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IDENTITY ADAPTATION AND THE POTENTIAL FOR PSYCHOLOGICAL GROWTH FOLLOWING ADVERSITY FOR INJURED ATHLETES

Alanna M. Riordan
Wilfrid Laurier University, rior4460@mylaurier.ca

Jill Tracey
Wilfrid Laurier University

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by

Alanna Riordan

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Abstract

The study was undertaken to gain a deeper understanding of the transition process out of competitive athletics experienced by competitive athletes after a career-limiting injury by examining three research questions: 1) What is the identity adaptation process of injured athletes? 2) To what extent, if any, do injured athletes experience growth following adversity? 3) What, if any, psychological skills are used in the injury/career transition processes? Nine former elite athletes were recruited through key informant sampling. There were three males and six females, with a mean age of 24.6 years. All participants sustained, at minimum, a season-ending injury and no longer participate in high performance athletics. Participants completed a demographic questionnaire, the Athletic Identity Measurement Scale-Plus questionnaire (AIMS-Plus), the Post Traumatic Growth Inventory-42 survey (PTGI-42), and an adapted Change Event Inventory (CEI). Additionally, semi-structured interviews were conducted. Transcripts were analyzed using an Interpretative Phenomenological Analysis and themes and subthemes were identified. Analysis revealed the process of identity adaptation is influenced by pre-injury identity, autonomy of retirement decision, transition style, current employment and time since the injury. Access to psychological skills training and competence in psychological skill usage heavily influenced the application of psychological skills during the rehabilitation and transition process and the outcome of using these skills. No significant evidence of growth was found using the PTGI-42; however interview data revealed themes centred on experiencing new opportunities, the ability to transfer sport and psychological skills, changes in social supports/networks, a change in the role of sport, a realization of strength and a desire to assist others. Results indicate injured athletes are able to experience growth following adversity and speak to the dynamic process of

identity adaptation. Additionally, the data emphasized the requirement for actively participating in adaptation and in the growth process to increase the opportunities for a desirable outcome for injured athletes. Future studies regarding growth and further understanding the transition process are suggested.

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Chapter 1: Literature Review

This chapter examines the theoretical framework underpinning the question: "What is the potential for a positive transition post career-ending injuries in athletes in terms of identity, and the prospect of growth"? The first section of the review focuses on identity – the creation of a general identity and then, more specifically, an athletic identity. The discussion of identity formation examines the repercussions of injury on psychological and psychosocial wellbeing and how these may result in identity loss. Building upon this background of identity creation and loss, and the trauma associated with such loss, the concept of growth after adversity will be introduced, followed by theories of identity re-creation. Finally, existing research regarding positive transitions and psychological intervention(s) will be examined to uncover any general concepts of how these athletes transition.

Identity is a vital component in understanding individuals and their reaction to events. Identification is one of the most common themes that emerges in psychological discourse (Cramer, 2001) and refers to how an individual acts, the values which he/she possesses, and how his/her personal goals align with those of another individual (Cramer, 2001). Two major models of identity are currently prevalent. According to Erikson (1968), the development of individual identity is largely dependent upon positive and negative interactions with others at an early age. Others view identification as a mechanism of defense, suggesting that identity development enables individuals to reduce anxiety and protect self-esteem. If identification is a mechanism that might increase self-esteem, examining the shared anxieties of individuals experiencing similar life events allows the prediction of individual behaviours (Cramer, 2001).

1.1 Theories of Identity Development

Basic concepts of self have been elaborated over the years and researchers have explored several avenues by which individuals are able to create their own identities (i.e., leisure-related models, ecological models, symbolic interactions theories, conflict theories, social exchange and choice theories). In this section, Erikson's (1968) theory of psychosocial development, Marcia's (1966,1980) theory of identity development, the social identity theory (Tajfel & Turner, 1979) and the self-categorization theory (Turner & Brown, 1978) will be examined, in general and specifically in the context of sport. These theories were chosen as they are most relevant in the development/creation of an athletic identity and in turn the potential positive and negative consequences of having an athletic centred identity.

1.1.1 Psychosocial Theories of Identity Development

Erikson's theory of psychosocial development looks at the entirety of an individual's life and one's progression through all stages of development and aging and identifies a time in adolescence (termed the fidelity stage (Lavallee & Robinson, 2007)) that is most critical for identity formation. During this stage, adolescents question who they are and where they fit into the world/society. According to this theory, individuals given the opportunity to explore and experiment with different roles and views are able to create their own unique identities (Lavallee & Robinson, 2007). However, if adolescents are pressured or pushed by parents to conform to ideas and views set forth by the parents, identity confusion ensues (Lavallee & Robinson, 2007). The concept of psychosocial development can be used to explain the strength of the identity, the value placed on identity, and the autonomy of creating it. When the concept of psychosocial development is applied to athletes and their identity development, analysis of these three factors

affords a deeper understanding of how an athlete deals with the pressures of sport and reactions when faced with an injury.

Building upon Erikson's theory, Marcia (1966; 1980) depicted four stages of identity development or identity achievement states. It is only by passing through these four steps that an individual can attained a full psychosocial identity as defined by Erikson (a.c. in Cramer, 2001). Marcia defines these four identity phases or statuses as "diffusion", "foreclosure", "moratorium" and "achieved" (Cramer, 2001). In each of these four statuses, two distinct elements contribute to an adolescent's identity achievement: 1) a commitment to a set of values and goals (religious, occupational or political) or to interpersonal concerns (sexual identity, sex roles, and relationships), and 2) a conflict or crisis that is or has been experienced in the process of trying to create and solidify these goals and values (Cramer, 2001). During the moratorium and diffusion statuses, individuals may utilize two different types of identification, defense identification and parent identification. The type of identification strategy used and the extent to which it is used play an important role in a person's identity development (Cramer, 2001). For example, the use of defense mechanisms for identification would be associated with individuals who have an uncommitted identity status—a status usually found in the moratorium and diffusion phases when people are experiencing crisis. There is some evidence to suggest that the use of a defense mechanism is related to the gender of the individual (Cramer, 2001). Cramer (1991), for example, found that males were often characterized by externalizing defenses such as projections, while females tended to use more internalizing defenses, such as identification (Cramer, 2001). In addition to defensive strategies, this theory speaks to the changes that will occur when an athlete is injured. Although an athlete may have "achieved" an identity, with injury the individual's

values and goal commitment and interpersonal concerns are changing/changed and require rectification.

1.1.2 Interpersonal Theories of Identity Development

Expanding upon the concept of interpersonal concerns found in Erikson and Marcia's theories, the social identity theory proposes that an individual's identity and self-concept is derived from the individual's perceived membership in a social group (Hornsey, 2008). This theory, developed to describe social behaviours (Tajfel & Tuner, 1979), views all human interaction as falling along a spectrum, the polar ends of which are purely interpersonal interactions and purely intergroup interactions, both of which are believed to be extremely rare (Hornsey, 2008). A pure interpersonal interaction is one which involves individuals who have no awareness of social categories and are relating purely on their own individuality. Purely intergroup interactions occur when individuals rely and relate entirely on the characteristics of the group, becoming a group representative, and this representative function overpowers individual qualities and idiosyncrasies (Hornsey, 2008). When individual's own personal qualities and distinctions are prominent, similarities within their own group are enhanced as are difference between their own group and other groups. In Tajfel and Tuner's view, the level of self-concept an individual possesses also falls along a continuum. At one end of that spectrum is the interpersonal portion, where individuals' self-concepts encompass those things that define them as individuals, such as behaviours, attitudes, memories, and emotions. At the other end lies the intergroup portion, where individuals identify with the "social identity", and are defined based on the characteristics and image of said group (Hornsey, 2008). Examining athletes using the social identity theory lens can give an estimation of the impact an injury/withdrawal from sport will have on the indi-

vidual's identity, particularly if that individual's attitudes, memories, and social supports all lay within the team.

Like the social identity theory, the self-categorization theory looks at individual identity as well as social identity. The self-categorization theory, developed by Turner and colleague (1978), defines three levels of "self-categorization" and suggests that each of these contributes to the development of an individual's self-concept. These are "human identity" (one sees oneself as a human being), "social identity" (one sees oneself primarily as a member of one social group against other social groups) and "personal identity" (identity is based on comparisons of the self with others). Turner describes human identity as a "superordinate category" and personal identity as a "subordinate level", while viewing social identity as intermediate between the two (Hornsey, 2008). How the individual categorizes him/herself results from his/her accessibility to each particular level and how well the social categories are perceived to portray the reality of the social environment (Oakes, 1987; Oakes, Turner, & Haslam, 1991). One of the key components of the self-categorization theory is depersonalization of self-perception (Hornsey, 2008), the point in time where individuals begin to view themselves less as individuals and more as members of a group, and perceived homogeneity increases. An examination of how an individual forms a unique identity will influence not only how the individual participates in sport but also heavily influence the reaction to a career ending injury.

1.2 Athletic Identity

Based on the concepts of social identity theory and self-categorization theory, Brewer, Boin, and Petitpas (1993) proposed the concept of Athletic Identity (AI). AI is a result of an athlete's goals, values, roles; self-concept revolving around participation in sport (Brewer et al.,

1993). Three factors influence AI: social identity, exclusivity, and negative affectivity (Brewer et al., 1993; Burns, Jasinski, Dunn, & Fletcher, 2011). Social identity explains the degree to which individuals view themselves as being perceived as an athlete by others. Exclusivity refers to the extent that an individual identifies as an athlete rejecting other potential self-concepts. Negative affectivity is concerned with how much one worries about not fulfilling the athletic role in various ways, including poor performance (Brewer et al., 1993; Burns et al., 2011).

According to the expanding body of research in the field of AI, there are many benefits associated with possessing a strong AI (Horton & Mack, 2000; Werthner & Orlick, 1986). These include, but are not limited to, increased value on athletics, increased general athletic satisfaction, increased training adherence and, in some cases, increased performance (Brewer et al., 1993; Burns et al., 2011; Horton & Mack, 2000; Muscat, 2010; Werthner & Orlick, 1986). Depending on the strength of the three different factors of AI, other outcomes such as academic competence and social acceptance were apparent (Ryska, 2002).

While the positive consequences of a strong AI in other facets of life are well recognized, there is a considerable amount of research depicting the negative impact of having a strong AI. Researchers have shown individuals who have a strong AI have usually invested a substantial amount into their respective sport, physically, mentally, socially, and emotionally. As a result, they often have not explored other, non-sports related engagements – experiences which would allow them to be well-rounded and make life choices outside the sporting world (Anderson, 2009; Lavallee & Robinson, 2007; Marcia, 1980; Wylleman, De Knop, Menkehorst, Theeboom, & Annerel, 1993). This lack of non-sport focus poses a particular problem when individuals are required to retire from the sporting career, particularly when retirement results from a career-

ending injury. It has been shown that individuals with strong and exclusive AI have an increased difficulty transitioning from sport to other ventures and with life after sport (Anderson, 2009; Baillie & Danish, 1992; Brewer, 1993; Cecic Erpic, Wylleman, & Zupancic, 2004; Grove, Lavallee, & Gordon, 1997; Lally, 2007; Manuel et al., 2002; Miller & Kerr, 2002; Stambulova, Aftermann, Statler, & Côte, 2007; Webb, Nasco, Riley, & Headrick, 1998;). The time required to adjust to their "new identity" is increased and they are at increased risk of using inappropriate and ineffective coping strategies to deal with this identity change (IOC, 2012). These problems appear to stem from inhibited decision-making skills (Muscat, 2010; Pearson & Petitpas, 1990), inadequate or low coping resources (Muscat, 2010; Sinclair & Orlick, 1993) and the reality of having to make substantial emotional and social adjustments (Grove et al., 1997; Muscat, 2010). Many individuals with a strong, exclusive AI have not previously given substantial thought to a life without sport, and individuals who are forced into retirement have little time to tackle this concept (Kerr & Dacyshyn, 2000; Muscat, 2010).

1.3 Sports Injuries

Injuries are a common occurrence in sport and usually occur either as a result of a traumatic event or through overuse. In a survey published by Statistics Canada in 2011, sport and physical exercise was the most common activity to be participating in when serious injuries occur. An epidemiological study by Hootman, Dick, and Agel (2007) summarized injury surveillance data from the National Collegiate Athletic Association (NCAA) from the previous 16 years for 15 different sports included in the association. The occurrence of injuries during practices and game settings, the rate of injury dependent on the level of performance, the mechanism of injuries and the distribution of injuries by body part were analyzed. The total number of during

game injuries was significantly higher compared to during practice injuries and preseason practice injury rates were significantly higher than in-season and postseason. The researchers found that 50% of all the injuries were to the lower body, most commonly an ankle sprain (15%). Although there was no significant change in game or practice rates over the 16 years, concussions and anterior cruciate ligament injuries significantly increased (7.0% and 1.3% annually). Despite the prevalence of injury in sport, many athletes are able to return to peak performance even after sustaining a serious injury. In fact, because medical research and practice has advanced in the last 10 years, more injured athletes are likely to re-attain the level of physical health require to compete again than ever before. Physical health, however, is not the only factor contributing to the ability to return to sport. A longitudinal study of athletes with ACL reconstruction surgery (Langford, Webster, & Feller, 2009) found that, at 12 months, 49% of the participants had not returned to competitive sport despite having similar physical recovery to those who did return. This finding underlines both the complex psychological impact of injury and why further study into injury psychology must be conducted.

1.4 Models of Psychological Responses to Injury

As noted previously, neither the concept nor the occurrence of injuries is uncommon for athletes. Researchers have shown that there is an increase in injury occurrence in people with specific personality traits including high trait anxiety, high motivation, Type A behaviour/personality, possessing few coping skills, considerable life stress, low social support, and single-mindedness, all of which have also been linked to individuals with strong and exclusive AI (Gould, Prentice, Petlichkoff, & Tedeschi, 2000). The way in which an athlete perceives his/her injury is greatly impacted by both AI and how the individual's social influences, for example,

coaches, parents, and peers, view that injury (Gould et al., 2000). Even if an athlete believes an injury is serious, if a coach or parent minimizes it, the athlete will often follow suit (Gould et al., 2000).

Several models have been proposed to determine how an individual will appraise his/her injury since this perception will impact the individual's emotional and physical reaction to said injury. Many of these models are based on a stress processing or a grief processing framework (Wiese-Bjornstal, Smith, Shaffer, & Morrey, 1998). It has been proposed that athletes with a strong exclusive AI go through the Kubler-Ross (1969) stages of grief, much like an individual with a terminal illness, but there is little empirical evidence to support this theory (Gordon 1986; Pederson, 1986; Wiese-Bjornstal et al., 1998). Despite this lack of experimental evidence, many researchers have assumed these stages of grief in developing their own models. A typical cognitive appraisal model suggests that injury is gauged by an individual's personal characteristics in conjunction with the situational factors of the injury (Brewer, 1998; Walker, Thatcher, & Lavallee, 2007; Weise & Troxel, 1986). Thus, there will be an emotional response which will further dictate the individual's behavioural responses to the injury as well as the rehabilitation response (Walker et al., 2007).

The basic stress model considers the sport injury to be the stressor which then prompts the individual's cognitive appraisal, which in turn influences the individual's emotional responses, and subsequently dictates the behavioural response (Wiese-Bjornstal et al., 1998). This model varies from the typical cognitive appraisal model in postulating a more linear progression. Another linear model created to document and understand the injury process is the four phase "risks model" (Rose & Jevne, 1993; Wiese-Bjornstal et al., 1998). Phases include attaining the

injury, acknowledging the injury, dealing with the various impacts of the injury, and achieving physical and psychosocial outcomes. This model uses the idea of "learning the lessons" of an injury, an idea which was identified in the adaptation process by Gavin and Taylor (1992) and which illustrates the progressive, positive and negative incremental adjustments to sport injuries.

The most widely accepted and best developed model for an athlete's psychological responses to the injury/recovery process is the integrated model of psychological response to the sport injury and rehabilitation process (Anderson, White, & McKay, 2004; Brewer, 2001; Udry & Anderson, 2003; Walker et al., 2007). This model suggests that both pre and post-injury factors impact an individual's psychological response which consequentially will be dynamically modified over time to result in a specific physical and psychological recovery outcome (Andersen & Williams, 1988; Wiese-Bjornstal et al., 1998).

1.4.1 Psychological Impact of Injuries

The extent to which an individual's psychological factors impact recovery from injury is still not clear (Brewer, Linder, & Phelps, 1995; Cupal, 1998). As noted above, some researchers have suggested that individuals suffering from an athletic injury progress through a grief process that is similar to what has been seen in individuals suffering from serious illness, disability or loss. However, these studies have many limitations and often lack empirical rigor (Wiese-Bjornstal et al., 1998). Heil (1993) suggests that, although the process following injury is similar to a grief process in many cases, the severity and traumatic nature of the injury may play an integral role in the initiation, progress and duration of the grief-like process seen (Lavallee & Robinson, 2007). Others found that while a grief-like response occurred, there was minimal experimental evidence for the denial stage of that process and no empirical support for the bargaining

stage (Udry et al., 2003; Walker et al., 2007). It has been proposed that even if athletes do not deny the existence of an injury (as per the grief model), they are likely to try to make sense of it and determine its severity (Pearson & Jones, 1992; Udry, Gould, Bridges, & Beck, 1997; Walker et al., 2007) and, in doing so, may downplay or have difficulty recognizing the degree, nature or impact of the injury (Kortte & Wegener, 2004).

