on heavy, and potentially addictive, pain medication. In several of our meetings Doug expressed his surprise in the utility of PMR to help manage his pain and keep his mind off being injured. With a somewhat surprised tone he commented on the calming effect of the PMR audiotape.

D: I did listen to the relaxation tape and it made me stop thinking about it! [being injured].

Arousal control skills, such as those mentioned above, can be targeted directly at controlling high levels of arousal or anxiety. In addition, such skills can be coupled with other psychological interventions. Moreover, other psychological interventions (e.g., imagery, goal setting, self-talk, etc.) can bolster confidence, one's sense of control, or motivation, which also serve to quell anxiety.

Imagery

Initially, Doug was a little sceptical about healing imagery (cf. quote p.155). I recall him smirking and snickering a little while I first described the process to him. Nevertheless, he was willing to try anything that might help reduce the duration of his rehabilitation. As I began to explain imagery to him, we spoke of imagination, I asked Doug to think about his favourite flavour of ice cream, and we *built* an ice-cream cone (a waffle cone, with two scoops, sprinkles, the lot) in his mind. Once it was built, I asked Doug if he had a sense of the smell of the ice cream parlour, the waffle cone, and if his mouth was watering. He could, and it was.

I used the ice cream example to demonstrate the automatic responses brought about by processes such as imagery. I then suggested to Doug that a similar response could be elicited by healing imagery (i.e., that his body might direct a little more energy to repairing his injury). Doug nodded favourably. I continued and explained to Doug that it would be best to combine healing imagery with either focused breathing or PMR. After explaining the process, we took time to look at the anatomy of the knee, and discussed the types of images he might use. I suggested images that included elements of functional repair (e.g., tissue regeneration or growth, reduced swelling, smooth strong ligament, the ligament being firmly attached, blood bringing nutrients and removing debris from the injury, etc.) would be best, but that they could be as real or fictional as he wanted. In a shy, almost

embarrassed tone, Doug asked if a construction crew would be appropriate. I encouraged him to explain further and he described a crew of little workmen: some scrubbed the rough swollen surfaces, others made certain the ligament was attached firmly to his tibia and femur by checking that the screws securing the ligament to the bone were tight, another rinsed the entire area with water from a high pressure hose (cf. quote p.155). As he came to the end of his imagery he imagined the interior structures of his knee were left shiny, clean, and smooth.

As Doug progressed through LTIR, the images he used shifted from healing images, to rehabilitation images (e.g., working out in the gym or extending his knee fully again), to training or match simulation images. Doug described the shifting content of his imagery during his 11 months of rehabilitation.

T: We've done some imagery work, for example, the construction crew that was in your leg…[interrupting me]

D: Yeah, and like hosing down?

T: Can you comment on some of those [images] and how you felt that they have been integrated into your rehabilitation?

D: At the start I pictured the little man inside my knee washing the bad out but now I'm sort of getting closer to that stage [playing] I can sort of see it and I'm visualizing the real good stuff not just the walking or the running [but] running out onto the ground with my team. The quicker I can play the better. So visualizing me in front of the goals just kicking it [the ball] just from ten meters, not a massive one, cause I know that's [still] far off….Visualizing makes you want to do it [rehabilitation, and] them little things do help.

T: So that's a bit of motivation for you?

D: Yeah!, and the more you think about it the more you can picture your technique and how you're doing….At the start I was visualizing me walking or something more [than] visualizing me in front of the goals kicking it [or] laying a shepherd, just laying a bump, to protect your mate.

The imagery in the above excerpts incorporates a mixture of practices (e.g., activities, skills, and techniques; some of which are fictional or fantastic—i.e., the work crew) and outcomes (e.g., increased motivation, confidence, adherence, and potentially faster

rehabilitation). It is likely that the practice of shifting the content of imagery from healing images to return-to-play images elicits positive rehabilitation outcomes along a similar process to goal setting (cf. goal setting).

Finally, near the end of his rehabilitation Doug describes images of himself returning to competitive play.

D: You just picture yourself running out onto our home ground in front of all your friends that have come to watch you...It brings a smile to your face basically and makes you more motivated to want to actually get better and get picked [to play, or even drafted].

…But the one I've probably visualized the most is running out onto the "G" [The Melbourne Cricket Ground]….the stands….the crowd…I know it does nothing for the team but that get[s] everything going.

T: It sounds like a really powerful and energizing image.

D: Yeah! It's just running out cause you see the your heroes…running out… you know they've actually played on this ground and so many good games have been played on it.

In these excerpts, Doug expresses stage-appropriate images that also have an element of fantasy. These phantasies express an anticipatory excitement implying Doug was confident about his return to play.

Doug's imagery was typically stage-appropriate (i.e., images that roughly match one's physical abilities, or are only slightly more advanced, and represent the tasks or skills being attempted at that time). Similar to setting, monitoring, and achieving goals throughout rehabilitation, Doug's use of stage-appropriate imagery across LTIR helped improve his mood, increase his confidence (in his rehabilitation and in his leg), enhance his motivation, and feel excited or energised about LTIR and his return to play.

Goal Setting

Many goal setting programs encourage individuals to set short, medium, and long-term goals that delineate both performance and process aspects of one's agenda. Evans et al. (2000) and Evans and Hardy (2002a & b) found that achieving and regular monitoring

of short and long-term goals helped enhanced injured athletes' outcome expectancies (i.e., athletes believed they would successfully recover from their injuries). This, in turn, boosted injured athletes adherence, motivation, and ultimate rehabilitation success. Additionally, Hall (2005) noted that integrated (cognitive) interventions can act to strengthen athletes' rehabilitation efficacy and motivation to persist throughout LTIR. Several examples of this integration have been identified in the sections above (e.g., arousal control combined with imagery and cognitive reframing or the goal setting aspect of imagery which probably also reduced Doug's arousal). Similarly, Doug used imagery in combination with goal setting. Often Doug used his imagery skills to create a mental template of the goals he was working to achieve (cf. imagery quotes above).

Similar to Lucy, Doug also commented on the trust he had in his physiotherapist and the goals he had set out in his rehabilitation program. For example:

D: I see the physio more than the surgeon; basically, he's there more for me. The surgeon's just to check up what the physio's doing and see where I am [at]. Whatever the physio says, I try to do. I've, we set the goals but he's pushed me. He [says] you have to do this to get to that goal.

T: I see you have a lot of faith in what the [the physiotherapist] putting forward for you.

D: He's been to school for that extra four years or something, so it gets me back quicker to sport I'm going to do it [laugh].

Doug's trust in his physiotherapist and his belief that he was someone Doug could rely on (e.g., "he's there for me") likely resulted in positive outcome expectancies and a high level of compliance to the programme set forth for him. On many occasions, I have observed injured athletes trying to do more than they have been told to do. This probably stems from the sport culture that rewards stoicism and embraces the ideal of *no pain, no gain*. However, these types of beliefs can lead to behaviours that are counter productive and, from the perspective of injury rehabilitation, lead to re-injury and delayed return to sport.

Trust and belief in one's program, therefore, are likely to contribute to adherence and optimal recovery.