Only a few studies researching psychological interventions for injury prevention and rehabilitation (Kortte & Wegener, 2004) have been conducted but these studies indicate that approximately 10%-20% of injured athletes experience extreme psychologically distress in response to injury, even including severe clinical depression and suicidal tendencies (Brewer et al., 1994; Duda, Smart, & Tappe, 1989; Leddy, Lambert, & Ogles; 1994; Walker et al., 2007). Many of these studies are exclusively concerned with the short term psychological distress and emotional upheaval experienced in the quest to return these injured individuals to their previous elite levels of performance, rather than with the athletes' long term mental health (Danish, 1986; Feltz, 1986; Kleiber & Brock, 1992; Weiss & Troxel, 1986; Wiese & Weiss, 1987). When an injury occurs, there are four potential initial responses athletes might have. The athletes may ignore or deny the need for a change of behaviour, they may consult with influential individuals in their lives regarding the injury, they may address the injury immediately, or they may hold off on this initial assessment until they address the injury with qualified medical professionals (Samuel & Tenebaum, 2011).

The athlete's initial perception of the injury, in conjunction with the type and severity of the injury, may influence the athlete's emotional reaction(s) (Samuel & Tenebaum, 2011). From studies focused on career termination, it is apparent that the transition from sport can be ex-

tremely long and traumatic (Lavallee & Robinson, 2007; Taylor & Ogilvie, 2001). As noted above, the psychological, emotional, and mental impact of an injury can be quite significant. The extent of this impact can be seen, for example, in a study of severely injured college athletes that found a significant increase in the occurrence of depression, tension, and anger and decreased energy and determination in the injured athletics than in the general college population (Kleiber & Brock, 1992). While athletes with injuries do not go through a defined stage of denial, many athletes have difficulty recognizing/accepting the presence of an injury and/or difficulty in accurately assessing said injury (Kortte & Wegener, 2004) – something that may, in fact, be a protective psychological reaction (Kortte & Wegener, 2004). This impaired recognition/acceptance, however, may delay the receipt of services to assist in both physical and psychological rehabilitation (Kortte & Wegener, 2004). Post-injury and career termination research indicates that the former athletes had a significantly lower life satisfaction post-injury than others, an outcome attributed to the "bad endings" that occurred in the transition process, such as not completing goals associated with the individuals athletic careers (Kleiber & Brock,1992). This subsequent effect on well-being was found to last for years after injury (Kleiber & Brock,1992).

1.5. Implications of Injury and Identity Loss

As noted above, the risk of maladjustment post-injury and at career termination is significantly increased in individuals with a strong and exclusive AI (Brewer, 1993; Brewer, Cornelius, Stephan, & Van Raalte, 2010; Grove, Lavallee, & Gordon, 1997; Manuel et al., 2002; Webb et al., 1998). In addition to mental and psychological health problems (Ellis-Hill & Horn, 2000; Taylor-Carter & Cook, 1995), injuries may also have a substantial impact on maladaptive identity changes (Lavallee & Wylleman, 2000; Stambulova et al., 2007; Werthner & Orlick,

1986; Wylleman, Alfermann, & Lavallee, 2004). However, because much of this research is concentrated on a negative pathological view or does not specifically examine the effects of injuries that end an athlete's career, it is hard to assess the extent of identity change in the high performance athletes or to determine its exact nature (Muscat, 2010). The loss of an individual's identity can have a significant impact on subjective well-being (Diener & Fujta, 1994; Stephan, Bilard, Ninot, & Delegnieres, 2003), that is, how one perceives/evaluates oneself and one's life (Stephan et al., 2003). In today's society, there is generally a positive connotation associated with athletic ability, which would increase an individual's self-esteem and positively influence subjective well-being in high-performing individuals with an exclusive, strong AI (Lockhart, 2010). The problematic component associated with societal appreciation of athletic talent is that many athletes tend to commence and conclude their athletic careers at a fairly young age (Baillie, 1993; Blinde & Greendorfer, 1985). Typically, while athletes are in the middle to end of their athletic careers, their "non-athletic" cohort is creating different self-identities which include sustainable careers and significant relationships (McKnight et al., 2009). The fact that athletes and elite athletes in particular tend to forego this normal creation of alternate identities may increase negative feelings when AI is lost post-injury and/or during forced retirement (McKnight et al., 2009)

Some of the decrease of identity accompanying athletic career termination may be attributed to a notion that such "identity divestment" offers benefits to those attempting to maintain a positive self-concept and is, potentially, a partially successful form of self-protection (Brewer et al., 2010; Sedikides, 2007). Identity divestment allows individuals to minimize attachment to a given former domain of self-identification (like sport), a strategy which can decrease negative

feedback or outcomes from the individual's self-evaluation in said domain (Brewer et al., 2010; Major & Schmader, 1998). Lavallee et al. (1997) found that AI divestment was correlated with successful coping and success post-retirement (Brewer et al., 2010). Identity divestment also occurred in other situations, such as poor performance during a given season (Brewer et al., 1999), not making a team, not attaining a desired standing within the team (Grove et al., 2004), or creating an additional identity/career outside of sport (Shachar, Brewerm, Cornelius, & Petit-pas, 2004). For example, individuals who underwent ACL surgery decreased their AI over a two year period and most of that decrease occurred within 6-12 months of surgery (Brewer et al., 2010). The greatest identity divestment was seen in injured athletes who encountered slower re-covery progress than the norm (Brewer et al., 2010; Stephan & Brewer, 2007).

Unfortunately, there are two very different and contradictory paths that individuals use in order to determine/create their self-esteem (Hewitt, 1998). On the one hand, there is achieve-ment self-esteem in which self-esteem is created/fostered by an individual physically achieving something; on the other, self-acceptance self-esteem is given regardless of the individual's achievements or failures (Lockhart, 2010). In individuals who have built their self-esteem through self-acceptance, identity remains constant and intact, regardless of injury and the impact it has on their performance. They do not associate performance with their identity (or associate it to a lesser extent) and, therefore, can maintain perspective and deal with it more objectively (Lockhart, 2010). The view that each individual's intrinsic value is equal, allows these injured individuals to maintain their self-worth even if they are not performing (Lockhart, 2010). Al-though, to many, it seems logical to separate one's self-esteem from one's success, the aforemen-tioned societal importance placed on performance and athletic ability works against this. This

societal value is contradictory to the self-acceptance self-esteem's viewpoint and may be hard to resist, particularly for elite athletes. It has been seen that the individuals who rely on their performance identity for self-worth, as do individuals with a strong AI, have an increased chance of experiencing the negative psychological impacts associated with injuries or career termination (Muscat, 2010; Pearson & Petitpas, 1990).

As noted, the impact for individuals with a strong AI of losing their identity or having the basis or "center" of their identity compromised can be tremendously negative for both their psychological and emotional health. The transition to negative impacts and difficulties are exacerbated in cases where the event, which precipitated the life-alteration, was not within the athlete's control (Alfermann, 2000; Lavallee & Wylleman, 2000; Stambulova et al., 2009; Werthner & Orlick, 1986; Wylleman, Alfermann, & Lavallee, 2004). There are many studies regarding a loss of identity in chronically ill or injured individuals from other, non-athletic walks of life (Arroll & Howard, 2012) and commonalities between these ill/injured individuals and injured athletes can be found. Work from Charmaz' group with chronically ill or injured non-athletes, for example, found that many of the study participants had identity loss due to their inability to maintain and complete their previous roles. Identity loss resulted in social isolation, negative stigma, and personal shame (Arroll & Howard, 2012; Charmaz, 1983, 2000). Negative feelings and consequences are enhanced when the illness or injury is discredited (Arroll & Howard, 2012; Larun & Malterud, 2007). For athletes, some of this discrediting stems from the fact that many coaches and sporting systems created an environment, which normalized injuries and pain to attain an elite level goal (Muscat, 2010).

Although loss of identity is detrimental, it is not the only option available post-injury. Muscat (2010) identified four possible directions or styles of response for an athlete forced out of sport because of injury. The first identity style or response direction was coined "a more balanced identity"; athletes who adopted this style of response broadened their identity over different and multiple life domains. Those who adopted the second style, "lost identity", experienced the negative psychological and emotional factors mentioned previously and ended up dependent on support staff, without much autonomy or self-efficacy. Often, these individuals had not planned what they would do in their retirement. In the third style, "intensification", the injured athlete actually increased efforts to achieve sports-related goals because they felt threatened by the notion that these goals may no longer be attainable. Although these individuals still worked towards goals, these goals were unrealistic and they experienced lack of confidence, self-doubt post-injury, presumably because goals were not attained. The final identity style was termed "living for the sport identity", a response style in which the athletes, even in retirement, put very little effort into expanding their identities and their abilities. In general, individuals in this style were extremely passive during rehabilitation and did not take on additional activities or interventions to progress through rehabilitation and ameliorate their condition. They, like the loss of identity group, suffered from severe psychological and emotional health issues.

1.6 Concepts of Growth

A traumatic event can present the possibility of negative psychological outcomes as well as the potential for the medical condition of post-traumatic stress disorder/symptoms (PTSD/PTSS), which can share some of the symptoms mentioned above as well as a decrease in an individual's quality of life (Joseph, Murphy, & Regel, 2012; Morrill et al., 2008). However, an acute

traumatic or stressful event also presents the potential for a positive experience to ensue, an outcome known as "post-traumatic growth" (PTG) (Joseph et al., 2012) in which an increase in an individual's psychological well-being (PWB) (Joseph & Linley, 2008) occurs in the wake of a single traumatic event. A high level of PWB is characterized by high levels of autonomy, positive relationships, environmental mastery, a found purpose in life, and self-acceptance (Ryff, 1989; Ryff & Singer, 1996). Although the basis for experiencing post-traumatic growth is still being explored, there is an agreement across the literature of three basic concepts surrounding positive change (Burke & Sabiston, 2010; Joseph et al., 2012; Tedeschi & Calhoun, 1996, 2004; Tomich & Helgeson 2002; Wagner, Knaevelsrud, & Maercker, 2007). The first of these is the individual's relationships are enhanced, something which could be apparent in an increased sense of compassion or valuing relationships with friends or family. The second is the individual's self-perception changes: they may have a more significant sense of personal resiliency, a greater self-acceptance, an acceptance and understanding of their abilities, limitations and vulnerabilities, and increased wisdom and strength. Finally, the third emerging concept is a change in the individual's life philosophy. Many times, this change is verbalized or is apparent in a re-evaluation of the important things in the individual's life and or an increased appreciation of each day and each event in life (Joseph et al., 2012).

Unfortunately, some experiences of athletes are not as concise or well-defined as the events in which PTG research has focused. Often, athletes are not immediately affected by their injury; while there are acute injuries which immediately remove athletes from sport, this is not the norm. As a result, a new concept is emerging in the sport psychology literature, "growth following adversity" (GFA) which finds its roots in the ideas from PTG (Tamminen, Holt, & Neely,

2013; Wadey, Evans, Evans, & Mitchell, 2011). GFA adopts the definition of adversity from Wang and Gordon (1994) which refers to any stressors, whether physical or psychological, having the capacity to impair or interfere with an individual's normal function. For athletes, there are many stressors that relate to this definition of adversity and injury, especially when severe, will certainly impact normal functioning. Tamminen et al. (2013) found many growth aspects following events which introduced adversity including achieving a realization of strength, gaining perspective, gaining a desire to assist others, searching for and finding meaning, realizing the role of sport in their lives, changing social support and social network perceptions and, finally, engaging in the ongoing process of growth. These gains largely reflect the outcome measures of PTG but have the potential for flexibility. Psychological resiliency is another concept commonly found in discussions of adversity/trauma. Psychological resiliency refers to the ability of an individual to effectively adapt or cope with stress and adversity or "bounce back" from negative experiences (Tugade, Fredrickson, & Feldman Barrett, 2004). The difference between resiliency and growth is that an individual experiencing growth surpasses coping or "bouncing back", and reaches a new level of functioning/perspective.

1.6.1 Growth Rate Occurrence

As the concept of GFA is relatively new there are not, as yet, any statistics regarding its relative frequency. However, the more commonly studied post-traumatic growth is not a rare phenomenon. Statistics indicate that between 30-70% of cancer survivors attest to the experience of post-traumatic growth in some form, although specific personality factors (i.e., extroversion, emotional stability, a positive self-esteem, openness to new experiences, and access to or utilization of a variety of coping mechanism) seem to be more often associated with individu-

als who experience a greater PTG (Linley & Joseph, 2004). Studies also show that PTG is highly correlated to an individual's socio-economic status, gender, age and ethnicity (Helgeson, Reynolds, & Tomich, 2006; Morrill et al., 2008; Stanton, Bower, & Low, 2006) as well as to an individual's psychological well-being prior to the traumatic event (Helgeson, Reynolds, & Tomich, 2006; Morrill et al., 2008; Stanton et al., 2006). It has been suggested that the relationship between an individual's PTG and the post-traumatic stress associated with the traumatic event is curvilinear, suggesting that if there is little repercussion or impact from the trauma or if the stress associated with the event is low, there is a reduced PTG experience (Joseph et al., 2012). With a moderate stress effect, the individual remains able to cope and work through the event and its repercussions. This situation of measurable and significant but not debilitating impact seems to create an optimal situation for a PTG experience to occur (Joseph et al., 2012). When the event results in a high magnitude of stress, there is an increased chance of the individual experiencing post-traumatic stress disorder, a condition which will not allow the individual to properly cope and process the event and therefore impairs the opportunity for PTG (Joseph et al., 2012). In addition, research shows that implementing a cognitive behavioural therapy intervention significantly increases the probably of PTG (Calhoun & Tedeschi, 1998; Wagner et al., 2007). Although the PTG and GFA are not identical, it can be postulated that many of the contributing factors may be similar.

1.7 Identity Adaptation

1.7.1 Identity Transition Theories

Anderson (2009), conducted a literature review concerning an athlete's transition into voluntary retirement, and identifies various theories that may be used to describe a retired athlete

coping with the accompanying AI loss or creating a new identity post-retirement. While these theories were originally designed to explain aging and career retirement in the general population, they are able to explain the transition process in athletes as well. Furthermore, use of these same theories presents an opportunity to identify factors that may help positively transition athletes placed in a forced retirement setting. The first theory Anderson (2009) mentions is the activity theory which states that, as activities are lost or removed, new roles are created that will assist in maintaining the individual's self-concept and life satisfaction (Friedman & Havighurst, 1954; Havighurst & Albrecht, 1953). However, Anderson notes that even with the substitution of activities, retired athletes may not be able to replicate the environment and satisfaction that was associated with the participation in elite athletics. This inability may be linked to the concept of identity foreclosure (Marcia, 1966, 1980) as a strong and exclusive AI may preclude viewing or valuing other components of identities, an approach which may result in a negative reflection on and perception of the substituted activities.

Atchley's continuity theory (1997) uses the basic ideas of the activity theory to propose rather than to alter or replace activities only at retirement, a continuous evolution of activities occurs throughout one's lifespan. In addition, while substitution may not provide an identical experience and meaningful involvement, the retirement process is less traumatic if the individual is able to create a similar meaning through the substituted activities. The disengagement theory (Cumming & Henry, 1961) is used to explain some of the behaviours observed when people retire from the workforce. According to this theory, there is a mutual agreement between individuals and society that, as they age, they will withdraw from the previous paid societal engagements

and enjoy post-employment lives (i.e. the stages of psychosocial development). However in athletics, the withdrawal is not always mutually agreed upon (Anderson, 2009).

The exchange theory (Dowd, 1975; Homans, 1961), which focuses on the individual's continuation in society and on social involvement, also postulates that the individual can ease the transition process. If individuals are able to maintain value in their social networks, the process of withdrawing from athletic activity should be easier. Another theory examining the individual's social network is the social breakdown theory of Kuypers and Bergston (1973) which speaks to the need for an individual who is retiring to reconstruct socially in some fashion in order to minimize the negative effects of retirement. The social breakdown theory links negative effects to the role loss: a negative self-image and perceived social-image results from the breakdown of social frameworks and potential negative external labels. The final theory Anderson (2009) discusses is the social awareness theory which was used originally with individuals who had a terminal illness and speaks to individuals' awareness of their situation and its effect on the transition process. The social awareness theory specifies four types of awareness: closed, suspected, mutual and open (much like Marcia's diffusion, foreclosure, moratorium and achieved stages of identity development). In an athletic perspective, the closed level refers to situations where an individual is completely in the dark regarding retirement because he/she is not informed of it or because retirement is not allowed to be discussed. In the speculated level, on the other hand, athletes note changes in others' behaviours towards them and this observation may lead them to suspect retirement is approaching. The mutual awareness level implies that although the individual is accepting of the impending retirement, it is not discussed and the athlete

may have unexplained feelings of isolation. Finally, in situations of open awareness, the individual is fully aware of the upcoming retirement and is able to openly plan the transition process.

In addition to general theories of aging and retirement, published research on sport retirement attempted to use existing models of transition as a guide, even though none of the models developed to date completely describe the retirement process of elite athletes (Lavallee et al., 1997; Taylor & Ogilvie, 1994). In efforts to fill this gap, new models for retirement have been created that cover five domains: causal factors, developmental factors, coping resources, quality of adaptation, and treatment for negative reactions to retirement (Lavallee et al., 1997). While early sports injury research used Freudian approaches such as Kubler-Ross' stages of grief (Grzesiak & Hicok, 1994; Muscat, 2010) some more recent research is aimed at understanding what shapes an individual's perception of injury as it is likely that perception of the injury will change its impact on the athlete. Factors that could shape perception could include the individual's ability for meaning making (ability to reappraise the events in order to understand it and its repercussions) (Baumeister & Vohs, 2005). In addition, as noted above, the qualities of the individual's AI pre-injury will play a vital role in the perception and consequences of the event – the more an injury or event affects the AI, the more emotionally severe the response will be (Samuel & Tenebaum, 2011). This experience can be quantified by the Change-Event Inventory tool which looks at the at the individual's demographic information, the individual's experience of change-events, his/her perception of the specific change-event and his/her ability to make divisions and the resources for help available (Samuel & Tenenbaum, 2011).