In addition to working with his physiotherapist to set rehabilitation goals, Doug also met with one of his team coaches about midway through LTIR to map out his return to training and competing with the team. I did not want to interfere with these processes, therefore, I endeavoured only to reinforce, or support, the goals these other specialists had set forth. I did encourage Doug, however, to be as engaged as possible in this process. As a result, I carried out a performance profiling exercise with Doug. Specifically, I worked with Doug to identify his strengths and weaknesses as a player and then encouraged him to discuss these with his coaches. The intent of this exercise was to help Doug think about himself as an athlete, and encourage him to stay engaged with his coaches.

I tended to employ a didactic approach throughout my interventions with each of the participants. Gaining an understanding of the relationship between thoughts, feelings, and behaviours, for example, helped the participants to understand, gain insight, and then effect change in these areas. Taking time to talk with and explain my reasons for selecting a particular intervention and how they work also helped to build rapport with the participants. Rapport between professionals and injured athletes is an important contributor to the overall rehabilitation process; this point sometimes seems to be overlooked by busy health practitioners. For example, each of the participants voiced discontent with their surgeons. Both Doug and Lucy commented that their surgeons had not taken much time explaining the injury, surgery, or rehabilitation processes. As a consequence, although Doug had told me he trusted the surgeon's skills, he did not value his relationship to the surgeon. On the positive side, each of the participants spoke highly about the relationships they had with their physiotherapists. Although my use of a didactic approach may, in one regard, have reflected an unconscious drive to demonstrate I was competent (i.e., a

compensation for the insecurity I experienced as a neophyte researcher), I was also aware that taking time to explain and discuss these processes with the participants would provide an opportunity to build rapport.

In the last interview, I summarised some of the different PST in which Doug and I had engaged, hoping Doug would comment on his overall impression of psychological interventions in his LTIR.

> T: Over the last four months we've done a few things together. I think we started off with some breathing exercise, then a relaxation tape, [and] then we combined that with some imagery work, and goal setting work that mapped out some of the skills that you might want to think about or focus on. Can you comment on some of those things and, and how you felt that those have been integrated into your rehabilitation?
>
> D: I wasn't a massive believer in all this stuff. I thought it was a bit funny or stupid…picturing people [are] in your leg washing away the bad stuff [scar tissue] or sucking up the bad stuff [the construction crew that was his leg]. But once you do it you realize it does work, that it does help! All of it helps that little bit, [and] them tiny little bits are all going to add up at the end and if it gets me back a week quicker that's one more game I can play and three more training sessions I can have…so it does help.

In this final quote, Doug does acknowledge that he was initially sceptical, but that he did come to value the psychological interventions. If I had not taken the time to explain the how and why (psychoeducational) aspects of these interventions, and build rapport with Doug, he may not have invested in them. It has been noted that the strength of the therapeutic alliance (i.e., the relationship between therapist and client) is one of the best determinants of successful therapeutic outcomes (see Martin, Garske, & Davis, 2000, for a review). Although Doug and I were not engaged in a therapeutic relationship per se, there was a therapeutic aspect to this research project. Consequently, I consciously approached every meeting (with each participant) as an opportunity to listen and to build rapport and trust. Doug directly expressed his confidence in his physiotherapist and (although with a hint of scepticism) in the work we did. On our last meeting, however, Doug presented me with a *thank you* card and a gift—evidence that we too had a good working alliance.

Post Script

Doug's rehabilitation was predictable and, for the most part, without incident. He returned to competition in the following year, about mid-season, and his team went on to win a second grand final in as many years. Doug, however, did not get drafted to an AFL club, but he continues to play footy in a regional league. In our last interview, I asked Doug to reflect upon the entire injury process and if he could summarise it in a *take home* sort of message.

T: So, in conclusion, what would you take away from all this?

D: Um, [Doug laughs] yeah!, try not to do it again!

CHAPTER 5: DISCUSSION AND SUMMARY

The aim of this research was to explore the experiences of high level athletes who had sustained serious injuries and were undergoing long-term injury rehabilitation. Specifically, two questions served to guide me throughout the research process. The first question I considered was, what do athletes who have sustained serious sporting injuries (season ending and career threatening) experience as they progress through many months of rehabilitation and return to sport? The second question, which had a more applied psychology tone, sought to explore injured athletes' perceptions of the efficacy of various psychological interventions aimed at enhancing their emotional states and rehabilitation outcomes (e.g., motivation, adherence, speed of recovery, minimising re-injury, and positive transition back into competitive sport). In particular, I was interested in the value injured athletes placed on psychological interventions, and how various interventions were integrated into LTIR. To answer these questions, I engaged with three athletes throughout their entire injury rehabilitation. I interviewed each athlete four times (at roughly four month intervals) and also met with them regularly (every two to four weeks) throughout injury rehabilitation to provide intervention support.

Three case studies were presented that explored and portrayed issues that were particularly salient to each of the participant athletes as they progressed thought LTIR. Those issues revolved around four key themes: affect, coping, social support, and psychological interventions. This was not a fully inclusive list of the issues presented by the participants; moreover, each of these themes played out and interacted with each other according to the unique situational and personal characteristics of each participant. Nonetheless, I chose to use these themes as a common structure upon which to build each case study. Although it was not my intention to try and verify or reproduce the findings of previous research, these four general themes are consistent with the findings presented in

the athletic injury research discussed in the review of literature. Consequently, I considered that organising the cases with these themes as major headings would create continuity between this dissertation and the boarder injury rehabilitation literature.

Within the structure of these four general themes, the case examples presented here explored the intimate details or issues of LTIR that were identified by the participants. The more specific issues also correspond with specific elements (e.g., social support, life stress, positive and negative affect, behaviour, disturbed sleep, pain, etc.) outlined within the integrated models of injury rehabilitation presented by Brewer et al. (2002) and Wiese-Bjornstal et al. (1998). These unique and intimate details the participants commented upon during LTIR are the stories that are woven into the structure provided by the broader themes. Sometimes, it is unique or intimate details of another persons' life that can reflect back upon us and augment our understanding of the stories presented in the previously published literature and our understanding of ourselves. Each of the case studies was written in an effort to highlight and portray the unique ways these specific issues (e.g., Byron and Deborah's relationship breakdown, Lucy's expression and experience of frustration, and Doug's enthusiasm toward psychological interventions) played out in relation to the boarder story of LTIR. In this way the details that emerged from the case studies serve to augment the athletic injury literature, largely by providing detailed descriptions of athletes' experiences of injury rehabilitation over a protracted period.

Common and Unique Experiences

Affect

Each of the participant athletes experienced positive and negative affect at different stages throughout rehabilitation. As research into the affective responses of injured athletes becomes more advanced, so too does our understanding of how and why athletes experience positive and negative affect during rehabilitation. Early researchers, for

example, proposed that athletes experienced elevated negative affect in their immediate response to injury, which then gradually improved (in an approximately linear pattern) as they physically rehabilitated (see Wiese-Bjornstal, et al., 1998, for a review). As repeated measures, designs have become more common and sophisticated, so too has the description of athletes' affective response to athletic injury. Throughout injury rehabilitation, dynamic fluctuations of emotions have been found (LaMott, 1994, as cited in Wiese-Bjornstal, 1998; McDonald & Hardy, 1990; Morrey, 1997, as cited in Wiese-Bjornstal, 1998; Smith, Scott, O'Fallon et al., 1990). Furthermore, these dynamic emotional sequelae may be in response to being injured, to various challenges during rehabilitation, return to sport, and others. More recently, Quinn and Fallon (1999) suggested that affective sequelae, following an athletic injury, presented in cubic or quadratic trends across injury rehabilitation. Quinn and Fallon's findings were significant because they underscored the dynamic emotional sequelae that athletes experience as they progress through injury rehabilitation. In short, the results of the current research support the view that affective sequale related to LTIR are dynamic and related to personal and situational factors (e.g., a relationship breakdown or pressure to return in time to play in a finals tournament) that occur throughout LTIR.

The general trend in emotional response to LTIR observed here resembled the results of Quinn and Fallon (1999). It appeared to me that all the participants tended to experience a progressive decline of negative affect as the acute phase of being injured faded. This phase was followed by a relatively long period of positive and negative emotionality. It involved a fluctuating process that was triggered by a variety of factors such as thoughts (e.g., 'What if I don't return to my pre-injury level of performance?', or 'Hey!, I don't have much longer to go!'), events (e.g., watching one's team compete—which could be positive or negative), or situations (e.g., being at training with one's team).

In addition, there were things that had no direct relation to sport or injury rehabilitation that played into the affective sequelae of each participant (e.g., Byron and Deborah's relationship, Doug bought his first ever car—and then crashed it a few weeks later, and Lucy's Mum was diagnosed with Cancer). Finally, as the athletes began to return to sport they tended to concurrently express and experience both positive and negative emotionality. For example, they all reported mild to moderate levels of generalised negative affect in the weeks and days leading up to their return to sport (often in the form of increased anxiety, fear, self-doubt, etc.). They also expressed high levels of vigour, positive activation, excitement, and hopefulness. Recall Lucy's comments as she returned to sport:

> L: I was excited [about coming back] 'cause I felt more like part of the team…I reckon I'm confused because I don't know whether–like I should be happy because I'm playing, but then I'm like pissed off 'cause like I'm not playing well.

The concurrent expression of positive and negative affect during injury rehabilitation has often been overlooked in the literature. Previous research has tended to consider positive and negative affect to be mutually exclusive, or opposing states (e.g., Chan & Grossman, 1988; Little, 1969; 1979; Smith, Scott, O'Fallon, & Young, 1990; Weiss & Troxel, 1986, Wiese & Weiss, 1986). Many of these researchers used the POMS to measure athlete's mood states in response to being injured. However the POMS is heavily weighted in favour of negative affect as it only includes one scale that measures positive affect. Hall (2005), however, found positive and negative affect to be distinct states that could, and do co-occur. The examples in the paragraph above provide support for Hall's proposal. Moreover, the specific affective sequale each participant expressed over the course of LTIR attests to the dynamic and fluctuating occurrence of both positive and negative affect.

Coping

Coping was an additional theme used to provide structure to the case studies. How each participant coped with being injured and having to undergo long and unpredictable injury rehabilitation, however, was an individual process. The stories of coping that were told by the participants in this study were in line with the dynamic interpretation of coping suggested by Lazarus and Folkman (1984) and the conclusions drawn by Albinson and Petrie (2003) and Grove and Bianco (1999). All of these authors suggest that coping is a process that is moderated by athletes' appraisals and reappraisals of their personal and situational factors (e.g., injury status, the resources available to them, their perceptions of acceptance or rejection, self-worth, etc.).

Each of the participants in this research used a combination of coping styles to endure LTIR. Emotion-focused strategies (e.g., seeking emotional support, denial, trying to understand one's situation, and cognitive restructuring) were used during the early, acute, phase of injury rehabilitation. Further, participants continued to apply emotion-focused strategies throughout rehabilitation when they felt vulnerable, lonely, and when they found themselves worrying about their athletic futures. All three athletes used problem-focused coping strategies (e.g., active strategies such as seeking out activities and information that could improve their physical condition or attending physiotherapy). For example, each athlete reported that they had an established relationship with their physiotherapist, and going to physiotherapy. Following the rehabilitation programs and working towards the goals set down by the physiotherapist contributed to their sense of well-being. Active coping strategies may have also helped by distracting the participants from aspects of rehabilitation such as negative emotionality, boredom, pain, and loneliness among other things during LTIR. Active coping strategies, therefore, positively contributed to physical rehabilitation and also helped to reinforce positive aspects of the participants' self-

concepts, by re-establishing for each athlete a sense of athletic prowess, and athletic identity in the athletes.

For example, while the acute phase of injury was relatively short lived for Doug and Lucy, it was protracted for Byron due to situational factors such as the severity of his injuries, his having to undergo a second operation, and his concurrent relationship break up. In addition, these situational factors contributed to and protracted Byron's experience of depression (which at times I suspect approached clinical levels), self doubt, and reduced self-concept for months. Byron coped with this particularly difficult time of his life by using a combination of coping strategies (e.g., adjustment-focused coping such as acceptance; problem-focused coping such as planning, setting goals, and increasing his knowledge about his situation and rehabilitation; and emotion-focused coping such as seeking out and accepting emotional support, denial, and trying to understand his situation). This type of integrated approach supports the findings of Hall's (2005) investigation into how athletes cope during injury rehabilitation. In Byron's case study, I suggested that he tended to first focus on regaining some his physical prowess (this largely represented his problem-focused coping) which bolstered self-esteem, and enhanced his motivation among other things. As his sense of physical esteem improved, Byron then began to address his emotional concerns. As a result, I suggested that, at times, Byron appeared to be simultaneously coping and not coping. At one moment he would express how good he was feeling about his physical rehabilitation and in the next moment, as his attention turned to his personal life or his relationship with Deborah, he would become depressed, angry, frustrated, or confused. More so than Lucy or Doug, Byron's integrated approach to coping with his physical and emotional rehabilitation was a process whereby he alternated between addressing issues related to his physical rehabilitation and then his emotional state.

When coping is considered as a function of time (e.g., how an athlete coped during early, mid, late rehabilitation), it can appear as a linear process with shifts in coping style being related to a particular time or phase of recovery (e.g., Quinn & Fallon, 1999; 2000; Udry and colleagues, 1997). Although this may be the case, it remains unclear, however, as to whether such shifts are strategies that athletes actively engage in, or if they are artefacts of the situational factors associated with a particular phase of injury rehabilitation. For example, avoidance and palliative coping strategies may be particularly well-suited to helping athletes endure the acute phase of injury rehabilitation where issues like physical pain, fatigue, uncertainty, fear, and isolation are common. Active- and problem-focused coping strategies are more easily engaged in once the athletes regain some mobility, and the acute pain of injury subsides. Coping with LTIR is not a discrete or isolated event; it is an ongoing process. When coping is represented as a process that affords drawing upon a variety of one's resources, such as in the dynamic and integrated explanations outlined by Lazarus and Folkman (1984) and Hall (2005) it seems to be in line with the modes of coping exhibited by the participants in this study.