1.8 Positive Transition

As the research regarding athletic injury rehabilitation moves towards the exploration of coping and adaptation as a transactional process requiring the interaction of external environment/factors and personal/internal factors, we are able to look at the potential for GFA and identity adaptation in new populations (Wegener & Shertzer, 2006). This perspective uses a holistic approach to injury rehabilitation and transition where transition is not seen as a singular event but a series of events (Wylleman et al., 2004). The process is facilitated by various elements, which may affect identity adaptation and GFA potential, one of which is the ease of the actual process. In assessing an individual's transition, Muscat (2010) considered the mental and emotional health of the individual, their assessment of the event/situation, their sense of purpose, both in vocational and non-vocational pursuits, and their understanding of their strengths and assets. A smooth transition following a traumatic event occurs with relative ease, while turbulent transitions occur when the individuals are emotionally unstable, lack personal purpose, have difficulty negotiating the physical environment, have limited awareness of their strengths/assets, or have a negative, subjective, personal initial assessment of the injury. A turbulent transition would be viewed as the mirror image of a GFA experience.

1.8.1 Identity Transition Styles

Muscat's (2010) four identity styles within the transition process (a more balanced identity, lost identity, intensification identity, and living for sport identity), while not mutually exclusive, were recognized as playing a considerable role in the amount of turbulence in the transition process. Individuals classified as having a balanced identity were able to succeed in other life domains and activities, broaden their identity outside of sport and find satisfaction in other

life domains during the rehabilitation process. These individuals were commonly able to transfer skills learned and used in sport into the new domains. As a result, many of them did not give up their AI completely when they became injured and remained connected with their history without being held back by it. Perhaps not coincidentally, those with balanced identity often had the opportunity for emotional closure by sharing the experience with another, having an announcement or recognition of retirement, and/or having meetings with a sports counselor regarding the retirement process.

A lost identity transition style is typified by individuals with a high and exclusive AI at the point of injury who have not planned for retirement and, therefore, experience overwhelming feelings of stress, confusion, and loss of self. Because they lacked control over the retirement decision, many lost identity individuals experienced a lack of autonomy and self-efficacy. In general, these individuals focused on extrinsically motivated sports goals and did not try to participate in or identify with non-sport related life domains post-retirement and thus had difficulty planning or executing an alternate career. This uni-dimensional tendency and lacking confidence in exploring new domains extended several years post injury/retirement.

Individuals' classified as an intensification style, were not able to accept and move past the injury in order to protect their identity. They remained focused on their sports-related goals and increased their efforts to attain their sports-related dreams and objectives. This drive to attain sport-specific goals and to please coaches resulted in the athlete's denial of the severity of the injuries, his/her own self-interest and awareness of his/herself as an individual. The self-doubt and lack of confidence phases associated with this style also hindered their abilities after the injury. Furthermore, these athletes in Muscat's (2010) study reported intermittent participa-

tion in sport until a complete disengagement, at which point the individual would also disconnect completely from teammates and coaches.

The final identity style, the living for sport identity, showed athletes who, even after retirement, did not move past sport but focused on careers in sport rather than expanding beyond. These individuals were found to be passive in the rehabilitation process, both physically and in using mental skills learned in sport. The high and exclusive AI associated with this style was suggested to result in athletes using and requiring sport to acquire recognition. Sport was all-consuming and, when elite athletic competition was removed, these individuals went through a grieving process which was paired with emotional and adjustment difficulties.

1.8.2 Variables Affecting Transition

A positive and complete transition, in the context of this thesis, is one in which an athlete is able to successfully overcome barriers related to the injury or transition-inducing event (Samuel & Tenenbaum, 2011). Park et al.'s (2012) systematic review of the literature found several, distinct variables that are associated with an athlete's career transition and its success or failure. These included the strength of AI, the retirement decision (voluntary or involuntary), the immediate and lasting injuries/health problems, the achievements in their sports career, the amount of additional career, education and personal development, the individual's perception of self and the perceived control over their lives, the relationships the athletes with their coach(es), the changes and balance of life, and the time that elapsed since retirement.

Research which focused primarily on individuals' AI and the retirement decision explored the state of mind of the individuals when faced with the transition process. Athletes with a strong AI had an increased chance of identity foreclosure, which was associated with a negative

transition process, and analysis of evidence from several studies demonstrated that the higher the athlete's AI at the time of retirement, the greater the loss of identity (Kerr & Dacyshyn, 2000; Lally, 2007) and the longer transition period (Grove et al., 1997; Warriner & Lavallee, 2008). However, if an athlete had a voluntary retirement, the quality of the transition process was increased. Conversely, those athletes who were forced into retirement experienced higher levels of negative emotions, feelings of isolation and betrayal, and a loss of identity (Blinde & Stratta, 1992; Butt & Molnar, 2009; Fortunato & Marchant, 1999; Lotysz & Short, 2004; Lynch, 2006; McKenna & Thomas, 2007; Zaichkowsky et al., 2000). Moreover, those with injuries or additional health issues had more difficulties in the retirement process (Gilmore, 2008; Kadlcik & Flemr, 2008; Muscat, 2010). While it appears that the transition process may be more debilitating for athletes with strong AI, further work is needed to understand the mental states of these individuals and how to facilitate the transition process.

In general, the transition process has been found to be improved for individuals who possessed sufficient life skills when considering career or personal development compared with those who did not. However, professional athletes going through transition experienced a delay because of the lack of life experiences in non-sports related domains compared to a non-professional (Kane, 1991; Muscat, 2010). Athletes who had succeeded in their sport were seen to have a more stable self-esteem, self-identity and global self-concept (all factors which assists in transition), while those who had not achieved their sport-related goal(s) had higher psychosocial difficulties, longer adjustment periods and negative perceptions of the transition process (Chow, 2001; Koukouris, 1994). Individuals whose sporting career negatively impacted their

educational progress and those who had achieved only low post-secondary education experienced greater vocational difficulty during transition (Marthinus, 2007; Stronach & Adair, 2010).

An individual's self-perception may cause an identity crisis during the transition because of the accompanying sense of loss of control over one's body (Sparkes, 1998) and may help to create turbulence in the transition process. When an individual was able to gain self-worth without sport performance, the quality of the individual's transition was improved (Missler, 1996; Newell, 2005). Research has also shown that individuals who have a stronger control of life or perceived autonomy had fewer negative emotions than those who felt less control (Kane, 1991; Kerr & Dacyshyn, 2000). Time post-injury/retirement is also significant in terms of stress: even three months post-retirement, athletes' self-perceived stress levels were significantly lower than those reported a week and a half after initial retirement (Wippert & Wippert, 2008), and, after a year, many athletes reported new roles and identities (Lally, 2007; Park et al., 2012). The relationships that retired athletes had and/or maintained with their coach was found to either positively or negatively affect the transition process. If an athlete had a negative relationship, more difficulty in the transition was reported (Chow, 2001; Kerr & Dacyshyn, 2000; Muscat, 2010). The final factor identified as affecting transition is the life changes post-retirement. Acceptance of a new, non-sports related lifestyle was found to be a significant transitional difficult for many athletes (Stephan et al., 2003) and may be linked to the anxiety connected to the adoption of new routines and the sense of being unsure of new lifestyles (Kerr & Dacyshyn, 2000; Schwenk, Gorenflo, Dopp, & Hipple, 2007).

Several other potential factors remain to be more fully explored. The data regarding the association of demographic differences with transitional difficulties are, to date, inconclusive

(Samuel & Tenenbaum, 2011). In addition, while Muscat touched upon the transition process for elite athletes, there is a gap in the research regarding the potential for GFA and how sports psychology can be used to initiate this process. By using Muscat's research as a spring board for additional research, some knowledge of how to increase the likelihood of GFA experiences and positive identity adaptations may well be gained.

1.9 Psychological Interventions Used with Injuries

In order to understand components of smooth transition, a review of past literature regarding injury rehabilitation that specifically looked at identity and emotional stability was conducted. A prevalent theme in this research was the concept of positive psychology in terms of rehabilitation psychology. Positive psychology seeks to understand the strengths of an individual and to assist him/her both physically and psychologically by promoting these strengths (Aspinwall & Staudinger, 2003; Keyes & Haidt, 2003; Seligman & Csikszentmihalyi, 2000). Within the realm of positive psychology falls rehabilitation psychology which, throughout the literature, focuses on four main components: somatopsychological relationships, a person-centered approach, a distinction of understanding between the individuals experiencing the rehabilitation (insiders) and those who are not (outsiders), and finally a recognition of the individual's current or potential assets and the fact that these assets are not diminished or eliminated because of injury or disability (Dembo, 1969, 1970; Dunn, 2000; Lewin, 1935; Shontz, 1982; Wright, 1991). The importance of this positive psychology is that it separates the injury from the whole of an individual's identity.

Historically, in sport injury research, there have been three separate components to investigate: the precursors of the injury, the consequences and effects of the injury, and the psycho-

logical factors needed for recovery (Heil, 1993). As mentioned previously, there has been substantial research on the impact of an injury and many findings of emotional distress and upheaval (Evans & Hardy, 2002; McDonald & Hardy, 1990; Vergeer, 2006) associate with an injury. Conversely, there is limited information concerning the athletes' processing of injury-relevant information as a component of their reaction to injury. Vergeer's (2006) case study of a severely injured rugby player, however, articulated some general areas in mental representation of an injury: awareness of the injury (how much the injury affected his life), mental imagery (either spontaneous replays of the injury inducing events, or intentionally visualization to work towards rehabilitation), and the individual's perception of the injury over time (the progress being made, and the opportunities for improvement). From this study comes another area of interest for many – the effects of healing imagery on the rehabilitation process – which looks at using injury-related images to either visualize the internal healing process (healing imagery (Levleva & Orlick, 1991; Sordoni, Hall, & Forwell, 2002)) or to visualize one's progression through the rehabilitation process (Green, 1992).

As psychology is moving towards potential benefits or positive outcomes from a stress-inducing event (Dunn & Dougherty, 2005), researchers are noting that there can be an increase in resilience, and growth post-trauma (Bonanno, 2004; King, Brown, & Smith, 2003; Tedeschi, Park, & Calhoun, 1998). This potential for a positive outcome that was never envisioned pre-injury, however, is largely ignored in both research and practice concerning elite athlete injury and rehabilitation. Indeed, one of the major limitations with current research regarding injuries and elite athletes is that the rehabilitation program and successful rehabilitation is often aimed at

a full recovery in which the athlete returns to their sport. This approach begs the question "what happens when the athlete is not able to return to sport or competition?"

A survey of the different interventions used in injury rehabilitation reveals that, commonly, the primary step in the process is determining the mental impact the injury and then teaching or improving coping strategies in order to minimize the negative impacts (Heil, 1993; Ross & Berger, 1996). Cupal (1998) conducted a literature review on past preventative and rehabilitative psychology interventions and found that recovery rates were positively correlated with goal setting, positive self-talk, and healing mental imagery. In a study regarding only knee and ankle injuries, researchers also found a correlation between decreased healing time and goal setting and healing mental imagery (Loundagin & Fisher, 1993). However, in 1995 Latuda and Richardson quantitatively assessed healing time and psychological skills in intercollegiate athletes and found that when the severity of the injury was held constant across all participants, correlation between healing time and psychological skills such as imagery/visualization, relaxation and goal-setting was statistically non-significant. None-the-less, the qualitative component of this study found that those athletes who rehabilitate successfully tended to naturally and without prompting use these psychological skills. Studies which focused on pain reduction and increased range of motion found imagery, relaxation, counseling and hypnosis played a role in reducing pain and inflammation in a severe strain injury (Nicol 1993). Sthalekar (1993) also found that hypnotic relaxation used in cases of partial paralysis resulted in decreased pain, increased range of motion and increased individual self-esteem. To date, there are very few studies regarding athletes and interventions to create effective transitions out of sport even though there is knowledge as to the impact injury and retirement on individuals (McKnight et al., 2009; Taylor &

Ogilvie, 1998). The fact that athletes who have high self-efficacy have been found to be more successful in the transition, however, may be attributed to their ability to transfer skills once used in elite sport to life outside of sport and affected by an individual's self-efficacy (Mayocchi & Hanrahan, 1997; McKnight et al., 2009).

For many athletes at a competitive level, psychological skills are used often to increase performance. These are commonly in the form of "mental toughness". Although the definition of mental toughness is still being debated, researchers agree that it involves multiple components (Gucciardi et al., 2008; Sheard, 2010). These components include: highly committed to athletics and their sport, competitive, self-motivated, able to cope effectively, able to remain concentrated and persist in high pressure situations and finally have high levels of self-belief even after set-backs (Crust & Clough, 2011). Researchers have linked a mentally tough athlete with higher levels of achievement in sport, more effective coping in different circumstances, and strong levels of self-belief even when faced with adversity (Crust & Clough, 2011). Some psychological skills used to build mental toughness and improve other forms of performance include: goal setting, visualization and imagery, positive self-talk, routines, and arousal control.

Although these skills are used during participation and occasionally during rehabilitation, there is a disconnect between using them in a sport oriented situation and in everyday life. For example, in 1992, Danish et al., identified six factors for effective skill transfer: understanding transferability of skills, seeing value in the skills, understanding context of skill transfers, understanding the psychological repercussions of injury (i.e., anxiety) and how to overcome these psychological factors, develop an identity outside of sport, and creating proper social supports. The information McKnight et al. (2009) collected from Danish et al. (1992) facilitated the creation of

a potential treatment plan for individuals transferring out of sport. The proposed steps in this plan (many of which are not independent of one another) are 1) engagement in counseling (creating a therapeutic relationship, and identifying core values and beliefs), 2) emotionality (exploring emotions associated with transition), 3) knowledge of transferable skills (using psycho-educational intervention to teach transferability), 4) awareness of transferable skill (identify and understand skills possessed and where they can be transferred to), 5) perceived competency (use of cognitive behaviour therapy to develop or improve thought process and values) 6) develop support network, and finally 7) evaluate success of transition. By progressing through these steps, it is hoped that individuals will understand the skills they possess, initiate a new way of thinking about recovery and potential, and eventually create new roles and values outside of the sporting environment.

1.10 Purpose

From the literature review, a large gap was identified with respect to athletes who are injured and not able to return to their previous level of competitiveness. Despite research investigating the benefits of psychological skill training and the use of these skills during the participation and rehabilitation process, there is a lack of research regarding the adaptation process these athletes experience and whether psychological skills can potentially help facilitate this process. In addition, the concept of GFA has been under-examined with regards to an injured athletic population as of yet. Therefore the purpose of the study was to gain a deeper understanding of the transition process in regards to exiting out of high performance athletics. Focus was placed on the understanding of identity and GFA, as well as the psychological skills which may facilitate identity adaptation and GFA.

Chapter 2: Methodology

2.1 Research Questions

In order to explore the transition process, psychological skills, identity adaptation, and growth following adversity, three fundamental questions were examined, as well as looking at some influencing variables in the transition process. The study was guided by the following research questions:

a. What is the identity adaptation process for injured athletes?

b. What, if any, psychological skills are used in the injury/career transition processes?

c. To what extent, if any, do injured athletes experience GFA?

2.2 Research Design

A qualitative approach was used with quantitative data being used for triangulation purposes. Qualitative data was collected via interview regarding the individuals' AI, the acquired injury's impact on the individual's career, the support they received, and experience of growth following injury. Identity adaptation, GFA, and psychological skills use data was collected via questionnaires. Descriptive statistics are used to assist in the understanding of the experiences of the individuals.

The qualitative methodology adopted an interpretive phenomenology approach (IPA) (Pringle, Drummond, McLafferty, & Hendry, 2011). IPA was used to look at the phenomenon of identity adaptation and GFA. The use of IPA has increased in popularity over the last 15 years in health counseling and psychology research (Pringle et al., 2011; Tamminen et al., 2012), with

researchers adopting a double hermeneutic process of interpretation (Smith & Osborn, 2003); using empathetic hermeneutics paired with questioning hermeneutics; hermeneutics being the interpreting of the data collected throughout the interviews. In the case of this particular study, the participants are attempting to make sense of their transition period, identity, and GFA, while the researcher is attempting to make sense of the participant doing so. IPA results have been said to be theoretically transferable and can have a direct influence and contribution to theories (Pringle et al., 2011).

2.3 Sampling Strategy

The study included nine individuals which is consistent with population sizes of IPA study sizes (Starks & Trinidad, 2007). In light of the specific nature and the relatively small population size associated with this study, key informant sampling was used to collect a pool of individuals. Additionally, some participants referred the researcher to other potential participants who were subsequently contacted and screened for inclusionary criteria. This sampling method resulted in a cross-sectional design where data was collected throughout the transition process and not solely retrospectively. Letters were also e-mailed to different organizations explaining the purpose of the research and including an attachment for potential participants (see Appendix A and B for letters to organizations and potential participants).

2.4 Participants

For the purpose of this study, the nine participants were former athletes in competitive sport who had experienced an injury or injuries which impacted their sporting career. This impact was defined as at minimum season ending and restricted the individual from participating in

sport at their previous level or completely removed them from competitive sport. Athletes were required to be injured for longer than three months in order for inclusion in the study group in order to minimize the possibility of adverse reactions to questioning. Researchers have identified that athletes who have retired have a significantly lower perceived stress levels after three months of being out of sport than immediately after injury (Wipper & Wippert, 2008). Furthermore, Lally (2007) found that new roles and identities after one year were appearing after career termination. Participants ranged from 22 to 30 years of age (M = 24.6 years) and consisted of six women and three men. The participants' injuries were predominately lower body (n = 8). Five participants had knee related injuries: three participants with ACL tears, one with a knee dislocation, and one with an undiagnosed chronic knee injury. One participant had bilateral, tibialis anterior compartment syndrome in both legs, another with a high ankle sprain and a severed thumb tendon. Two participants had back injuries, one undiagnosed and one slipped disk in the lower back. Finally one participant had a concussion and post-concussion syndrome.

2.5 Procedure

Participants were screened by completing the demographic questionnaire upon admission to study to ensure the various participation criteria was met (competition level, severity of injury, and time since injury). When criteria were met participants were sent and asked to complete a consent form, the Athletic Identity Measurement Scale Plus in a retrospective fashion, two sections of the Change Event Inventory and the Post Traumatic Growth Inventory-42. At the time the consent and questionnaires were retuned, the interview questions were then sent to the participant and a time for the interview scheduled. Once the interview was completed the interviews were transcribed verbatim and returned to the respective participant for a member check.

When the member checks were returned, analysis of the data was conducted and summarized. Data collection methods, member checks and analysis will be discussed further in the data collection, data analysis, and credibility sections below.

2.6 Data Collection Methods

2.6.1 Demographic Questionnaire

At the beginning of the data collection process, participants were asked to fill out a demographic questionnaire designed to obtain information regarding the study participant, their participation in sport, the type of injury sustained and how that injury occurred. This took approximately 5-10 minutes to complete (see Appendix D). This questionnaire also served as a means of screening for participant selection.

2.6.2 Athletic Identity Measurement Scale-Plus

Participants were asked to complete the Athletic Identity Measurement Scale-Plus (AIMS Plus) in a retrospective fashion. The (AIMS) Plus was chosen because it is widely reported to give a more complete description of AI. The original AIMS is a 10-item Likert-type scale and is a reliable measure of AI with an internal consistency between .86 and .93, and a test-retest reliability coefficients for internal consistency between .89 (Brewer et al., 1993; Murphy et al., 1996). AIMS Plus, created by Cieslak II (2004), combined the original AIMS with select questions from the Sport Identity Index (SII) (Curry & Weaner, 1987). The AIMS-Plus is composed of three sections. The first section consists of 22 items measuring five factors: social identity, exclusivity, self-identity, negative affectivity, and positive affectivity. The second section measures the importance of each factor of AI on a daily basis on a 0 – “no importance” to 100- “high

importance" scale (increments of 10; e.g. 0, 10, 20, 30, etc.). The final section compiles the basic demographic information of the participant. For the purpose of this study the third section of this scale was not used; instead a more in depth demographic questionnaire was administered. Retrospective AI measurement indicated the extent of AI at time of injury. This was also used to evaluate the change of identity away from the athletic role (see Appendix E).

2.6.3 Change Event Inventory

The Change Event Inventory (CEI), developed by Samuel and Tenenbaum (2011), is composed of four sections: a) demographic information, b) experience of change-events, c) perception of and reaction to a single change event, and d) decision making and availability of helping resources. This scale identifies 15 potential change events ranging from equipment changes to a severe injury and has the potential to allow for an "other type of event". It can be used to assess the participant's perception of the significance of the incident, the severity, the control they had over the incident, the emotional reaction experienced, the cognitive reaction and the coping associated with the event. The CEI was found to have a satisfactory Chronbach' alpha coefficient for internal consistency (alpha >0. 70) for all subscales assessed except for motivation at time of the event (alpha = 0.68). For the purpose of this study, only relevant sections of the assessment tool were used (i.e., perception and reaction to a single change event and decision making and availability of helping resources) in order to assess the specific injury/combination of injuries which significantly impacted the individual's career (see Appendix F). 'Section 1: A list of change-events' was not used as it refers to various change-events which could occur in addition to injuries. The information from this section is not needed for the purpose of this study.

2.6.4 Post Traumatic Growth Inventory

The Post Traumatic Inventory (PTGI) (Baker et al., 2008) was used to assess the development of PTG by looking at: change of self, change in relationships, and change in life philosophy (Garland, Carlson, Cook, Lansdell, & Speca, 2007). It is a 42 items item questionnaire, where the participant indicates the degree to which they experienced the change described by each item. These 42 items are paired in sets of 21 items (21 items from the original PTGI and 21 negatively worded items to assess post traumatic deprecation (PTD) (Baker et al., 2008). The degree is noted on a scale from 0 ("I did not experience this change as a result of my crisis") to 5 ("I experienced this change to a very great degree as a result of my crisis") (see appendix G). This scale has a Cronbach's alpha of 0.96 which indicates a high internal consistency. Although this study is looking at GFA there is not a measurement tool which is able to assess this as of yet. The PTGI-42 allowed the researcher to look at some factors that have potentially been affected in the participants' life as a result of the injury and compare these results to the qualitative data collected.

2.6.5 Semi Structured Interview

It has been suggested that the most effective way of data collection for an IPA analysis is through semi structured interviews (Starks & Trinidad, 2007). Interviews facilitating rapport increase the flexibility of information coverage and will produce novel and rich data. During the interviews, questions were asked to gain information about the physical, social, and psychological impact the injury had on the individuals' lives. Questioning also addressed what psychological skills were used/being used in the transition process and the impact these skills appeared to have on the individual's potential for identity adaption and GFA. These semi-structured inter-

view questions adapted throughout the interview process in order to facilitate understanding of the questions. This adaptation was especially apparent for the question regarding GFA. After the first interview, the question was modified from "there is this concept of GFA which happens in some people after a traumatic event or stressors which alter peoples normal functioning. This phenomenon is said to be present when people even in the face of adversity have a positive change in their life following. Given this definition would you say you experienced a positive change? Could you explain/expand on it?" to "when people experience an adverse experience, such as an injury or transitioning out of sport, they can possibly have a positive change in their life following. On the other hand, some have strong negative changes following the adverse experience while others remain fairly consistent or neutral. How would you describe your experience?" This change was made in attempt to minimize the researcher leading the response while still trying to understand the participants' experiences (see Appendix H for interview guide). These interviews were audio recorded for accuracy of data collection and varied in length depending upon the participant. The principles of Neuro-Linguistics programing (NLP) meta-model were used to probe and further clarify individual's responses in order to facilitate the interpretation of the data. This model has been found to be a useful tool in qualitative analysis (Knight, 2011). NLP identifies 13 language patterns which are then divided in three broad categories: deletion, distortion, and generalization (O'Connor, 2001). When these patterns are observed in conversations/interviews various probes may be used to clarify specific situations and experiences while maintaining and potentially increasing rapport with the individual. Although NLP Meta-Model has not been used during sport psychology as of yet it lays a foundation for interview procedures (see Appendix H for examples).

2.7 Data Analysis

The data verified from the member checks was analyzed following IPA which sets forth procedures to collect and organize information in order to analyze trends, in a fashion to increase the credibility, dependability, and confirmability of the study. This process can vary between researchers to facilitate individual styles and procedures.

IPA analysis generally has six steps: 1) reading and re-reading, 2) initial noting, 3 & 4) developing emerging themes and searching for connections, 5) move to next case, and 6) look for patterns across cases (Smith et al., 2009). During this study the analysis consisted of 1) reading and rereading cases, 2) adding field notes to margins of transcripts, 2) initial noting, 3) identifying trends within document 4) identify initial trends, 5) move to next case, 6) compare trends and themes across cases, 7) establish themes across all cases. Once themes were identified cases were read and re-read to determine support of themes and subthemes.

IPA differs from other forms of phenomenological analysis with regards to the interpretation of the data by the researcher. During this study interpretation was done at two key points: 1) when reading the transcripts interpreting and trying to understand the essence of the dialogue for theme creation, and 2) during the discussion section where the results were further interpreted and then compared to the quantitative data collection methods.

2.8 Credibility/Trustworthiness

2.8.1 Triangulation

In order to increase the quality and trustworthiness of the data three methods of triangulation were utilized: investigator triangulation, data triangulation, and theory triangulation (Patton,

2002). Multiple researchers individually analyzed the transcripts in the directed fashion to determine various themes as a method of researcher triangulation. Once this was completed the themes were compared for similarities and differences. When differences were found, the researchers re-examined the data and discuss until a consensus was reached. The second form of triangulation used was data triangulation. The quantitative component, the AIMS-Plus, CEI, and PTGI was used to check and support the results from the qualitative interviews. Finally results were compared to theories surrounding growth and identity change. The use of triangulation enhances the trustworthiness of the findings, which in turn has the potential to increase credibility, transferability and dependability.

2.8.2 Field notes

Field notes were completed during and after each of the interviews in order to acknowledge potential bias that was present and as a form of bracketing opinions (Krefting, 1991). By completing field notes during and post interview process, new probing questions emerged and could be asked without interrupting the flow of conversation. Additionally, these notes were used elaborate and reflect on the participants' responses and body language throughout in-person and Skype interviews. They were later added directly to transcripts to acknowledge biases, non-verbal communication, and interviewer's thoughts while analyzing.

2.8.3 Member Checks

Member checks were used to establish additional credibility (Krefting, 1991). The transcribed interviews were sent to the participants to review and clarify anything which they felt may or may not have been representative of what they experienced. This facilitated collabora-

tion between the researchers and participants to ensure the accuracy. Individuals' were asked to return the accepted transcripts within two weeks. Two participants sent back member checks back with clarifications on dates and names of events. The remainder of participants identified no need for clarification or did not respond (see Appendix I for member check letter).

2.8.4 Bracketing

Patton (2002) states that using bracketing in qualitative research decreases research bias and increases rigor. This process includes writing down areas of conflict or points which may indicate a lack of neutrality on the researcher's behalf. This is common practice in phenomenological studies where the researchers acknowledge and set aside assumptions that they have as well as previous knowledge of the topic (Gearing, 2004; Sokolowski, 2000; van Manen, 1990). This bracketing assisted the researcher to put aside preconceived ideas of what the participants experienced based on the personal history. For example the researcher's history as an elite level sailor, her injury and the outcome of the injury was bracketed prior to the creation of interview questions and reviewed before, during and after the data analysis in an attempt to minimize personal experience influencing or biasing the methodology, or analysis of the data. An additional portion of this bracketing will be mentioned later in the potential limitations of this study.

Chapter 3: Results

Nine men and women who had sustained an injury which they feel significantly impacted their career each returned four questionnaires and completed a semi-structured interview. Background information, qualitative themes emerging from IPA analysis of the interview transcriptions, and descriptive statistics from the AIMS-Plus, the adapted CEI, and the PTGI-42 will be presented in this section.

3.1 Background Information for Participants

All participants recruited were between the age of 22 and 30 years old (M=24.5). There were six women and three men participating. Lower body injuries were present in eight of the nine participants; the most common injury reported was one involving a knee (dislocations and ACL tears). One participant suffered from multiple concussions. Four participants competed at a collegiate level, three at a National/International level, one at a Junior A/AAA level and one competed both at a collegiate and national level. See Table 1 for more details.

Participant	Age	Gender	Sport	Level of Competition	Injury	Time since injury	Previous injuries	Active in Sport
P1	23	F	Team	Collegiate	Knee Dislocation	37 - 48 Months	4	N
P2	27	F	Individual	International	Compartment syndrome in tibialis anterior (bilateral)	49 + Months	2	N
P3	20	F	Individual	Collegiate / National	Unknown chronic knee injury	25 - 36 Months	2	Y/N
P4	23	F	Individual/ Team	National	ACL Tear	49 + Months	1	Y
P5	28	M	Team	National/ International	Slipped disc lower back	25 - 36 Months	3	N
P6	24	M	Team	Junior A/ AAA	High ankle sprain & severed thumb tendon	49 + Months	4	Y
P7	24	F	Team	Collegiate	2 Torn ACL	25 - 36 Months	3	Y
P8	22	F	Team	Collegiate	Low back injury & torn ACL	13 - 24 Months	2	-
P9	30	M	Team	Collegiate	Concussion & Ankle sprains (ongoing)	49 + Months	3	N

Table 1: Demographic information

3.2 Introduction to Themes

Three themes identified *apriori* (a. identity, b. psychological skills, c. growth following adversity) were directly targeted through the semi-structured interviews. These themes were chosen based on previous literature and gaps in this literature. A funnelling technique was used to first obtain more general views and then extract more specific views. Within each *apriori* theme, subthemes emerged from the data. These subthemes related to a) how the identity changed, b) the use of psychological skills and the outcome of this use, and c) the physical and psychological growth or change as a result of the injury. IPA requires the researcher to interpret data to gain understanding and capture the essence of the participants' experiences. Subthemes

emerged from the researcher reading and rereading transcripts and interpreting what the participants had said. Quotes which embodied the theme were then chosen to tell the story. Visual representation of themes and subthemes can be found in Appendix J.

3.3 Identity

The theme of identity was targeted within the questions asked throughout the interview. The individuals' identities tended to change over time and be affected by different factors. Each reported a "process" from the initial identity to where they are now. This concept of "process" became apparent when reading not only within each case but also across all cases. The subthemes which emerged from the data include 1) the participant's pre-injury identity, 2) the identity transition (influenced by the styles and the forced or freely chosen decision style), and 3) the current identity. Questions such as "How would you describe your identity during your sporting career before the injury?" and "What were things you valued most/ held the most importance to you?" were asked to determine how the participants identified pre-injury. They were also asked "Have you experienced any changes in your sense of "who you are" throughout this transition process?" to understand how they currently identify.

3.3.1 Pre-Injury Identity

All participants identified strongly as an athlete pre-injury. The terminology used regarding their identity as an athlete was either direct, through the use of the word 'athlete', as evident in the response of participant P3. She stated "100% as an athlete. [I] didn't know anything else. Honestly didn't have a social life when I, I was… an athlete. [T]hen when I went to university, I was a varsity athlete." Additionally, participants used sports-related terminology illustrated by

P6's statement "oh I was an athlete [no hesitation]. I was a jock", or sports specific identity (i.e., "I'm a soccer player"). However, four of the participants indicated that at the peak of their sport participation, there were other aspects such as school, family which also played into their identity at the time. Although sport is pivotal in the latter participants' identity, they had a more balanced identity. This concept is illustrated through the following excerpt:

> I was a [pause] I say I was a pretty driven, [pause] young adult, uh, in pursuit of athletic goals but with long term objectives in mind. That's where I would put it. I was definitely an athlete but I was also very focused in school and I knew what I wanted to achieve there as well. (P2)

These additional identification factors tended to be mentioned after the initial athletic identity. In their examination of the different aspects of athletic identity during the interview, some participant disclosed that certain aspects of AI were extremely important to them prior to injury. Theses aspects were then categorized by the researcher into one of the five factors affecting athletic identity, as per the AIMS-Plus. In terms of social identity, four participants noted that being part of a community or being seen as an athlete was important to them or that they perceived others to view them as being an athlete. P1 mentions the self being linked to being an athlete but also linked to being part of the athletic community. She said:

> … so before the injury, well [athletics is] a huge sense of self and I guess point of pride, you know that's, when you are doing something that constantly, it just becomes who you are and you become part of a community. The athletic community at the university, especially when it's a small university, gives you a greater sense of self. (P1)

Six participants mentioned exclusivity with regards to their athletic identity, although four of the six identified themselves as non-exclusive. Only one participant directly stated that her performance in sport dictated her affect/mood. She stated "how I felt about myself [laughing], how I happy I was and stuff depended on how my practices were going." Additionally, from their responses, it seemed to the researcher that all participants who indicated playing through "minor" injuries thought that playing injured was expected of them because it was part of being an athlete they were athletes.

3.3.2 Identity Transitions

All participants currently do not hold the same athletic identity as they did pre-injury. For all participants, identity adaptation was experienced and seemed to be affected by a number of factors including when the participant made the decision to transition out of elite sport and the amount of autonomy in the decision process was observed to affect the transition process. Additionally, throughout the transition process, participants were found to move through and experience certain identity styles (Muscat, 2010). Finally, the participants' current identity was examined and the factors associated with that identity. These will be discussed below.

3.3.2.1 Autonomy of Transition Decision

The concept of identity transition decision making arose as a theme in the analysis of data concerning when the participants would initiate the transition process. There were three time periods which were observed. Three participants initiated the identity transition period before retirement from elite sport and the occurrence of their "career ending" injury. These participants began to diversify their identity and work towards non-sports related goals prior to exiting competitive sport. For example,

> I think because I was at that level from like the age of 14, till, for like 6 years basically that by the end I had kinda filled in, especially with the injuries. I had started to fill in already so it was almost like I started transitioning before I was transitioning. ... Like cause you are injured and I wasn't playing for basically 2 years, playing only a handful [of games] I had the time to uh, go to school full time and see what it was like, so I almost got to get my feet wet before I jumped in. (P6)

For another participant it was the possibility of not being able to return to elite sport competition that initiated the transition process. P2 began her transition process at the time of the injury, stating:

> Well, I knew when I found out I needed surgery that's pretty much when I was like, am I going, I'm not going to recover before the end of the season. I had taken a year off of school pursue [sport] you know on a full time basis and I was making the decision you know do I want to postpone my education for something that might not be a sure thing? [Y]ou know what if it starts hurting again? [W]hat if I never fully recover? Why don't I just start moving on with my life and getting an education. So that, that's the thought process that I went through.