Social Support

Social support can come from a variety of sources (both expected and unexpected) and serve a variety of needs such as informational, esteem, tangible, emotional. (Ford et al., 1993; Ford & Gordon, 1993; Ford & Gordon, 1999; Reese & Hardy, 2000; Bianco, 2001). Regardless of the current participants' needs and desires, the types and sources of available social support was not always congruent, or perceived to be congruent with those needs. For example, each of the participants struggled at times with being reliant upon others, asking for help, and even accepting help when it was offered. It may be that asking for help is perceived to run counter to (or conflict with) the competent, fit, and able self-concept that many athletes hold. Under these circumstances, even when help is offered, it

is possible that athletes believe it to be incongruent to their self-perceptions (e.g., as fit, competent, and athletic individuals). As Byron surmised:

> B: On the outside I'm the type of person who'd shrug off something and say I'll be ok, I don't need any help. But on the inside you know you're ah, [pause] you're really struggling and you **really** do need the help. And that's my personality. Um, it's probably a fault. I should have said '**yeah I really need help'**…

Alternatively, too much help may also seem to be overwhelming. As Lucy noted:

> L: …physio, coaches, parents, friends, my parent's friends, everyone! Like everyone's there to help…**YOU'VE** always got people giving **their** opinions….

Accepting help from others may be particularly confronting to athletes. In one sense, asking or even accepting help is admitting a weakness. Acknowledging one is vulnerable, even incompetent (albeit only temporary), likely presented a significant threat to these athletes' self-, and athletic-identities. Incongruence between the athletes' various needs may have been present on several levels. At face value Lucy's comments, above, indicate that she was somewhat overwhelmed or weary of receiving advice and so forth. On an intrapsychic level, however, needing help did not fit with her image of an athletic-self. In addition, accepting support from others may have forced the participants to think about their situation which, in turn, could have conflicted with emotion-focused coping strategies (e.g., avoidance or denial) that they were employing. Finally, Lucy's quote (above) highlights the fact that over-support (Bianco, 2001) can be as distressing, or unhelpful, as no support.

Nevertheless, each of the participants also acknowledged the value of various types of support they received (e.g., informational, esteem, emotional, and tangible) and the different support networks they engaged with. Social support came from a variety of individuals, some of whom were asked to help and others who were not. In particular, each participant spoke of their appreciation for the members of their support networks who

helped without being asked. Furthermore, the participants also spoke of feeling surprised, and even humbled, by the time individuals (some of whom were not among their close circle of friends) took to be with them or help out (recall Byron's story of the other cyclists stopping to help him at the scene of his accident, or his friend staying with him for hours when he was in hospital).

In addition to the various support networks each athlete had (e.g., team-mates, coaches, friends outside sport, medical and allied health professionals), they all depended heavily (often with little expressed gratitude) on their families. This is not to say, that the help and support of family was not appreciated, rather that it appeared to me that the athletes simply assumed these people would be there. Family members (Mums, in particular) were the unsung providers of all elements (informational, esteem, emotional, and tangible) of social support (e.g., helping with getting dressed, running errands, driving to appointments, nurturing, simply being there, etc.). I recall asking Doug who he felt he had received the most support from and, without hesitation, he replied "My mum."

The key factor in the effectiveness of social support, nonetheless, was the perceived fit (Bianco & Eklund, 2001) between the support that was being provided and the support the participants needed (or wanted) at any given time throughout LTIR. Social support is a complex variable in LTIR. Athletes may perceive they are receiving too much support, too little support, inappropriate support, support from the wrong person, or that the support provided did not meet their expectations, among other things. These sorts of incongruences often increased the participants' distress. Recall Byron's recollection of the support he expected but did not receive from Deborah:

> B: I felt just let down and, uh, unsupported by what she contributed....I think in her own mind she felt like she was putting in but it was by no measure, um, enough! And maybe too much mightn't been enough.

Psychological Interventions

The majority of research concerned with the role of psychological interventions in athletic injury rehabilitation has been concerned with relatively short-term injury rehabilitation. Nevertheless, the findings have been quite consistent and show that psychological interventions do facilitate both the emotional and physical aspects of athletic injury rehabilitation. For example, in a review of the sports injury rehabilitation literature, Cupal (1998) concluded that psychological interventions positively contribute to athletic injury rehabilitation. Unlike many of these previous studies, this project sought to describe how various psychological interventions (psychoeducational and cognitive behavioural) were used throughout LTIR rather than evaluate or compare the efficacy of different interventions. Although the intervention aspect of this study was tailored to meet the individual needs of each participant, there were commonalities in the use of and value that the participants placed on the psychological interventions and in the rehabilitation processes that they facilitated (enhanced coping, improved affect, and social support).

In the review of literature (see Chapter 2), I discussed several of the pathways through which engaging in psychological interventions can enhance athletic injury rehabilitation. In addition to the specific goal of the psychological intervention (e.g., relaxation seeks to help individuals to physically and mentally calm and relax), being engaged in psychological interventions most likely has secondary effects such as engaging athletes as active participants in their rehabilitation, increasing motivation, increasing rehabilitation efficacy, et cetera. (Driediger et al., 2006; Duda et al., 1989; Ford & Gordon, 1998; Hall, 2005; Weise-Bjornstal et al., 1998; Wiese & Troxel, 1986; Wiese & Weiss, 1987). Green (1999), for example, noted that psychological skills training (PST) such as relaxation and imagery enhance athletes' kinaesthetic awareness which, in turn, is likely to improve their performance of both rehabilitation activities and specific skills related to

their sports. The participants in the current study also commented that relaxation helped them with pain management; first with reducing, and then stopping pain medication altogether. Furthermore, as the participants did not like the idea of having to rely on pain medication, relaxation gave them an alternative form of pain management and helped them feel more in control and healthier. Researchers have also found that athletes may benefit from a variety of aspects of social support (tangible, esteem, emotional, and informational) as they engage in psychological interventions (e.g., Evans & Hardy, 2002b; Ford & Gordon, 1999; Ford, Gordon, & Horsley, 1993; Tracey, 2001). In the current investigation, Byron's reflections of his psychological intervention process revealed an element of the social support pathways that were in play as a consequence of our working together. For example, Byron commented:

B: Talking about it [the accident] at this level, really, I've found to be significant. I think that the most I achieved out of all of this is talking to someone about it and getting it off my shoulders. Just being able to say to somebody, uhmmm, I'm really hard done by or I'm really pissed off, it's just a release and it relieved a bit of anguish. Ah, to talk about how depressed you're feeling or how pissed off you are that life's given this blow….it's been a big journey, and, uhhh, been good to, ahh, be able to have your, ahh, support along the way. And, and uh…bear some of the weight for me.…To be able to speak someone that is not only interested and can sympathise, but someone that had, uhm, actually trained and could see where I was coming from...That made it a lot easier.

Durso-Cupal (1998) commented that an athlete's thoughts play an important role in both the aetiology of injuries and injury rehabilitation and that interventions that help to change the athlete's beliefs (i.e., outcome expectancies and rehabilitation efficacy) and enhance their sense of control will contribute to rehabilitation outcomes. In the current research, this was particularly true in relation to goal setting, imagery, and cognitive restructuring (e.g., exploring and changing self-talk). Directly, or indirectly, each participant talked about positive changes in their rehabilitation appraisals as a consequence of employing some form of psychological intervention. For instance, the relaxation

interventions helped participants manage their pain, reduce their reliance on pain medication, enhanced positive affect, and increased their sense of control and self-esteem. Additionally, Doug and Byron both employed imagery and goal setting to their LTIR. They reported that these processes helped them to feel in greater control of their situation and prepare for rehabilitation. In addition, they both felt that the intervention, particularly with respect to imagery, helped manage arousal levels, build confidence in their injured body part, and helped with adherence to sometimes painful or boring rehabilitation. Recall Doug's and Byron's comments:

D: You just picture yourself running out onto our home ground in front of all your friends that have come to watch you...It brings a smile to your face basically and makes you more motivated to want to actually get better and get picked [to play, or even drafted].