Some participants, however, did not start the identity transition process until months, or years post-injury when they could no longer compete at the previous level. This was extremely apparent in P7's statement during her description of when she realized that the injury was going to prevent her from returning to her pre-injury competition level.

> Well I tried to play on it torn. So, [laughs] so it was a little bit of an ultimatum type thing… I had a decision to make. Knowing that if I played on it torn, I'd probably hurt it

> more. But by the other side of the token, if I didn't play on it, I might never get to play again. So when I was at [university] making the decision should I play on this or should I go get surgery, it was kinda with that expectation that "ok if I get surgery I might never play. So I may as well just screw it up more while I know that I'm not going to uh tear my ACL again currently because it is already gone".

Participants whose transitions process started months or years post-injury were perceived to be either in denial regarding the severity of their injury or attempting to maximize their efforts to attain their sport specific goals. As expected from the dynamic nature of identity transitions, for two of the participants in this study, the transition process is still in its beginning stages even though these participants' injuries have been present for at least two years. P3, despite having been injured for 2.5 years, has only recently realized that she needed to transition.

> … honestly it was like probably in the last like few weeks that I have come to terms that I'm not going be an athlete anymore and [pause] I think it was [pause] seeing kind of like the people, the younger people progress, more than what I am… Kinda just like realizing how out of the game I am compared to other people and still like when I go for runs I can still feel the injury so that I know that I know that I can't go back to training and [pause] yeah I'm just coming to terms with that [laughing] I am not going to be an athlete.

3.3.2.2 Transition styles

When comparing the responses reported in this study to Muscat's (2010) categories of identity transitions it was found that, throughout the transition process, many of the participants were considered to adopt various styles of identity. As of now, seven participants can be classified under the "more balanced" identity category. This indicates that they are able to succeed in

other life domains outside of sport and can find satisfaction in these other domains. Two participants stated having now found a new identity that has diversified their sense of self but they have experienced this change in very different ways.

> I guess for me, when I realized I probably couldn't compete at that level anymore, I was able to make a pretty smooth transition over to coaching, and that sort of helped me along the way because I didn't have that drop off. That feeling that I wasn't good enough for my sport anymore. I just found a different niche in my sport. (P5)

> I think that the most important part of my life is my faith and who I am in my relationship with God. And so I think that, then there is other things like having more, having relationships are more important to me, and like spending time, like taking your time to listen to other people and like spend that time with other people. And then also just, just enjoying the rest of the things that I can do. (P8)

Despite evidence of identity transitions, only four of the participants in this study currently have a full-time career outside of the sporting community. Three of these "more balanced identities" may also currently fall into the "living for sport" identification style as they have full-time careers still within the sporting community that do not expand beyond that; indeed, they are full-time coaches in their respective sports. Two participants fall under the "lost" identification style of identity transition as they, when asked, expressed a sense of confusion and a loss of self as shown by the following excerpts.

> What a question [laughing] I definitely would not put myself in the same athletic, like I'm not even in the same, league anymore. Now I am more like, I'm career oriented now and I have a desk job. It's polar opposite. I didn't even stay, like I mean my degree was

> in Kinesiology, so I was there for competition and for academics and now I am in [another field]. And just it's, it's just a complete 180. (P1)

> That's the million dollar question. [laughing] I was actually talking to my mum the other day and I was like "I don't know how to [identify] myself as not an athlete and I guess I [sigh], I guess I see myself as like a [pause] I don't know. Like right now I see myself as… I identify myself as a traveller, because that is all I have been doing but I mean [pause] I think as soon as I am back in [city] I will be totally lost. With that whole concept I, I still think of myself as athletic but I'm not an athlete so I don't, uhhhg I don't know. (P3)

Many participants indicated throughout the interview that they may have moved through various identity transitioning styles. For example, five participants actually focused more on sports-related goals and may have even denied the severity of the injury in order to obtain these goals, at least initially. Many played through injuries or returned to sport before rehabilitation was complete in order to achieve sports-related goals. P5 competed with his injury for two years before letting go of his sport-related goals.

> We pushed through all the way until 2012 but it was, I think that was probably 4 years after the initial injury we pushed through... And so even in the last major competition we had which was the world championships and the last chance to qualify for the Games, you know even going into that you know we sort of realized that we were always going to be - well I was always going to be held back from it and it was never really going to be good enough to try and compete at that level. (P5)

The characteristics evidenced in these responses would merit classification as an "intensification" of AI style of transition. Additionally, many participants related experiencing a period of uncertainty, stress and confusion when forced into retirement, which they indicated they coped with by changing their focus and setting new non-sports-related goals.

3.3.3 Current Identity

As mentioned previously, no study participant still holds their athletic identity experienced pre-injury. From the data, two factors were found to play into the development of this "new identity" and the completeness of this identity change: 1) the time since injury and 2) current employment.

3.3.3.1 Time Since Injury

Almost all participants mentioned a period of time post-injury where they felt anger, frustration and a sense of being lost. When asked how she came to terms, or overcame this period of anger and frustration P6, who had her second ACL tear in 2012, stated "Uhm, [pause] time really. [laughing]". This concept of time also was brought up by P9, "I, just time. My brain … healed a little bit, time and the realization that you can choose how you want to live it more or less. Yeah, just time." Those who were injured for over three years (n = 7) were better able to currently identify out of sport.

3.3.3.2 Current Employment

Many participants now currently identify with their current employment or student status. One participant was not able to verbalize how they currently identify while another identifies as a "traveller" because that is what she is currently doing. Some of those who now currently iden-

tify with their career or education path still identify themselves as being products of a sports environment. P2 stated "I will always identify myself as someone who came through high performance athletics and I still apply everything that I learned to the way that I conduct my life now." Similarly P6 said: "I look at myself as a regular person, who did that stuff… in the past". Their identities still focus around what takes up most of their day. P7 demonstrates this through her statement:

> I would probably say [team sport] coach. Like before I would still say, "I was a [team sport] player," I was still a friend, I was still a daughter… and I'm still those things but, the one thing that I do every single day and I used to do every single day is coach. And be surrounded by the game.

The dialogue surrounding current identity and employment status seems to show that the participants desire to adapt and be able have something with which they can identify. Some acknowledge their participation in sport in their current identity and recognize the impact it has on how they conduct themselves in the current day.

3.4 Psychological Skills

Psychological skills was also an *apriori* theme targeted through the questions in the interview. Participants were asked if they used any psychological skills during the rehabilitation and/or transition process. Four subthemes emerged: 1) access to psychological skills training, 2) outcome of the skills used, 3) identification of actual skills used, and 4) advice on the use of such skills for future injured athletes. The results in these subthemes were influenced by various factors, which will be discussed in greater detail below.

3.4.1 Psychological Skills Training

Data analysis allowed the divisions of participants into two main categories, those who had access and training in psychological skills (PS) during their time as an elite athlete (n = 6), and those who did not (n = 3). The researcher was able to probe and interpret responses to establish whether participants used or did not use psychological skills in their rehabilitation/transition process. Three participants did not have access to sport psychology for athletic performance or for rehabilitation. Two of these participants were found not to use psychological skills training (PST) through rehabilitation or transition process. One of them indicated that the inaccessibility of PS was because of the nature of his/her injury, while the other did not feel that she had the mental skills training required to use PS techniques. In total, six participants indicated some access to PST and all of those who had access to PST used these skills to some extent in their rehabilitation/transition process. In addition, because of the researcher's interpretation and probing questions, at least two others from the group that did not have access to training also appeared to used PST skills during the rehabilitation/transitioning process. Those who did not have specific training in psychological skills were thought to have acquired these skills through general sport participation, education and previous employment. Without training, skills were used but not in a purposeful/intentional manner. As a result, a total of eight participants were considered to use some form of PST during rehabilitation/transitioning.

3.4.2 Outcome of Skill Use

Of the eight participants who used the skills there were three outcomes of using the skills: useful/beneficial, neural/little effect, or detrimental. Seven of participants felt as though the use

of some psychological skills were useful and had benefits during their rehabilitation/transition process. These benefits were clear for P5 and P7.

> I think that when sport psych works well it's when you don't realize you are using it. And it works for you. And I think that there are lots of other instances where there are things that I have learned that I was able to put into effect and maybe didn't even realize it. (P5)

> I'm sure it did help me. In terms of like the imagery side of things, like visualizing playing, there is a tremendous mental component to tearing your ACL. Like watching people run even like "goodness I can't do that". So imaging myself playing and imaging myself going into tackles, or doing a similar movement to what I did when I tore it, and imaging myself not hurting myself was probably a positive factor in terms of my psyche. (P7)

Two individuals stated that they were unsure how helpful the psychological skills or effective the use of certain skills were. In addition, one individual claimed that the use of goal setting and self-talk became redundant and hindered her improvement. She indicated that " mental practice kinda becomes dead when you are never actually going to put it to use... you are watching all of the skills that you have sort of become redundant." (P1). This was especially relevant with not meeting goals or landmarks during rehabilitation. These participants were perceived to be disappointed, discouraged, and upset when recounting their rehabilitation progress or lack thereof. Recounting how the skills were utilized, however, suggests the participants may not have been using these tools appropriately, setting unrealistic or unattainable rehabilitation goals that were not adjusted for the progress or the ability of the individual.

3.4.3 Actual Skills Used

Of the nine participants, seven indicated the use of psychological skills during the rehabilitation/transition process. Of these seven, the majority indicated the benefits of using PST during the rehabilitation process. Most commonly, participants used goal setting (n=5) and self-talk (n=5); these skills were followed by the use of visualization/imagery (n=4), key phrases (n=3) and refocusing (n=2) in terms of frequency of use. Finally, vicarious experiences and the idea of knowing the difference between good and bad pain were other techniques used by one participant each. The majority of participants they felt that these psychological skills were useful and provided benefits during their rehabilitation/transition process.

Imagery and visualization were typically used in two settings: either to perform a skill during rehabilitation (such as with P7) or as a method of relaxation (as indicated by the commentary of P6). P7 stated "whether it was just lying in bed imagining myself playing again, just you know from a confidence side. Or whether it was in rehab, picturing myself doing a single leg squat or, running or something like that." P6 reflects:

> I had a trick of how to fall asleep and I would use that when I was playing after games because, you can never sleep after games, especially on a long bus [ride]. So I think I still use that to relax and refocus and fall asleep at night sometimes. (P6)

Visualization being used as a method of refocusing is also evident in this comment from P5:

> I would just always think about about a stop sign. And every single time my back started bothering me I would think about a stop sign to just kinda block out the negative thoughts on it to try and refocus on what I needed to be thinking about.

Goal setting was another skill that was used during the transition for both rehabilitation and to help assure success in future endeavors.

> So before I had the injury I had obviously set goals. And due to the injury I couldn't accomplish some of them. Like going to the Canada Summer Games, was one of my goals. I couldn't do that so adjusting the goals… and setting new ones that I knew, I was capable of accomplishing. (P4)

Participants such as with P4 who were able to set realistic and adjustable goals found that these goals assisted in giving a sense of purpose and direction. Additionally, positive self-talk and key phrases were used to refocus or to redirect negative thoughts. P6 used self-talk to remember the process stating "mentally believing the positive, the positive thinking. Like just believing that you are healing and always saying to yourself: "ok I'm healing, I'm healing, I'm healing". P7 used strength words to build confidence and redirect the fear of re-injury. She notes her experience of the strength words through this statement,

> … there was a girl on [name of team] who had 3 ACL tears, who would write strength words on her gloves… So she wrote: strength, perseverance, whatever, like, helped her out, so when it was torn and I was playing, I would try and think of some of the words that she did, like I would think about stability [laughs] to hopefully make it stable.

Additionally, although not typically classified as a psychological skill, one participant relied heavily on her faith, putting her trust in the belief that there was something else for her. She explained:

> I think that one thing that was huge was my faith, and trusting that even though it wasn't an ideal situation, that God had a, that he would be able to use it for good. And like He

had a plan to, whether it would be in in other relationships that I have or other opportunities that I would have. That there would be things for me that He had planned. (P8)

Many participants employed other, various strategies to assist them mentally through the rehabilitation process (i.e., vicarious experiences, knowing good pain from bad pain). These strategies were paired with feelings of control, satisfaction, competence, and purpose.

3.4.4 Advice or Use of Skills for Future

Participants were asked if they were to meet with an individual going through a similar situation what psychological skills would they recommend be used to most effectively deal with the situation. Study participants either suggested 1) psychological skills which could be used during the transition process or 2) gave advice or 'take away messages' to these future injured athletes to be used either for pre-injury/transition or during transition.

3.4.4.1 Psychological Skills

Some participants also felt that the use of certain psychological skills that they employed, or did not employ could be helpful in the rehabilitation/ transition process. These skills included goal setting (n=3), positive self-talk and thought stoppage (n=3), imagery (n=2). Additionally, vicarious experiences, such as coaching (n=1), was also mentioned as being helpful. Throughout the application of these skills, an underlying message of being active in the rehabilitation and transition process emerged as being necessary. The following quote highlights this active process:

> In terms of specific skills, it's just being able to take a negative and turn it into a positive all the time. Trying to find a positive no matter what out of something, and being able to block out the negative thoughts before they build up too much. (P5)

The majority of the skills mentioned required the athlete to transition their psychological skills training from sport performance to a non-sports related field. Two examples of this non-sports related application can be seen in the subsequent quotes by P2 and P7.

> I would tell them that structure, for me at least, was the key to having a smooth transition. I don't thrive very well without some sort of direction or goal in mind. I start to think horrible things [laughs]. My mind immediately goes to worse-case scenario zones. So having a [goal], having something to do is what will save you from insanity [laughs]. (P2)

> Uhm again like the imagery. Imagining your life without it, ok whether it is 'what am I going to do? What goals do you want to set' in terms of what you want to achieve now that side of your life is over. (P7)

3.4.4.2 Lessons

Lessons or take-away messages from participants to future injured athletes spoke to pre- and post-injury. In terms of pre-injury/transition, suggestions revolved around knowing when to stop and, conversely, knowing what was worth pushing through in both a physically and mentally capacity. Physically knowing what your body is capable of and taking time to have your body healed before trying to compete was a key underlying theme. P1 reflected that:

> A lot of athletes, especially in collision sports, play past the point of return and completely blow out their knees. Missing one game is better than being taken out for a whole season. So listening to your body and knowing the difference between good and bad pain.

This "knowing when to stop" can also be important in a mental capacity. For example, P3 spoke of knowing when to let go of sports-related goals "[laughing] Go experience the world, don't, I just think that dwelling on getting better is probably what will mess you up longer." Post-injury, five participants indicated that creating balance and finding new interests/goals is essential in dealing with the situation. This idea links to the identity transition that the participants have gone through and the transition that future injured athletes may have to go through. P7 suggests that:

> One, you have to come to terms with it. It is hard if you are still holding onto the past. It's kinda hard to move forward. So one thing would be helping them come to terms with what has happened and that there is still positive things that can come out of your life. One big thing that I always have talk to people who have gone through about, is that is they are more than just an athlete, like, the only thing that they do with their day is not play sports 100% of the day. You know they go to school they get an education, they have friends, they have hobbies, they read, they do whatever. So, kind of helping people understand that they aren't just an athlete that they do have other things going for them.

Similarly P8 recommends focusing on other interest and passions, saying "think about the other things that you always, like "if I had time I would do this" or like interest you had that kinda dropped out when you started playing your sport all the time." Additionally, several participants

suggested that understanding the role and the place for sport in life will help create these new goals and interests. P6 believes that people need to return to the fundamental reasons for sport participation adding that:

> Sport is sport. It's for fun. It has always been for fun for me and that's the biggest thing that people have to realize is that it's for fun and enjoy it. Let it take you where it is going to take you, whether you are injured or not, and just remember to enjoy the time, enjoy the ride, enjoy the people you are with. They are good guys. You make friendships for… you make friendships for the rest of your life… let sport be the vehicle to take you where you want to go.

Finally, three participants identified that understanding and acknowledging feelings, and coming to terms with new direction was necessary accept the injury and situation and that only then can you can begin to allow the change. This necessity for honesty and coming to terms with the situation was explicit it the following commentaries by participant 8 and 1. P8 reflects "... just being honest with yourself, about how you feel about things. It is not necessarily helpful to try and pretend you are not upset, but just, to acknowledge that." P1 added the need to move forward and avoid second guessing your actions and decisions. She stated:

> … definitely trying to avoid the, I don't think it has a scientific term, but the shoulda coulda woulda feeling. That whole you know, if I trained harder, if I you know just, you know your bodies limitations and what it can do. ….definitely not going back and thinking about what you could have changed is the biggest one.

Participants tended to reflect on their own rehabilitation and transition experiences and use the positives and negatives from their own experience to give advice to others.

3.5 Growth Following Adversity

Participants were given a basic definition of the concept of GFA (e.g., "there's [a] concept call growth following adversity which happens to some people after a traumatic event or stressor, that alters somebody's normal functioning. It is said to be present when people, even in the face of adversity, have a positive change in their life following [an adverse event or experience]"). As mentioned above, participants were then asked if they felt that they had anything positive or negative that came out of situation of sustaining the injury and transitioning out of sport. From the responses to this question, six subthemes emerged: 1) new opportunities, 2) ability to transfer skills, 3) social support and networks, 4) change in the role of sport, 5) realization of strength, and 6) the desire to assist others.