B: I tend to come back to things that we've talked about… the pain management and relaxation—they helped me with get off medication and deal with the pain.…turning a negative into a positive, or a challenge…The goal setting has really helped me get on track and stay focused.

Lucy also commented on the goals that her physiotherapist and her coaches set for her and how marking her progress against those goals helped her maintain her focus and stay positive during rehabilitation. For example,

L: He [physiotherapist] set me goals every time I saw him. And I if I passed them then I was a step closer to playing….If I could do them well then I could move onto the next level.

There is a similarity between making positive secondary appraisals of rehabilitation and marking one's gradual progress through attaining a series of intermediate rehabilitation goals. Similar to Crossman and Jamieson's (1985) findings, the confirmatory processes helped the participants in this study by enhancing things such as self-efficacy, rehabilitation efficacy, focus, and motivation. For example, Evans et al. (2000) concluded that athletes' outcome expectations changed as a function of rehabilitation success. Therefore, a psychological intervention such as goal setting, which helps an athlete delineate a path through the numerous rehabilitation tasks and identify how to begin

responding positively to their situation, is likely to facilitate changes in their outcome expectations. As they achieve successive goals, other aspects such as enhanced motivation, enhanced rehabilitation efficacy, an increased sense of control, and athletic prowess would be expected to improve and effect subsequent positive changes in their outcome (i.e., full recovery) expectancies (Driediger et al., 2006; Duda et al., 1989; Evans & Hardy, 2002a; 2002b; Hall, 2005).

Implications of Intervention Work

The interventions that were used in the current research were designed to meet the personal and situational factors each participant faced throughout LTIR. Similar to Evans et al. (2000), the particular structure of the interventions, as well as the methods used to teach and explain them to participants, varied for each athlete (e.g., Doug appreciated a didactic approach which included learning about how a particular intervention may work, whereas Byron was more receptive to having just the instructions of an intervention explained to him). Finally, each athlete responded differently to the interventions presented to them. Byron, for example, liked to be involved in setting his rehabilitation and return to sport goals. He used goal setting both proactively to plan his rehabilitation and stay motivated and retrospectively (as he met goals) to mentally mark his progress and build his sense of competence. Lucy, on the other hand, did not seem to be as interested in being an active partner in setting rehabilitation goals. Consequently, her physiotherapist and coaches set out goals for her and she focused primarily on achieving those goals as motivation throughout LTIR.

Many athletes will have had some exposure to psychological skills such as goal setting, imagery, positive self-talk, and others, during the course of their athletic careers. As a result, some athletes may intuitively employ some of these psychological skills to their injury rehabilitation. If we, as therapists, take time to first listen to and understand

each athlete's rehabilitation needs in addition to enquiring about the skills, and resources they may already possess, then we can focus our efforts on helping athletes refine their existing psychological skill set as well as teach them new skills. Moreover, athletes will also likely appreciate learning how new skills can be applied when they return to sport. Recall in Doug's case he used peer modelling and bench marking (e.g., his comment about the Collingwood player with two knee reconstructions: "and if he could do it, so I") in combination with his successive appraisals. This process has some common elements to the coping processes outlined by Hall (2005) and Lazarus and Folkman (1984) and also goal setting processes (e.g., determining if a goal has been met, or how likely it is that a future goal will be achieved) is really just a subsequent appraisal.

Unexpectedly, I found goal setting a somewhat difficult intervention to implement. Each of the participants had good relationships with their physiotherapists and coaches, and they believed in the rehabilitation programs (i.e., rehabilitation goals) that were being set for them. I was not involved with any of the participants' teams, nor had I negotiated that I would work with their coaches or physiotherapists. Essentially, I was acting alone and, as a result, I did not want to upset, or add to the workload, of the other practitioners (e.g., physiotherapist, doctor, or coaches) who met with the participant athletes more frequently. Consequently, I was wary of not overstepping my role as a researcher and appear to be coaching or entering into the realm of the coaches. I also acknowledged that the participants could misinterpret our *discussing* various types of rehabilitation exercises or goals as me *prescribing* rehabilitation treatment. From an applied perspective, working alone highlighted the (potential) value of having an open line of communication between other members of an athlete's rehabilitation team (e.g., doctors, physiotherapists, trainers, coaches, etc.).

A team approach to helping athletes rehabilitate may also have drawbacks, or complications, from an applied psychology perspective. In theory, a holistic, team approach to injury rehabilitation is probably best; however, once these lines of communication (e.g., with doctors, physiotherapists, coaches, etc.) are established a slippery-slope in relation to issues of athlete confidentiality arises. For example, Byron told me stories and discussed issues that cut through his injury rehabilitation and delved into the intimately personal (e.g., his relationship issues and feeling very depressed). Even Lucy, who was often reserved about sharing personal issues with me, told stories of feeling scared about her mother's cancer, and stories of mistrust toward her coach. It is unlikely that athletes would appreciate these types of intimate details being divulged to, or shared with, other members of their rehabilitation team. Moreover, if the athlete has even the slightest suspicion that these sorts of stories will be revealed, it is unlikely they will be told and opportunities to truly *be* with these athletes may be lost. A complete discussion on issues related to the sport psychologist's position within a team approach is well beyond the space that is available here. I suspect it will have to be considered and resolved by each practitioner on a case-by-case basis. Nevertheless, a collaborative relationship between the sports physician, coaches, trainers, physiotherapists, and sport psychologist will enhance the quality of care for the athlete. As Heil (1993) notes taking time to build rapport with the various individuals in the sports medicine team, therefore, will be time well spent.

Discoveries

I think Doug's final statement ("Yeah, try not to do it again!") summed up one of the most universal attitudes athletes had about being injured. However, other more subtle or unexpected themes also emerged. Injury poses a threat to athletes' self- and athletic-identities; that, together with the idiosyncratic characteristics of rehabilitation and return to sport, makes LTIR a complex process. As a result, researchers have increasingly called for

methodologies that are suited to capturing and helping us to understand these unpredictable and unforseen issues. Along these lines, researchers have suggested qualitative and repeated measures methodologies (Andersen, 1997; Brewer, 1994; Gould et al., 1997; Heil, 1993; Johnston, 1998; Macchi & Crossman, 1996; Sparkes, 1998 & 2002; Tracey, 2003; Quinn & Fallon, 1999). More specifically, Sparkes (2002) and Sparkes and Partington (2003) suggested narrative methodologies in sport psychology research will be particularly valuable in that they draw our attention to "personal and cultural realities which are constructed by story telling" (p. 293). For example, the participants reported being involved in this research was therapeutic. As much, or even more than any of the CBT based interventions (e.g., relaxation, imagery, and goal setting), I felt the participants valued having someone with whom they could share their experience.