3.5.1 New Opportunities

All of the participants were able to identify that, because of the injury/transition process, they were able to experience or have new opportunities, pursue or develop new passions and obtain non-sports related goals. These new opportunities sometimes came within the sporting community, as with P4, through the transitioning to coaching. He said "I used those experiences [when injured] to later help me get a job as a coach. And then after that I've gone higher and higher in coaching." Additionally, for some, because of the injury and starting their career earlier, they have been able to achieve things in coaching at an expedited timeframe. P7 notes "I have achieved some pretty big things within coaching, which I probably wouldn't have been able

to achieve for a couple more years had I continued to play". Other participants have been able to remain in sport through other programs and organizations, such as Athletes in Action, to help other athletes and build the sporting community. P8 reflects on this opportunity by saying:

> I was able to be more involved with [athletic ministry] which is the Ministry and I think that, like, injuries themselves were really valuable in that experience because it helps me be able to relate to other athletes who are injured and be able to encourage them through the same situations that they might be in.

Outside of sports, participants found that they were able to pursue academic or career related goals. P2 stated:

> Now, I can look back and say that it all happened for a reason I guess. And I'm, you know at the top of my class here in [professional] school that says something. It means I probably came through the right path [laughs].

Moreover, some participants indicated that, because of the injury and exiting elite sport, they had a sense of freedom. P2 used the opportunity to travel and have new experiences. She said:

> I think I decided to pursue things that I wouldn't have pursued before such as moving out of the country… because my sport like tied me to my city because I wanted to stay with that coach and I wanted to be at that university, things that I, it was like holding me in one place and one city and I guess the fact that I freed myself from sport, freed me from my city and I can go have other experiences. So I think that I, like, one it made me experience my life and two, I think I am enjoying myself more.

Other participants were also able to enjoy other aspects of their lives. P8 explains:

> I think that it gave me the opportunity to kind of expand on the other interest in my life. So I started working with [volunteer program] and volunteering with a boy with Aspergers. I love working with children with disabilities and so that was pretty cool to have the time to do that, that I didn't have before.

4.5.2 Ability to Transfer Skills

Six of the participants also indicated that they were able to transfer skills that they learned as an athlete into their current pursuits. These skills were seen to be both sports-specific skills and psychological skills. P2 uses psychological skills, such as goal setting, visualization and self-talk, to remain motivated and have success in her academic career.

> I mean visualization helps with many parts of life and that's something that I still apply to what I do today. And goal setting is definitely something that we used. .... It's all about realistically setting yourself up for success, key phrases I think have always helped me too and that is something I learnt in mental training. And one of my keys that I always use even in school is you talk to yourself, self-talk 'your worst day is probably still better then someone else's best day.'

Several participants transitioned into coaching using their experience as an elite athlete to assist them in coaching. Furthermore, some of them specifically use their injury experience to assist their athletes. P5 reflected on this by saying:

> I think that it's good to be able to have faced adversity like that, so when you have athletes that do have injuries, you can tell them that you know they can come back stronger from it. It's not the end of the world, you know they can work through it, you know I think it makes you a little more relatable to your athletes all the time.

3.5.3 Social Support Networks

Social support and networks varied for each individual however what was constant between all the participants is there was mention of social support/networks at the time of the injury as well as during transition and post transitioning. These will be discussed further below. For many participants either the direction of the relationships changed (regarding support, either more or less) or which social support/networks they were relying on.

3.5.3.1 At Time of Injury

At the time of the injury participants indicated they turned to their rehabilitation staff (n=5), coaches (n=5), teammates (n=5), friends (n=3) and families (n=5), thought the type and usefulness differed depending on participant. Participants found that the support they received from their friends especially those outside of the team was beneficial. Participants however had varying feelings regarding their family, rehabilitation staff, coaches and team mates. When participants indicated that the support from their family at the time of the injury either lacked or had a negative effect, it was usually because their parents had difficulty accepting that they were injured or what they physically could do. Additionally the participants clarified that they believed that parents were concerned that the participant was going to miss out on opportunities and therefore not necessarily being the type of support the athlete needed. P2 states “I think, it took a while for my dad to get used to me just saying I can’t do this anymore.” One participant indicted, repeatedly, that her coaches were extremely supportive and really helped her at the time of the injury usually by understanding the rehabilitation process and the time it takes to recover from injuries

> I had like coaches who were really supportive. And uh, they were like 'if you can't go out you can come out in the coach boat and like still participate' which was really good cause then after that, uh, probably because I spent a whole summer coaching. (P4)

However some coaches pressured participants to return to play early, threatened to replace participants, or ignored them once they had sustained the injury. When this happened participants found their coach to be detrimental to their rehabilitation process (n=4). Rehabilitation staff included doctors, surgeons, physiotherapists, and athletic therapists. For the participants that indicated their doctors and surgeons as being supportive or helpful it usually centred on education and communication regarding treatment. With physiotherapist and athletic therapist those who developed relationships with the therapist and felt like they actually cared about their progress were found to beneficial when initially dealing with the injury. However some found that because they were not returning to sport or because of the large number of patients therapists see daily resulted in a lack of connection and feelings of support (n=2). The importance of connection became clear with P7 who through a series of quotes stated:

> Physios they were big, but at the same time, in physio they see so many kids coming through with torn ACLs that like, it's hard for them to really get involved with a kid because they see it so often. They were very supportive but at the same time it's like 'you hurt yourself. It's a sport.' So it's hard for them to get invested emotionally because they have so many kids coming in for them to get invested in everybody.

> When I first got there [the athletic therapist] was kinda like 'I don't care about you. You are the injured kid we are not look at you yet.', because she knew I couldn't play. But once I started rehabbing and stuff, trying to get back to play the next season, her and I

> kind of developed a personal relationship as well as her being my, athletic therapist. So her and I like developed a really good relationship and she was a really important part of my rehab.

When participants spoke to the support they received from their team they either indicated they felt isolated and not understood, or they felt like their team was there for them and were really the only people that knew what they were going through because they have experienced elite athletics and potentially injuries. Feelings of loneliness, isolation, sadness, and depression were linked with the lack of support from their teammates who had been a large part of their social network at the time of the injury.

3.5.3.2 During and After Transition

When looking back from post injury to current state nine participants commented on current relationship strengths and location of support. For many participants, their social support and view the importance of social support changed as a result of the injury and transition process. One participant felt as though his social support/networks remained strong throughout the process and were not significantly different. Three participants indicated that while transitioning they strengthened or created relationships/networks with those outside athletics, which could decrease the amount of time spent with "athlete" friends. For one participant, her success in coping with the injury was being the change in her social support and surrounding herself with people who were not in athletics. She stated "… I was really thinking about what the people did … seeing other people being happy with themselves and they weren't elite athletes .... people who didn't see me as an athlete so I didn't have to see myself as an athlete." Thus, through looking at other people this participant could begin to adapt and find satisfaction with an identity outside of

athletics. For other participants there was the realization of the importance of social support/ networks because of their injury/transition process (n=5). P2 reflected on the importance of maintaining pre-existing networks by saying:

> The injury taught me the importance of a strong network, because that is how I was able to recover the way that I did. It really taught me the importance of networking, communication and keeping in touch with people that really matter to you.

Similarly, P4 is felt like she has the ability to rely on others because of having this adverse experience, stating:

> I think I learned that in a way and I guess I learned my friends. My friends were there for me and supported me and my coach was there for me and supports me so I can rely on other people to help me out when I'm in a bad situation.

Four participants also mentioned family, and the benefit of having a support system that is constantly with you regardless of the situation. The final support/network change mentioned was faith based. One participant indicated that because of her injuries she was able to foster a deeper spiritual connection and create deeper friendships with others who shared a similar faith, even without experiencing an injury.

3.5.4 Change in Role of Sport

For all participants, there was a change in the role of sport that was evident in the data analyzed. Their focus shifted from being elite athletes to being something else. Participants tended to fall into one of two categories, those who remain in the sporting community, and those who are no longer active in sport.

3.5.4.1 Remain Active in Sporting Community

The majority of the participants remained active in the sporting community but did so in various ways. Some participants transitioning into coaching (n=5) and, although their careers still revolved around the sporting community, they now understand the (diminished) position of sport in their lives.P5 talked about the setback in sport and no longer being able to compete saying, "[being injured is] not the end of the road no matter what". Other participants are still athletes in their respective sport but not able to compete at their former level. P8 explained her current participation as, "[now] I do it for fun, and like competition … I still try and go out and play hard and compete, but it's more for pure enjoyment."

3.5.4.2 Not Actively Participating in Sporting Community

Some participants are not currently active in the sporting community (n=3) and have changed their perspective on the role of sport in life. P2 illustrates this when she said, "I would say like [pause] realizing that there is more to life than sport [laughing], like having a social life and this summer I realized you can have a social life. And, there's more to life than just [training]." These participants are currently separating themselves from the sporting community in order to develop and adapt to their current identity. They are expanding beyond the sporting community to find purpose. Additionally, although they currently are not participating it does not mean that they will not participate in the future.

3.5.5 Realization of Strength

Four participants stated that, because of sport participation and the transition out of sport, they have realized a personal strength, either a physical strength or a mental strength. Physically,

some of these participants learned what they need to do for themselves. P4 stated, "I learned that I have to stand up for myself ... maybe they don't know what's best for me and maybe I am the only person who really does." In a mental/psychological capacity, participants learned that because of dealing with adversity they can cope or even thrive in other adverse situation. P4 uses her experience of injury to motivate herself by saying "**i**f I can take this injury and I can get through it and now I'm ok … then, obviously I can get over other things, and there is always going to be, like, the good on the end of it." Similarly, P2 stated that, "it's nice to think back on those days and think, yeah if I could do that, if I could set that goal and achieve it, then I can do anything". This belief of strength and ability to grow from every adversity was also communicated by P5 in the following passage:

> Even, I guess, outside of the sport, an injury still gives you adversity to everything else in life and, you know, you can look at it one of two ways, you can be upset about it or you can you can get through it and it can make you better in other ways. Anytime you go through any form of adversity [it] always makes you better. Anything that doesn't kill you always makes you stronger …. any type of adversity you face, you know you can, you can always come back and be better, stronger, learn something from it and be better off in any way. You know whether its sport, in life or in whatever.

3.5.6 Desire to Assist Others

The subtheme of having the desire to assist others in various ways (n=5) also emerged from the participants' commentaries. This subtheme was extremely apparent in those who are now coaching, although it was not exclusive to them. P7 expresses an increase in empathy and the ability and desire to mentor other athletes who are going through similar situations. She said:

> I'm maybe even more empathetic with, like, people who are injured, because I wasn't really an injury prone kid before all of this, and so now you know, not that I wasn't empathetic before but I can really feel for people that go through this kind of thing because I have been through it myself. So like, as a teammate that helps but through coaching that even helps because if I have a kid that's had a knee injury before, you know 'I know how you feel'… So kind of just being a little bit of a mentor for those individuals and you know helping them through the process and keeping them positive.

This desire to assist others was also adopted by P8 who, although not coaching, wants to help other athletes who may be experiencing something similar to what she has specifically through faith. She reflects:

> I think that just [pause], my faith was really important in my recovery and figuring things out and so I think that through [the injury and athletic ministry], that it helped develop my interest in encouraging others, helping them to see how their faith can, help them through these situations.

Throughout answers regarding helping others or advice for others, the current coaches were constantly using "we" and "us", suggesting the support and connections they have with their athletes and desire to assist them through different and difficult situations.

3.6 Quantitative Data

As mentioned previously, three questionnaires (AIMS-Plus, PTGI-42 and an adapted CEI) were given to participants prior to the interview being conducted. These questionnaires were used as a form of data triangulation through descriptive statistics rather than conducting more complex statistical analysis.

3.6.1 Athletic Identity Measurement-Plus

The AIMS-Plus questionnaire was given to participants and asked to respond in a retrospective fashion in order to gain a deeper understanding of the participants' athletic identities prior to the injury. The questionnaire was sent (in a PDF form fillable format) to each participant with the request that it be returned prior to the interview. In the analysis of data, a score over 75/100 was considered to be strong identification in each category. The AIMS-Plus measured five different categories of athletic identity: social identity, self-identity, negative affectivity, positive affectivity, and exclusivity. All participants were considered to have a strong positive affectivity, this was the only category in which all participants received a score over 75/100. Positive affectivity refers to the feelings of encouragement or satisfaction in response to a desirable sport participation outcome. Eight participants have a strong self-identity whereby they perceive themselves as an athlete because of self-referenced cognitions. Six have strong negative affectivity; experiencing adverse reactions or emotions to undesirable sport participation outcomes. Finally four participants scored having a strong social identity (perceives self as an athlete from a social viewpoint) and strong exclusive athletic identity (self-worth determined solely by performance in athletic role and rejections of other potential identities). Only one participant scored higher than 75/100 in all five categories. For further details regarding participants scores please refer to table 2 below.

	# reporting ≥ 75	x	SD
Social Identity	4	68	11.9
Self Identity	8	83.1	7
-‘ve Affectivity	6	81.4	11.7
+’ve Affectivity	9	89.7	8
Exclusivity	4	73.7	11.9
Total Identity	7	79.2	4.7

Table 2: Athletic Identity Measurement Scale-Plus Results

3.6.2 Post Traumatic Growth Inventory-42

The Post Traumatic Growth Inventory-42 (PTGI-42) is a 42-item questionnaire that was sent (again in a PDF form fillable format) to each participant with the expectation that it be completed and returned prior to the interview. Participants were asked to identify the degree to which they experienced a change as a result of their injuries or series of injuries. A six point Likert ranging from 0 (not at all) to 5 (a very great degree) was used to capture the extent of the effect experience by each participant. Five subscales/subcategories were evaluated in both a growth and depreciation format. These sub-categories included relating to others, new possibilities, personal strength, spiritual change, and appreciation of life. For the purpose of this study, this data is used in a descriptive manner and a score of 3 (moderate degree) or higher was considered to be indicative of a change. Two people experienced growth in regards to relating to others, two in new possibilities, three in personal strength, one in spiritual change, and three in appreciation of life. In contrast, one reported depreciation in new possibilities, two in personal strength, and one in appreciation of life. Three participants indicated neither growth nor depre-

ciation as a result of their injury(ies) in any subscale. One participant experienced depreciation in only one subscale and no growth. One experienced growth in one subscale. Two participants experienced growth in two subscales and no depreciation. One participants experienced growth in two subscales and depreciation in two subscales. Finally one participants experienced growth in three subscales and depreciation in one subscale. For additional information indicating in which subscales participants experienced growth and depreciation, please refer to Table 3. A further breakdown of individual results for the PTGI-42 can be found in Appendix K.

	# reporting ≥ 3	x	SD
Relating to other (+'ve)	2	1.48	1.6
Relating to other (-'ve)	0	0.32	0.50
New Possibilities (+'ve)	2	1.69	0.95
New Possibilities (-'ve)	1	0.8	0.93
Personal Strength (+'ve)	3	1.58	1.01
Personal Strength (-'ve)	1	0.75	1.19
Spiritual Change (+'ve)	4	0.50	1.32
Spiritual Change (-'ve)	0	0.22	0.67
Appreciation of Life (+'ve)	2	1.63	1.14
Appreciation of Life (-'ve)	1	0.44	1.09

Table 3: Growth and Depreciation Subscales of PTGI-42

3.6.3 Adapted Change Event Inventory

The adapted Change Event Inventory (CEI) was used to measure each participant's perception of the significance of the injury, its severity, the control they had over the injury, the

emotional reaction experienced, the cognitive reaction and the perceived ability to cope in regards to the injury. The participants in this study were given two of the four sections of the CEI, specifically the sections on the reaction to a single change event and decision making and availability of helping resources. There was a total of 36 questions. Questions 1-28, 35 and 36 were scored on a 5 point Linkert scale. Questions 29 had 3 choices with space to further elaborate on the response to the question. In general, participants reported their injury to be very significant and severe in regards to their athletic career. Results indicated a lack of control over the injury itself and the event(s) leading to the injury. Participants tended to have a negative initial emotional reaction to the experience as well as a negative cognitive reaction and the effectiveness of coping associated with the injury. Six participants indicated that they received emotional/professional support from others to help them deal with the situation. A further elaboration of these data can be seen in table 4. Each of these 6 participants was then asked to identify how helpful this support was on a 5 point Linkert scale. One other participant also answered this section even though they did not previously indicate receiving emotional/professional support. Table 4 shows the spread of helpfulness of the support that was accessed by the 7 participants.

	1	2	3	4	5	6	7
	Very Unhelpful			**Neutral**			**Very Helpful**
Family	-	P3, P4	P7	P2, P8	-	-	P5
Friends	-	P3	-	-	P4, P8	P7	P5
Teammates	-	-	-	P2, P3	P4, P7,	-	P5
Coach	-	-	-	-	P8 P2	P1	P3, P4,
Assistant Coach	-	-	-	-	P2	P3	P5 -
Trainer	-	-	-	P2	P5	P8	P1, P3
Doctor	-	-	-	P7	P3	P1, P4	P5
Mentor	-	-	-	-	-	P7	-
Counsellor	-	-	-	-	-	-	-
Sport Psycholo- gist	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-

Table 5: Helpfulness of Consulting to Cope with Injury

Results from question 1-28 were not analyzed for descriptive because of a poor response rate and incorrect responses from participants (i.e., selecting more than one option).

Chapter 4: Discussion and Conclusion

Previous studies have focused on athletic identity and the negative impact a strong athletic identity has on those transitioning out of sport. Additionally, the current literature shows significant research surrounding the negative psychological impact of injuries on athletes. However, the published information describing methods to effectively transition out of sport and/or experience potential psychological improvements from having faced adversity is limited. Therefore the purpose of this study was to gain a deeper understanding of competitive athletes who have sustained significant injuries and of their experience transitioning out of high-performance sport. In this section, the themes and subthemes related to identity, psychological skills and growth following adversity will be discussed, interpreted and compared to similar discussions in the previous literature.

Three primary *apriori* themes were purposefully selected and data was collected to further examine each theme and its impact on the overall transition process. These data indicated that each theme and subtheme cannot be seen as independent units but rather as components which influence and affect each of the other components. For example, the participants' identity and experience as an athlete can influence their usage of psychological skills and these two factors can influence the growth experience. It is only through looking at all the components together that one can begin to understand the dynamic and non-linear transitioning process and the potential for growth experiences.

4.1 Identity

Identity as a theme was comprised of and influenced by three subthemes: pre-injury identity, identity transition, and current (post-injury) identity. These subthemes illustrate the

process of identity adaptation and, through the information in each subsection, the dynamic and non-linear nature of the adaptation process.

Participants' identity was examined through both the quantitative (AIMS-Plus) and qualitative data collection measures. Examining and contrasting the two forms of data revealed considerable similarities, but also some noticeable differences. The AIMS-Plus measurement scale accounted for five different components lending to an individual's AI (social, self, negative affectivity, positive affectivity and exclusivity). These components were also examined, but to a lesser extent, by the content of the interviews. The results of the AIMS-Plus indicate that all but two participants can be considered to have a strong AI while, from the interviews, all could be considered to have an AI and all but one would be perceived as having a strong AI. One participant indicated during the interview that athletics was not necessarily his/her primary identity. The highest scoring observed in the AIMS-Plus was in the areas of self-identity and the positive affectivity components of AI – data that are consistent with findings in the interview data. The lowest scores, or the least consistent, in the AIMS-Plus were in the social identity and the exclusivity components. The exclusivity scores, when viewed either overall or on a per participant basis, do not mimic the data found during the interviews. Although four participants indicated being non-exclusive in their identities during the interviews, three of them scored having a high exclusivity in the questionnaire. Interestingly, two of the participants who scored the lowest on the exclusivity component of the AIMS-Plus were considered to be two participants who appeared to have the strongest exclusive athletic identity through the interviews where they indicated that their lives and all their choices revolved around athletic participation.

Although not measured in the AIMS-Plus, all participants indicated through either their demographic questionnaires or interviews that they had other injuries prior to the career-ending injury but that the expectation (either their own or that of coaches/teammates) was that they would continue play through these injuries just because they were "athletes". This discrediting of injuries because of an environment which normalized injuries and pain to attain elite performance has been seen in previous literature (Arroll & Howard, 2012; Larun & Malterud, 2007; Muscat, 2010) and, in the case of the current study, created feelings of isolation and shame. In addition, playing through acute and/or chronic injuries or the early return to play often emerged as the cause of the re-injuries or future severe injuries that occurred. Those participants who felt either their position on the team or their identity was threatened seemed to be more likely to play through injuries. Taken together, these data suggest a need for coaches, parents and medical professionals to acknowledge the possibility of injuries and injury prevention and to promote rehabilitation in a non-threatening environment.

It has been found that 10%-20% of injured athletes experience extreme psychologically distress in response to injury (Brewer, Linder & Phelps, 1994; Duda, Smart & Tappe, 1989; Leddy, Lambert & Ogles; 1994; Walker et al., 2007). Although this aspect was not clinically measured in the current study, three of the participants indicated an extreme negative response to injury which paralleled the common signs and symptoms of depression ultimately delaying or hindering the ease of the transition out of sport. However, as no mental health measurement tool was used, no firm conclusions can be drawn. Future studies should examine further information about past mental health in order to better understand these aspects in the identity adaptation process and timeline.

The process of identity adaptation is dynamic and non-linear. The participants in the study had strong athletic identities pre-injury, yet all of them would now identify otherwise. This adaptation in the identity was influenced by various factors, an observation consistent with current literature. Other researchers have found that transitions are negatively impacted when the life-altering event is not within the athlete's control (Alfermann, 2000; Lavallee & Wylleman, 2000; Stambulova et al., 2009; Werthner & Orlick, 1986; Wylleman, Alfermann, & Lavallee, 2004). This observation corroborates with the finding of this study which suggests that the participants who had more autonomy over when they were initiating the transition process and what they were going to do post-athletics were more successful in the transition process in terms of minimizing turbulence. Furthermore, it is perceived that those participants who understood that their time in athletics was not indefinite and had life-time goals which did not require them to be an athlete were better able to initiate the transition process. This early initiation of transition allowed the participants to increase the time available for them to adapt to their new identity.

Through the analysis, participants were subcategorized into those who obtained a more balanced identity, those who had an intensification of athletic identity and were found to be living for the sport and those who experienced a lost identity such as with Muscat's (2010) study. In the current study seven participants were found by the researcher to currently possess a more balanced identity (able to succeed in other life domains and activities, broaden their identity outside of sport and find satisfaction in other aspects of life). Nevertheless, four of these same participants also fell into the living-for-sport identification style, in that they did not expand beyond sport and focused on careers in sport rather than expanding to other life domains. The participants who straddle the two styles tended to be elite-level coaches or sport-specific coaches who

have transitioned from elite sport to coaching and their decisions for education and subsequent life-choices have been dictated by this career choice. Additionally, speaking to the dynamic nature of identity transition, all the participants can be interpreted to have had an initial phase in which they could be categorized as having an intensification or lost transition style in that, from the time of the injury, they either remained focused on their sports-related goals and increased their efforts to attain their sports-related dreams and objectives (intensification) or experienced overwhelming feelings of stress, confusion, and loss of self (lost). Although two participants still remain in the "lost" style of identification, many participants displayed one of these two styles initially but then proceeded to a secondary or even a tertiary style of transition. This progression and ability to straddle transition styles indicates not only the dynamic nature of the transition process but also the vital role time plays in the transition and identification process. The participants' experiences suggest that time allows for the injured athletes to process what has happened to them, what is required for recovery, and what they are able to accomplish in regards to their sports-related goals. Time allowed participants to heal physically and mentally, adjust goals, adjust to a non-elite sport lifestyle and create new behavioural habits. Additionally, the data suggest that people may be able to possess a "more balanced" identity while remaining focused on sport when they understand the role of sport and can achieve a balance between their sport identity and the other components of their identity. The evolutionary nature of the transition out of sports observed is reminiscent of the continuity theory (Atchley, 1997) for retirement where a continuous evolution of activities throughout one's life span is proposed rather than an alteration or replacement of activities. Participants who were able to continue to feel a sense of purpose and not reject their athletic history/identity but rather incorporate it into their current lives post-

injury, were considered to be better able to accept their injury and change in their perceived life path.

When considering the transition process and how the participants currently identify, Park et al.'s (2012) meta-analysis findings become extremely relevant. Analysis indicates that the strength of the participants' athletic identity, the autonomy of the retirement decision, time since incident, the education and personal development of the people and the relationships with others affected the transitioning. All of these factors are reflected in the results of the current study: the participants who had the strongest and most exclusive athletic identity (as reflected by the interview) were those who were perceived to have had the most difficulty transitioning out of elite athletics and in adapting their identities. Additionally, those with more autonomy over the decision of transitioning had more success and "ease" adapting post retirement. Conversely, those athletes who were forced into retirement and had a lack of autonomy in the decisions experienced higher levels of negative emotions, feelings of isolation and betrayal, and a loss of identity, an observation consistent with the findings in past studies (Blinde & Stratta, 1992; Butt & Molnar, 2009; Fortunato & Marchant, 1999; Lotysz & Short, 2004; Lynch, 2006; McKenna & Thomas, 2007; Zaichkowsky et al., 2000).

4.2 Psychological Skills

The use of psychological skills to improve and increase performance is common in competitive athletics (Crust & Clough, 2011; Gucciardi et al., 2008; Sheard, 2010). Additionally, several researchers have found a positive correlation between recovery rates and the use of goal setting, positive self-talk, and healing mental imagery (Cupal, 1998; Loundagin & Fisher, 1993). In light of these known benefits of psychological skills training (PST) and usage, it was assumed

that, at an elite level, athletes would be familiar with PST; however, the data indicated that this was not always the case. Although all participants were in elite athletics, a sport performance consultant resource was either not available or not used. Seven participants used PST knowingly or without proper training. In the adapted CEI participants were asked whether they had access to professionals such as sport psychologist/sport performance consultant, or counsellors and, although they had access, very few (in fact, only two) considered specifically consulting a sports psychologist/sport performance consultant during their initial transition process. Now, however, seven participants would consider consulting a sport psychologist/sport performance consultant to a greater extent if in the same situation. Additionally, none of the participants indicated that a sport psychologist/sport performance consultant was consulted during the injury. These results are consistent with the findings of the qualitative component of this study.

While few of the participants accessed professional resources during their transition processes, the data indicates that several did use the type of skills commonly promoted by sports psychology during this process. Some of the common psychological skills used to build mental toughness and improve performance include, but are not limited to, goal setting, visualization and imagery, positive self-talk, routines, and arousal control (Crust & Clough, 2011). These same skills were found to be those most commonly used during the rehabilitation and transition process. Participants tended to use one or two skills rather than a more complete compilation of skills.

The proper application of skills was also perceived to dictate the effectiveness: goal setting, for example, needed to be realistic and adjustable in order for it to be effective in the rehabilitation process. Those who reported success in utilizing these skills also demonstrated an abil-

ity to transfer the skills from a sport performance-based setting to another domain. This type of skill adaptation was extremely relevant for imagery and goal setting. Danish et al. (1993) found that one of the main barriers to being able to use transferable skills is the fact that athletes simply are not aware they possess these skills or, if they do recognize the skills, are unable to transfer them. This seems to be the case for at least some participants in the current study. Although these individuals used psychological skills in training, some did not seem to be able to transition these skills effectively to the rehabilitation and transition processes. They understood the benefits of using said psychological skills for performance enhancement; however, the shift to the adaptation, use, and potential benefits of skills utilization in rehabilitation was missing. Mayocchi and Hanrahan (2000) found that increasing athletes' awareness of their ability to transfer skills from sport to other areas of their life may be enough to affect adjustment to career transition. It would be beneficial to examine the knowledge of skill translation in athletes especially injured athletes in some detail as much needed additional studies specifically regarding injured athletes, the transition process and psychological skills training are undertaken.

4.3 Growth Following Adversity

The phenomenon of growth was explored through the use of the qualitative and quantitative data sets. The Post Traumatic Growth Inventory-42 (PTGI-42) was used to examine the following factors: change of self, change in relationships, and change in life philosophy (Garland et al., 2007) through five components with an option for growth or depreciation within each. If the PTGI-42 was sole measurement, it would indicate that as a whole, study participants did not experience the type of dramatic post- traumatic growth measured by the tool despite evidence of growth in the answers to specific questions. However, through the interview analysis component

it has become evident that participants did have some form of growth, though not all experienced this growth in PTG-specific categories. Despite the fact that the PTGI-42 is considered a reliable measure, given the nature of injuries and type of transitioning required for injured elite athletes, it may not be the most effective measurement tool for this population. There is a need for an injury/transition specific tool to measure growth experience in more than the five PTGI-42 domains which use questions regarding the process rather than a single incident. Additionally, using softer wording such as "I have a greater appreciation of what I am able to do as a result of my rehabilitation/transition process" rather than "I have a greater appreciation for the value of my own life". Although past researchers have suggested that individuals suffering from an athletic injury share a similar grief process to those suffering a terminal illness, obvious differences in the objective degree of trauma do exist and, as a result, injured athletes may not be able to relate to the concept of increased appreciation of value of life as a whole.

While the cumulative results of the PTGI-42 cannot be taken as a quantitative indication of a growth experience in this study population due to small sample size, data obtained in specific subcategories do support the idea of post-traumatic growth. In fact PTGI-42 results indicate that participants more often experienced a growth rather than depreciation. Only two participants had deprecation scores (one in appreciation of life, and one in personal strength), which outnumber their growth occurrence scores. Three participants experienced a growth experience in relating to others, new possibilities, personal strength, and appreciation of life at a minimum of a moderate degree. For spiritual change however, only one participant experienced growth to a great degree. Despite these strong indicators of growth from adversity, four of the participants also expressed a sense that other aspects of life quality had depreciated. Depreciation experi-

ences (to a moderate degree) were reported by one participant in new possibilities, by two in personal strength and by one in appreciation of life. Three participants noted no/minimal/small growth or depreciation experience in all factors. The fact that several participants indicated a mixture of growth and depreciation and the fact that at least some of the respondents felt their transitioning was not yet complete may contribute to the inability of the PTGI-42 to detect a quantitative growth experience from the cumulative data.

Closer examination of certain parts of the questionnaire also yielded some interesting observations. When comparing responses from all participants, for example, certain probe statements in the PTGI-42 were found to elicit a strong reaction with high frequency. Statements which were experienced by at least 80% of participants (and did not receive a score of 0) and experienced to an average of a moderate degree included probe statements 1a, 7a, 12b, 14b, and 15b, which, for the purpose of contrasting these items to the qualitative data, are as follows:

1a: I changed my priorities about what is important in life.

7a: I established a new path for my life.

12b: I am better able to accept the way things work out.

14b: New opportunities are available which wouldn't have been otherwise.

15b: I have more compassion for others.

This emphasis on strongly experienced items is important when contrasting the PTGI-42 (which indicated no overall growth experiences) to the qualitative data because many of the themes emergent in the latter appear to reflect responses to these specific questions.

In the *apriori* theme of GFA, six subthemes emerged from the interview data. These included new opportunities, ability to transfer skills, social support/networks, desire to assist oth-

ers, change in the role of sport and realization of strength because of being injured and needing to transition out of elite athletics. These subthemes are consistent with those found in Tamminen et al. (2013) in their study regarding adversity experienced by female athletes and their potential for growth.

New opportunities were identified by all participants. These opportunities were in the forms of the ability to pursue and develop new passions or to obtain non-sport performance related goals. Other researchers have shown that athletes who have succeeded in their sport possess factors that can assist them in transition such as a more stable self-esteem, global self-concept and self-identity. Athletes who have not achieved their sports-related goals experienced more psychological difficulties resulting in longer transition periods and negative perceptions of this process (Chow, 2001; Koukouris, 1994). Additionally, if the individuals' athletic careers impacted their education process, greater vocational difficulty transitioning is expected (Marthinus, 2007; Stronach & Adair, 2010). In this current sample, six of the participants either competed at a collegiate level or were completing a degree during the time they were competing in elite-level sport. It seems that this combination of education and sport allowed them to change their focus towards career specific goals or add additional education goals during the transition process. Although seven of the participants did not reach their overall sports-specific goals and may have experienced a period of intensification or disappointment immediately post-injury, almost all participants were able to identify as being able to pursue or participate in something they would otherwise be missing if still participating in sport. Those who were able to create and/or find new meaning and directions were perceived to have a smoother transition than those who were not able to do so. These findings support those of Missler (1996) and Newell (2005) who also re-

ported that the quality of the transition process was improved when individuals were able to gain self-worth without sport performance.

Concurrent with finding and creating new meaning, participants experienced a change in the role of sport in their lives. When this change occurred, participants either remained in sport or withdrew. Those who remained in sport seemed to recognize the reason for sport and physical activity, namely for pure enjoyment of the game, and the importance of balancing participation in sport with other activities. Six of these participants are still active members in the sporting community, through roles of coaching or working with athletes. Those who are considered to have withdrawn from the sporting community also recognized need to have balance within the different life domains and that sport participation cannot be so dominant that other domains are neglected. These participants, however, have decided to withdraw completely from participation and involvement in sport, focusing instead on careers and relationships. They did not discount the importance of being physically active but needed additional time to adapt their identities.

Danish et al. (1993) identify transferable skills as skills that can be applied across settings and can include things such as organization, flexibility, perseverance, self-motivation, performing under pressure, setting and attaining goals as well as many others. As mentioned in the psychological skills section of this discussion, Mayocchi and Hanrahan (2000) suggest that by increasing an athlete's awareness of their ability to transfer skills from athletics to other life domains may affect adjustment in career transitions. Participants in the current study also were perceived to have the ability to transfer both sport-specific skills (i.e., technique, etc.) and psychological skills. The participants who were able to transfer these skills effectively were also those who were identified by the researcher as having greater ease in transitioning out of elite

athletic participation and into their current career and adapted identity. It has been suggested that the ability to transfer skills can affect an individual's self-efficacy; athletes with a high self-efficacy have been found to be more successful in the transition process (Mayocchi & Hanrahan, 1997; McKnight et al., 2009). Additionally, many of the psychological skills being use in transitioning are similar to those which are used in cognitive behavioural therapy (CBT). CBT interventions have been shown to significantly increase the probability of a growth experience (Calhoun & Tedeschi, 1998; Wagner et al., 2007). Although these participants did not actively participate in CBT, they did employ relaxation training, cognitive restructuring and problem solving; all of which are components of CBT. Studies regarding transferable skills, CBT and the potential growth injured athletes are needed in the future to further understand and enhance the possibility to increase the growth potential.

Social support and networks are something that has been mentioned often in transition, in retirement and in PTG as being extremely important and effective. From this study, although there was change in social support networks, the most important factors in determining the success of the transition seemed to be either the extent to which people relied on others or the identity of those on whom they actually relied. All but one participant felt that their relationships were strengthened. For four participants, the strengthening of certain social support/networks meant a decrease in either the strength of relationships or the amount of time spent with previous, athletics-based networks. One participant was able to begin her identity adaptation because the people with whom she surrounded herself did not view themselves as athletes; she therefore could view herself as being something other than an athlete. This was not the case for all who increased the value of remaining in contact with those people who assisted them or who were

present for the initial injury. Others have suggested that in cases where an athlete had had a negative relationship with their coaches, increased difficulty in the transition process was experienced (Chow, 2001; Kerr & Dacyshyn, 2000; Muscat, 2010). In the current study, the data for four participants is consistent with this point of view. However, for one participant, having a coach who was unsupportive allowed her to realize the role of sport in her life and re-prioritize. The importance of social support/networks is apparent from existing literature although the type which is most effective in assisting athletes through the transition process remains unknown (Day, 2012; Tamminen et al., 2013).