As I listened to, read, and re-read the interview transcripts my mind kept returning to Lueptnitz's quote "talking helps because it leads to more talking" (p. 144). Throughout the writing of this dissertation, I repeatedly considered what this might mean in relation to the stories the athletes had told me and to what I was trying to present in each of the cases. I came to understand that the dynamic process of *more talking* helps because one's emotions and thoughts are put into words and then communicated to another. As this exchange continues, individuals begin to hear, understand, and even gain insight into what and how they are experiencing being injured. Along these lines, Crossly (2000) commented that narratives help us to learn about ourselves (both past and present) as well as help us to identify who and where we may be in the future. Although I feel the participant athletes in this project gained insight into themselves as athletes (in and out of the realm of sport), I do not believe anyone would choose to be injured, let alone seriously injured, as an opportunity to learn. As Lucy commented, "It just sucks…really sucks, I wouldn't wish this on my worst enemy!"

There was an additional and personal element related to the intervention (and therapeutic) aspect of the study. At times, I struggled to manage the dynamics of the relationships I had with the participants. I suspect that because I was also a therapist in training, I found the therapeutic element of the psychological interventions enticing. At times I felt that I was unwittingly seduced into a therapeutic mode of *being* with the participants. Fortunately, I regularly discussed my interactions with the participants with my supervisor. During these supervision sessions, we discovered and explored my *therapeutic seduction*. In bringing it out into the light I was then able to remind myself that the participants had agreed to be involved in psychoeducational and cognitive and behavioural interventions—not therapy. In recognising this, however, I also felt restricted in some of my interactions with the participants. For example, as Byron spoke of his disintegrating relationship and of his emotional fragility, I found it difficult not to engage with him therapeutically. Ultimately, Byron acknowledged the value in talking with someone. He also recognised that something was missing, a sort of therapeutic gulf. Recall his comment from our final interview:

> B: I couldn't have done that without that support there….Talking about it [the accident] at this level really I've found to be significant. I think that the most I achieved out of all of this is talking to someone about it, getting it off my shoulders…I think…I mean this is primarily this has been a study for you, so I didn't look upon it as your role to be having input as to um…treating my, my issues. [Mmm]….I couldn't be critical in terms of what you've missed….

Similar to my earlier comments about working alone (opposed to being a member of a rehabilitation team), by acknowledging the restrictions (from a therapeutic perspective) associated with doing research, I was learning and thinking about aspects of applied sport psychology. Andersen (1997) discussed the value of case studies in relation to presenting examples for professional practice and development. Specifically, he commented:

> With each new athlete, or coach, or team we serve, we learn something new about service delivery, the people we interact with, and often we learn

> something new about ourselves…This is the core of professional practice and is something that would be almost impossible to talk too much about. (p. 220)

As a neophyte sport psychologist, I learned about myself (my frailties, my biases, and even a few strengths) throughout the entire research process. While I will take these athletes' stories forward with me into applied psychology practice, I am now also better prepared to listen to and *be* with individuals as they come to explore and understand their concerns.

Strengths and Shortcomings

The long-term and repeated measures design of this study made it relatively unique among the athletic injury research. For over a decade, researchers have called for qualitative studies that engage injured athletes early in their rehabilitation and follow them until they return to sport. Though there have been a few qualitative studies to consider athletes undergoing long-term injury rehabilitation, most have either used retrospective interviews (e.g., Johnson, 1997; Udry and colleagues, 1997) or had a non-homogeneous sample (most often a wide variability in injury severity; e.g., Quinn & Fallon, 1999), or did not follow athletes to full recovery (e.g., Tracey, 2003). These and other studies have been valuable additions to enhancing our understanding of LTIR processes; but like all studies (this one included), the methodologies offer both strengths as well as short comings (cf. review of literature).

Although small sample sizes are frequently cited weakness of qualitative studies, they can also represent a strength. The narrow and detailed focus of this dissertation has yielded rich experiential data, which, when taken in context of the previous findings and models, has expanded our understanding of the LTIR processes. For example, unexpected findings such as the aforementioned relationship between relaxation, pain management, and enhanced affect and rehabilitation-efficacy are unlikely to emerge from other more explicit lines of inquiring.

The repeated measures design tracked the athletes' processes, issues, and experiences throughout the entire duration of long-term injury rehabilitation. Additionally, participants were able to discuss the things that were of immediate concern and reflect back (with each successive interview) over their experiences to date. This was a particularly unique aspect of this design. For example, athletes were able to augment their story by addressing issues that they had ignored or possibly avoided talking about in previous sessions. The repeated interviews also provided a sort of cross reference to the data. If an athlete retold part of a story and inconsistencies emerged, I was able to ask them to explain or elaborate further. Additionally, I suspected that stories that the participants frequently retold or augmented were stories of the most pertinent issues.

The integrated models of injury rehabilitation (Brewer et al., 2002; Wiese-Bjornstal et al., 1998) represent the dynamic and complex relationships among the various elements athletes come upon as they undergo rehabilitation. Although these models provide an excellent map of the territory of injury rehabilitation, the actual process of LTIR is considerably less tidy than portrayed by these models. When the findings from both qualitative and quantitative studies are oriented within these integrated models of athletic injury, our understanding of injury rehabilitation becomes increasingly clearer. Whereas longitudinal research such as that conducted by Quinn and Fallon (1999) offer insight into the global patterns (e.g., cubic or quadratic) of emotional responses to athletic injury, the longitudinal case studies presented in this dissertation offer a different perspective. Specifically, they reveal detailed and intimate insights into some of the specific issues that several athletes faced during LTIR. Due to the detailed nature of case studies, the stories presented here may be particularly good at depicting the messy territory of LTIR that is outlined in the comprehensive integrated models of injury rehabilitation.

Future Directions

Characteristically, research concerning aspects of LTIR is going to be protracted, potentially costly, and probably have relatively high rates of participant attrition. Nevertheless, I will make several suggestions for future qualitative LTIR research. Researchers seeking to map the territory of LTIR may wish to use a similar design but administer several psychometric tests (e.g., quality of life or subjective well-being tests), as well as other outcome measures (e.g., range of motion, strength, or rate of recovery) at the time of each interview. Combining these methodologies adds an additional layer of data, and will continue to enhance our understanding of long-term injury rehabilitation processes. Moreover, mixed methodology long-term injury research may assist in further detailing how affective responses sound in relation to athletes' physical progress throughout LTIR. Current research also suggests that social support often facilitates LTIR (Bianco, 2001; Bianco & Eklund, 2001; Ford & Gordon, 1993; Lilliston, 1985; Reese & Hardy, 2000 Smith, Smoll, & Ptacek, 1990; Udry, Gould, Bridges, & Tuffey, 1997). Therefore, researchers may also wish to expand the perspective of LTIR by interviewing other individuals who are involved, along side the athlete, such as family members, coaching or training staff, close friends or team-mates in efforts to better understand these support networks. Additionally, researchers may wish to include the examination of various intervention techniques such as motivational interviewing (Miller & Rollnick, 2002), brief solution-focused techniques (O'Connell, 1998), or narrative coaching (Drake, 2007). Finally, assigning athletes to particular psychological interventions (i.e., a more formal experimental design) throughout LTIR may help to identify which aspects of psychological interventions are most useful at particular times, or for particular aspects, of LTIR. For example, goal setting may be particularly beneficial as athletes near their return to sport phase of rehabilitation; alternatively, relaxation and imagery interventions may be

especially valuable in helping athletes manage pain, and fatigue associated with the acute phase of injury rehabilitation.

Finally, although it was not my intent in this dissertation to examine how one's worldview influences injury rehabilitation there may have been some implication of the influence of the athletes' world view implicit within the athletes' stories. Investigations into these aspects of injury experience and rehabilitation would be interesting but I feel they may require different research questions. Future research directions could, therefore, include questions such as: How does an athlete's worldview influence aspects of LTIR such as adherence, coping, et cetera?, What are the effects of various cultural effects (e.g., sport culture, club culture, societal pressures/expectations to play through pain, cultural perceptions of pain, etc.) on athletes LTIR experience?

Contributions of This Thesis

This study sought to highlight and describe, in detail, some of the experiences of three athletes undergoing long-term injury rehabilitation. Specifically coping with LTIR was depicted as a dynamic process. The case studies highlighted the participants' use of several coping strategies, which were sometimes used serially and other times, concurrently. The positive and negative influences of social support were also outlined, and the importance of perceived fit between the support desired and the perception of the support provided was shown to be a key factor. When participants felt support was incongruent to their needs, the support typically created distress. Although there are an increasing number of researchers reporting that the athletes' emotional response to injury is a highly variable process, the case studies here afforded the presentation of these emotional sequelae in detail. Finally, all the participants reported using, and finding value in, the psychological interventions offered. Again, the detailed case studies outlined a number of relationships among the various psychological interventions. In addition, the processes by

which these interventions effect change was also discussed and highlighted in the case studies.

The descriptive case examples this study continued to draw together, and describe, how the various elements in integrated models interact and manifest throughout LTIR. Although the narrow focus of this study (i.e., three seriously injured elite athletes) yielded detailed accounts of the idiosyncratic aspects of LTIR, these details were related to broader themes which were grounded in the general literature on athletic injury rehabilitation. In this way, the three case studies present details that are unique, but they also contain common aspects that are shared across each story. Accordingly, these narratives aim to draw our attention to the individual as well as the cultural aspects of LTIR.

It is hoped that readers become active participants in the generation of knowledge from these case examples. Although these case studies are examples of some of the things athletes experience during LTIR, they may also act as stimuli and elicit stories (similar and different) from the reader's own history. In combining these stories with our own, we each generate meaning and understanding of the processes that have been discussed in the case studies. Furthermore, by relating to these narratives the reader not only begins to understand the three athletes in this study, but they may also come to better understand something about other athletes (whom they know), and something about themselves (Crossley, 2000; Sparkes, 2002). Similarly, when athletes read these stories, for example, their understanding might be that they are not alone, that others also feel frustrated, anxious, scared, or confused; and that these emotions come and go throughout the entire LTIR process. Alternatively, when coaches, trainers, physiotherapists, and others in similar roles read these stories they may remember, or identify, athletes under their care who exhibit similar characteristics. They may then take a little more time to listen, ask for more information, or seek professional assistance.

Finally, I hope that this research will encourage others (researchers, athletes, and all the people who go through LTIR with the athletes) to keep talking and exploring the myriad of factors and experiences athletes live through as they recover from injuries of all degrees of severity. It is also hoped that the details contained in the case studies will be used by researchers to ask new questions and improve the specificity of applied approaches (e.g., psychological interventions) aimed at aiding athletes who are undergoing LTIR.

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APPENDIX A

Initial Plain language statement of project

The proposed project comprises a series of studies that extends research into the psychological responses of elite athletes who have sustained career-threatening injuries and who will undertake long term rehabilitation (at least 6 months). An initial investigation will examine the psychological components of the biopsychosocial model (Brewer, Andersen, & Van Raalte, 2002) and the Wiese-Bjornstal Smith, Shaffer, and Morrey (1998) model of injury rehabilitation. Both models examine components of psychological reaction to injury such as the occurrence of anger, depressed mood, anxiety, reduced self-esteem, and sense of loss. Much of the past injury research has focused on relatively short term rehabilitation programs. This preliminary study is an important first in understanding the athlete responses to long term athletic injury rehabilitation.

Study 2 will sample from the same population as Study 1 and will compare the effectiveness of two psychological interventions: autogenics (guided imagery/relaxation) and goal setting on facilitating recovery from career threatening injury with reference to a matched no-intervention control group. The interventions will begin as soon as possible after the injury/surgery and last for at least 6 months. Data will be gathered at an initial meeting between the researcher and the participant, and then every three months for up to one year.

Study 3 is a qualitative investigation to explore further the psychological responses of several athletes in long term rehabilitation. Athletes (4) who successfully rehabilitated and four athletes who did not successfully rehabilitate and approximately four individuals close to each of them (e.g., family, team mates, medical, and rehabilitation personal) will be interviewed.

The interviews will follow a similar outline to that of Gould, Udry, Bridges, and Beck (1997) and will provide rich and in-depth information covering areas such as the athletes' perceived quality of life, their reactions to being injured, coping strategies, and factors thought to facilitate or block recovery. Moreover, the interviews will provide a

forum for athletes and others involved in the rehabilitation process to discuss their experiences both positive and negative.

It is anticipated that individuals who participate in these studies will not experience any adverse effects. Nevertheless, potential risks may exist. They primarily relate to individuals becoming distressed when asked to comment on or recall their injury, the process of rehabilitation and their current injury status or when discussing their ability to return to sport. On rare occasions, individuals have reported becoming distressed during an autogenic session. Finally, during the interviews individuals may also be concerned that information that they disclose may be made available to others.

Safeguards have been taken to minimise these risks. All individuals will be read and sign an informed consent that outlines the risk of participation; that participation is voluntary and they are free to withdraw from the study at any time without explanation or penalty. It will also be explained to them that all personal information will be kept separate form their responses using a coding system and that all results will be reported as aggregate themes. All participants will be provided with the name and contact details of Dr. Harriet Speed in the event that they wish to discuss any aspect of their participation or issues raised during participation in the study. If at any time during a session (e.g. autogenics) participants become distressed the session will be stopped, no further data will be collected for these individuals and they will be debriefed. If at the end of the study participants wish to continue with a particular intervention, they will be provided with a referral for a local sport psychologist.

APPENDIX B

Revised Plain Language Statement

A majority of the past injury research has focused on relatively short term rehabilitation programs. That is rehabilitation lasting less than 2 months. The proposed project extends research into the psychological responses of elite athletes who have sustained career threatening injuries and who will undertake long term rehabilitation (at least 6 months). It is known that athletes who sustain injury often experience negative emotions such as anger, anxiety, depressed mood and that a negative psychological state can have a detrimental effect on injury rehabilitation and return to sport. It has also been found that athletes who experience more significant injuries tend to experience greater psychological distress. The results of studies on short term injury rehabilitation have indicated that as the injury heals, the athlete experiences less psychological distress. In addition, the results of several studies have suggested that psychological interventions facilitate more rapid healing and return to sport.

The results of one study that investigated the psychological consequence of long term injury rehabilitation suggested that athletes undergoing long term rehabilitation do experience emotional upheaval immediately following injury and that concurrent to physically healing, they experience less emotional distress. However, for many of these individuals, psychological distress reappeared approximately half way through their rehabilitation. These negative emotions may result in disrupted sleeping and eating patterns, disrupted social interactions, delayed healing and increased risk of re-injury and retirement. To date the current series of studies has been the first investigation into the value of psychological interventions on facilitating an athlete's psychological and physical recovery from serious injury requiring long-term rehabilitation.

The present investigation involves interviewing individual athletes throughout their injury rehabilitation. This investigation will provide a rich form of information relating to the overall rehabilitation experience of athletes recovering from career threatening injury that has required long-term rehabilitation. Participation in this investigation is not expected to pose any risk to participants. However, if you should experience any distress from participating in this research, you may contact Dr. Harriet Speed at (03) 9919 5412

I wish to invite you to participate in our investigation of the psychological wellbeing of injured athletes. Your participation will involve a series of interviews lasting approximately 90 minutes each. During the interviews you will be asked a number of questions about your injury, rehabilitation, how you feel, and what you considered to be beneficial or impeding to the rehabilitation process. In addition you are invited to work 1:1 with a sport psychologist on interventions that are designed to facilitate your physical and psychological return to sport. It is anticipated that these meetings will be, roughly, on a fortnightly basis. The information you provide will be invaluable in assisting us to develop future psychological interventions for athletes undergoing long-term rehabilitation.

Please note that participation is entirely voluntary and you are free to discontinue at any time, without the need for reason or explanation. Participation in this study will in no way be connected to your physical treatment. No information gained from the interview will enable you or your organisation to be identified to anyone other than the research team and data will only be reported as group information. Participants will be assigned a code which will be kept separately from the interview data. All of the codes and interview responses will be kept confidential and stored securely in the office of Associate Professor, Dr. Mark Andersen at Victoria University.

I thank you in advance for assisting us in our research. Should you have any concerns or queries about the research project, please do not hesitate to contact Dr Andersen at the address below. If at any stage you have concerns about the conduct the research project, please contact the University Human Research Ethics Committee, Victoria University, P.O. Box 14428 MCMC, Melbourne, 8001 (Ph 9688 4710).

Associate Professor, Dr. Mark Andersen
Principal Investigator
Victoria University
(03) 9919 5413

Trevor Hale, MSc.
Student Investigator

APPENDIX C

Consent Form for Consent Form for Subjects Involved in Research

INFORMATION TO PARTICIPANTS:

We would like to invite you to be a part of a study that explores the athlete's psychological and physical response to career threatening injury and long-term injury rehabilitation from the perspective of the athlete, coach, team mates, medical and support personal.

CERTIFICATION BY SUBJECT

I, _____
(Please print name)

certify that I am at least 18 years old and that I am voluntarily giving my consent to participate in the research titled: **Career-threatening Injury in Elite Athletes: Subsequent Psychological Wellbeing and Quality of Life** being conducted at Victoria University by Associate Professor, Dr. Mark Andersen and colleagues.

I certify that the objectives of the research, together with any risks to me associated with the procedures listed hereunder to be carried out in the research, have been fully explained to me by the researcher, Mr. Trevor Hale and that I freely consent to participation involving the use on me of these procedures.

In signing this form, I also consent to the release of medical information specifically pertaining to my current injury and injury rehabilitation (for example, type and severity of injury). This information may be gained by the researcher, from any of the allied health professionals (Doctors, physiotherapists, etc.) involved in my rehabilitation.

Procedures:

As a participant in this study you will be asked to engage in a series of one-on-one interviews with the researcher, Mr. Trevor Hale; each will take about ninety minutes to complete. In the interview, you will be asked questions relating to being injured and injury

rehabilitation. In addition you will have an opportunity to discuss key issues such as: perceived quality of life, reactions to being injured, coping strategies, and factors thought to facilitate/hinder recovery. Information that you provide will be treated as confidential and no identifying information about you or your organisation will be made available to anyone outside of the research team. In addition, you will be asked to engage in regular psychological intervention sessions throughout your injury rehabilitation. The schedule of these will be determined by yourself and Mr. Trevor Hale, but is anticipated to be not less then one a month and not more than 4 a month.

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this research at any time, without reason or explanation and that this withdrawal will not jeopardise me in any way. I also understand that I may, at any time, ask the researcher any questions I may have.

Signed: _____**Date:** _____

Witness: _____**Date:** _____
(Other than the researcher)

Any queries about your participation in this project may be directed to the research coordinator, Associate Professor, Dr. Mark Andersen, ph. 9919 5413. If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Human Research Ethics Committee, Victoria University of Technology, PO Box 14428 MC, Melbourne, 8001 (telephone no: 03-9688 4710).

APPENDIX D

Consent Form for Consent Form for Subjects Involved in Research: Parent/legal guardian consent form

INFORMATION TO PARTICIPANTS:

We would like to invite you to be a part of a study that explores the athlete's psychological and physical response to career threatening injury and long-term injury rehabilitation from the perspective of the athlete, coach, team mates, medical and support personal.

CERTIFICATION BY SUBJECT

I, _____ being the parent or
(Please print name)
legal guardian of _____ voluntarily give my consent for my child
(Please print name of participant)

to participate in the research titled: **Career-threatening Injury in Elite Athletes: Subsequent Psychological Wellbeing and Quality of Life** being conducted at Victoria University by Associate Professor, Dr. Mark Andersen and colleagues.

I certify that the objectives of the research, together with any risks to the participant associated with the procedures listed hereunder to be carried out in the research, have been fully explained to me by the researcher, Mr. Trevor Hale and that I freely consent to participation involving the use on the participant of these procedures.

In signing this form, I also consent to the release of medical information specifically pertaining to the participant's current injury and injury rehabilitation (for example, type and severity of injury). This information may be gained by the researcher, from any of the allied health professionals (Doctors, physiotherapists, etc.) involved in my rehabilitation.

Procedures:

As a participant in this study you will be asked to engage in a series of one-on-one interviews with the researcher Mr. Trevor Hale; each will take about ninety minutes to complete. In the interview, you will be asked questions relating to being injured and injury rehabilitation. In addition you will have an opportunity to discuss key issues such as: perceived quality of life, reactions to being injured, coping strategies, and factors thought to facilitate/hinder recovery. Information that you provide will be treated as confidential and no identifying information about you or your organisation will be made available to anyone outside of the research team. In addition you will be asked to engage in regular psychological intervention sessions throughout your injury rehabilitation. The schedule of these will be determined by yourself and Mr. Trevor Hale but is anticipated to be not less then one a month and not more than 4 a month.

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this research at any time, without reason or explanation and that this withdrawal will not jeopardise me in any way. I also understand that I may, at any time, ask the researcher any questions I may have.

Signed: _____ **Date:** _____
(Signature of legal guardian)

Witness: _____ **Date:** _____
(Other than the researcher)

Any queries about your participation in this project may be directed to the research coordinator, Associate Professor Dr Mark Andersen, ph. 9919 5413. If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Human Research Ethics Committee, Victoria University of Technology, PO Box 14428 MC, Melbourne, 8001 (telephone no: 03-9688 4710).