Five participants reported that, when their injury occurred and their social support/ network changed and the transition process was initiated, they realized they have developed their own physical or mental strength through being an athlete and/or going through the injury/ transition process. Psychological and physical strength appeared both in the ability to create meaning through adverse situations and in having the belief that, because of this experience of an undesirable situation, they are better able to deal with similar situations in the future. This latter idea was often found in parallel with the concept of the participants using their sport-specific injury and transition experience to assist others in the future. Tamminen et al. (2013) found some of their participants also expressed a similar desire to assist others through adverse experiences. In the current study, many of those who expressed this desire have placed themselves in positions of mentorship, through coaching, training or working in an athletic ministry. For one participant, having someone to model helped her through her transition process. While other studies have alluded to the impact coaches may have on the transition process (Chow, 2001; Kerr & Dacyshyn, 2000; Muscat, 2010), future studies regarding coach/athlete relationships, the transition

process and the coach's experience of injuries would be beneficial to understand the role modelling has in the relationship.

One component of the PTGI-42 that was mentioned only once during the interviews of participants in current study was that of spiritual change. That participant indicated that her success in transitioning and growing from the injury was due to her spiritual belief and her ability to now assist others with their faith in dealing with injuries. Whether this lack of emphasis on the spiritual is reflective of the age of study participants, generational changes in spiritual practices, or is specific to individual participants in this study is not clear and future studies regarding spiritual athletes and their experiences are needed.

Throughout all of the themes and subthemes, underlying thread emerged: participants need to play an active role in their personal transition process. In the present study, those who were identified by the researcher as having a less turbulent transition period were also those who initiated the transition themselves and then took proactive measures to move forward in working towards non-sports related goals, applying transferable skills, and not only looking to others for support but also realizing and developing personal strength purposefully allowed for a smoother transition. Those who were perceived to be more passive in the process had longer transition times and indicated more turbulence in adapting their identity and goals. From this information it can be proposed that injured athletes need to have the desire to change and adapt in order to successfully do so, actively participating in the transition process can facilitate this change. With this in mind there is a need to work with athletes to assist them in understanding the skills they possess, their transferability, and what they can do in the future. Ultimately helping athletes create a more balanced identity and raise awareness of the skills they possess before injury would be

beneficial for the ease of the transition process. This can, and should, be started when talking to athletes about the longevity of an athletic career and the possibility of injuries. Specifically, in teaching athletes about psychological skills, training using "real world" and rehabilitation examples in addition to specific use of skills would assist in the education of transferability of skills.

4.4 Limitations

While there are many strengths to the study, a few limitations must be mentioned. For example, although all participants experienced career/season ending injuries, the extent of injury was not consistent across all study participants. Indeed, some indicated that if they experienced a "more significant" injury they would have had a different experience. The correct use of the CEI to understand the perceived magnitude of the injury as an exclusionary criterion in future studies may be beneficial. Another limitation of this study was in the administration of the quantitative questionnaires. Questionnaires were modified, used retrospectively, and used in novel populations; therefor they cannot be said to be valid or reliable until extensively tested under similar circumstances. Additionally, elapsed time between when participants were contacted and initial quantitative data collected and when the interview occurred varied. Some participants were contacted and initial data received in September 2013 and the interviews conducted in January 2014, while others were within two weeks. In the future consistency between participants would be beneficial. Finally, participants ranged from 12 months to 49+ months post injury. Although some are still in the midst of an identity transition, many have to look retrospectively to convey their transition experience. With retrospective recall error is increased; there is the potential that cognitive distortion has occurred, either through catastrophizing or minimizing the impact of the event which may distort the amount of growth which has occurred.

4.5 Future Directions

This study provides a good first examination of the potential for positive growth experience following a career-ending/limiting in elite athletes. The limited sample size and the key informant sampling styles allowed for rapport to be built and additional time to be taken with each participant and their experience, however, additional studies looking at the transition of injured athlete, the potential for growth and how to minimize the turbulent and negative period during transitions are needed to be able to create evidence based interventions. Furthermore studies regarding transferable skills, CBT, and the potential growth injured athletes would help to further understand and enhance the possibility of increasing growth potential. Additionally, while only one participant in this study actively spoke of faith-based experiences, many of the tools to measure adversarial growth experience focus on the spiritual dimension. Further studies specifically focused on spiritual athletes and their experiences through the transition with their faith may be warranted. From this study and others, social support appeared to have a large impact on how the athletes transitioned. Moreover many participants indicated that they wish to help others experiencing injuries. Data examining the role of mentors who have themselves experienced injuries, however, is lacking. In this regard, studies of mentors or coaches who have experienced injuries which examine their impact on other injured athletes would be beneficial to understand the need of mentors or the benefits of having support from the previously injured. Finally, the participants in this study were in various stages of their transition period. Given that the results indicated that time assists with the transition and adaptation process, conducting a similar study in a longitudinal rather than cross-sectional fashion may better explain and examine the steps in the process these athletes experience. With the information collected during this

study there is potential for a growth experience for injured athletes. Using the current study and future studies, intervention programs can assist injured athletes in the adaptation of their identities and facilitate the growth experience. To better understand the transition process and the temporal experiences of the injured athletes a longitudinal using a mixed methods approach would be appropriate. Through interviews, reflective journaling, identity measurements, and GFA measurements over an extended period of time, a better understanding of the process and the experience of injured athletes can be obtained.

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Appendices

Appendix A: Key Informant Letter

INVITATION TO PARTICIPATE

WILFRID LAURIER UNIVERSITY

REB Tracking Number (3776)

We are seeking your assistance in recruiting participants for a research study entitled "Identity Adaptation and the Potential for Psychological Growth Following Adversity for Injured Athletes". The research study is being conducted by Alanna Riordan under the supervision of Dr. Jill Tracey, an Associate Professor in the Department of Kinesiology & Physical Education at Wilfrid Laurier University. In conducting this study, we are attempting to gain a better understanding of the personal experiences of individual athletes/former athletes (16+) who have experienced an injury which resulted in a forced retirement from their respective competitive sport.

The study focusses solely on former athletes because part of our focus is on understanding the role of athletic identity in adaptation to injury. Athletic identity (AI) is a result of an individual's goals, values, and roles; self-concept revolves around participation in sport and often occurs when an individual is competing at a competitive to elite level. There are many benefits for having a strong AI such as increased value on athletics, increased general athletic satisfaction, increased training adherence and, in some cases, increased performance. However, when an athlete is injured and no longer able to compete in sport he/she may experience an increased difficulty transitioning from sport to other ventures and with life after sport. We hope to identify factors that make this transitioning more or less successful.

We are seeking your assistance in recruiting former athletes who were competing at a minimum of a competitive level and who have been out of sport for no longer than 5 years so we may begin to understand the transition process in forced retirement from competitive/elite sport. Participation in this study is strictly voluntary and and any potential participant may choose not to participate or to withdraw from the study at any time without penalty. Participation in this study will involve the completion of a four short questionnaires (which will take approximately 5-10 minutes each to complete) as well as one in-person interview (which will take approximately 30 - 60 minutes to complete). If the participant is not able to attend an in-person interview the options of over the phone or Skype will be made available.

If you are aware of potential participants for this study please forward the attached document ("Invitation to Participate") to potential participants, either directly or via email using the subject line "Invitation to Participate in a Research Study".

If you have any questions regarding this study you may contact the researchers directly - Alanna Riordan, rior4460@mylaurier.ca, (613)883-8707, or Dr. Jill Tracey, jtracey@wlu.ca (519)884-0710 ext. 4216.

Thank you for your time and consideration of this study.

Sincerely

Alanna Riordan
MSc Candidate, Wilfrid Laurier University
Kinesiology & Physical Education
(613) 883-8707

Dr. Jill Tracey
Associate Professor, Wilfrid Laurier University
Kinesiology & Physical Education
(519) 884-0710 ext. 4216

Appendix B: Letter for Potential Participants

INVITATION TO PARTICIPATE

WILFRID LAURIER UNIVERSITY

REB Tracking Number (3776)

You are invited to participate in the research study which looks at the experience of injured athletes who are no longer able to perform at their preinjury level. This research study is being conducted by Alanna Riordan under the supervision of Dr. Jill Tracey, as a requirement of the Master's degree in Kinesiology in the Department of Kinesiology & Physical Education at Wilfrid Laurier University. In doing this study, the researcher is attempting to gain a better understanding of your experience after a significant injury. It is my hope that the information obtained from this study may be used in future studies to initiate and facilitate a smooth and positive transition for athletes who have had a significant injury.

Your participation in this study is strictly voluntary and you may choose not to participate or to withdraw at any point without penalty. Participation in this study will involve the completion of four questionnaires (which will take approximately 5-15 minutes each to complete), as well as one in- person interview that will take approximately 30-60 minutes. If you are not able to attend a face-to- face interview telephone and Skype interview options are also available. You will be provided with a copy of the questions prior to the interview, which will occur in a location of your choice and will be audio recorded for data collection. You will be given the transcripts of your interview which you will be able to edit before data is used. Finally we will ask you to review the themes that were identified to emerge from the data. The review of themes is not a requirement for participation. Participation in this study is confidential and all information is used only with your consent.

If you would like to participate in this study, please contact the researchers at your earliest convenience - Alanna Riordan, rior4460@mylaurier.ca. (613) 883-8707, or Dr. Jill Tracey, jtracey@wlu.ca (519)884-0710 ext. 4216. If you have any questions regarding this study you may contact the researchers directly.

Thank you for your time and consideration Sincerely,

Alanna Riordan
MSc Candidate, Wilfrid Laurier University
Kinesiology & Physical Education
(613) 883-8707

Dr. Jill Tracey
Associate Professor, Wilfrid Laurier University
Kinesiology & Physical Education
(519) 884-0710 ext. 4216

Appendix C: Consent Form

WILFRID LAURIER UNIVERSITY
INFORMED CONSENT

Title of Study: Identity Adaptation and the Potential for Psychological Growth Following Adversity for Injured Athletes

Investigator: Alanna Riordan
MSc Candidate, Wilfrid Laurier University
Kinesiology & Physical Education
rior4460@mylaurier.ca
(613) 883-8707

Supervisor: Dr. Jill Tracey
Associate Professor,
Wilfrid Laurier University
Kinesiology & Physical Education
jtracey@wlu.ca
(519) 884-0710 ext. 4216

You are invited to participate in the research study which looks at what happens when an athlete is no longer able to compete at pre-injury levels. This research study is being conducted by Alanna Riordan, under the supervision of Dr. Jill Tracey, as a requirement of the Masters degree in Kinesiology in the Department of Kinesiology & Physical Education at Wilfrid Laurier University.

PURPOSE AND PROCEDURE:

The purpose of this study is to gain a better understanding of your experience of transitioning out of sport after a "career ending" injury, specifically. You will be asked to complete a total of four questionnaires ranging from 10-15 minutes, following this you will be asked to participate in a 30-60 minute interview which will ask questions regarding your sporting career, your injuries, the physical, emotional and psychological transition process and your current status. You will be provided with an electronic copy of the transcript (you may request a hard copy if preferred) to check for accuracy and to clarify any of your comments. This will serve to verify that you have shared and expressed the information in the manner you had intended. We will ask you to review your transcript then return any questions, concerns or comments to us within 2 weeks of receiving the document. You may send your response to us by email, regular mail, or telephone. If we do not receive a response from you within 2 weeks of us sending you the document we will assume that you do not have any questions and are satisfied with the transcript as it

is written. Finally we will ask you to review the themes that were identified to emerge from the data. This final step is not a requirement of participation.

CONFIDENTIALITY:

All information submitted by you will be strictly confidential. Interviews will be audio recorded, transcribed verbatim. At this point any identifying factors will be removed from the documents to ensure confidentiality. All typed documents will be password protected on a secure computer. Only myself and my supervisor will have access to the tapes, which will be stored in a locked cabinet and then destroyed upon successful defense of the thesis project. All consent and questionnaires will be stored in separate locked locations.

BENEFITS AND RISKS:

The hope is that the results from this study will increase the understanding of what happens after an athlete is injured and cannot return to previous levels of competition and performance, specifically looking at adaptations in identity. The experiences you share will build on the body of research -- something which may be able to be used in applied setting to assist both people in this study as well as other athletes experiencing a transition due to an injury. Additionally, through the process of talking about your experience you may become aware of transferable skills and psychological skill which you possess and can further utilize throughout your life. There are however, minimal psychological and emotional risks associated with the research. You will be asked to recall information regarding your athletic identity prior to the injury, the injury event, the impact that the event had psychologically, physically and emotionally, and their transition process. It is possible that you may feel uncomfortable sharing these experiences and divulging information. Additionally feeling distressed or have a rise of negative emotion may occur when recounting the injury and the transition process. If, during or after the process, you feel that they would like to contact a mental health professional please check the Canadian Psychological Association website for a list of licensed professionals in your area (www.cpa.ca).
In order to maximize the benefits and minimize the risks associated with participation numerous steps will be taken. The interview guide will be given to you prior to the interview to enable you to look over the questions in advance. This will allow you to become comfortable with the questions and the information you wish to share. At any point during the questionnaires and the interviews you are not comfortable with answering questions you are not required to do so.

RIGHT TO WITHDRAW AND/OR OMIT SPECIFIC DETAILS

During any point of this process you are allowed to withdraw from the study without any prejudice or negative repercussions. If you decide to withdraw from this study all your data which has been collected will be securely destroyed. Additionally as mentioned above, you are not required to answer any questions which make you feel uncomfortable or you do not wish to answer. Following the interview you will be electronically sent the transcripts (you may request a

hard copy) of the interview at which point you are able to amend or omit any information or quotations which you do not want used during this study.
I thank you in advance for your participation in this study.

RESULTS OF THE STUDY

You will be sent a letter outlining the common themes found in the study if you indicate that you are interested in receiving such a letter.

CONTACT

If you have questions at any time about the study or the procedures, (or you experience adverse effects as a result of participating in this study) you may contact Dr. Jill Tracey at Wilfrid Laurier University, Department of Kinesiology & Physical Education, (519)884-0710 ext. 4216, jtracey@wlu.ca. This project has been reviewed and approved by the University Research Ethics Board. If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Dr. Robert Basso, Chair, University Research Ethics Board, Wilfrid Laurier University, (519) 884-1970, extension 4994 (#2) or rbasso@wlu.ca.

I have read and understand the above information. I have received a copy of this form. I agree to participate in this study.

Participant's signature_____ Date _____

Investigator's signature_____ Date _____

Appendix D: Demographic Questionnaire

Demographic Questionnaire

Name:_____
Age:_____ Gender: F / M

In which sport did injury occur? :_____

How many years did you participate in injury inducing sport : _____

Please fill in this table highlighting the injuries which had the most impact on your career as an athlete. These may be single trauma injury or over use injuries. If more space is required please attach a page at the end of this document.

Year(s) of injury	Type of injury	Level of competition	Rehabilitation time and treatment	Impact of injury on athletic career
2010	Torn left hip flexor	Nationals	5 Months of physiotherapy 2x/week. Taping when participating in activities.	Missed competing in qualifying events and therefore missed World Championships. Ended up retiring after a year of trying to return to sport.

Are you still an active athlete?

☐ Yes ☐ No

If yes, what sport and at what level? :_____

What is your current employment?:_____

☐ Full Time ☐ Part Time ☐ Student

Appendix E: AIMS-Plus

Athletic Identity Measurement Scale-Plus

Athletic Identity is the degree of importance, strength and exclusivity attached to the athlete role that is maintained by the athlete and influenced by their environment.

Please **circle** the number that **best reflects** the extent to which you agree or disagree with each statement in relation to your own sports participation.

1. I consider myself an athlete.

Strongly Disagree Neutral Strongly Agree
0 10 20 30 40 50 60 70 80 90 100

2. I have many goals related to sport.

Strongly Disagree Neutral Strongly Agree
0 10 20 30 40 50 60 70 80 90 100

3. Most of my friends participate in sport.

Strongly Disagree Neutral Strongly Agree
0 10 20 30 40 50 60 70 80 90 100

4. Sport is the most important part of my life.

Strongly Disagree Neutral Strongly Agree
0 10 20 30 40 50 60 70 80 90 100

5. I spend more time thinking about sport than anything else.

Strongly Disagree Neutral Strongly Agree
0 10 20 30 40 50 60 70 80 90 100

6. Other people see me as an athlete.

Strongly Disagree Neutral Strongly Agree
0 10 20 30 40 50 60 70 80 90 100

7. I feel bad about myself when I play poorly in practice or competition.

Strongly Disagree Neutral Strongly Agree
0 10 20 30 40 50 60 70 80 90 100

8. Sport is the only important thing in my life.

Strongly Disagree Neutral Strongly Agree
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

9. I would be very depressed if I were injured and could not compete in sport.

Strongly Disagree Neutral Strongly Agree
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

10. When I am participating in sport, I am happy.

Strongly Disagree Neutral Strongly Agree
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

11. My family expects me to participate in sport.

Strongly Disagree Neutral Strongly Agree
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

12. I feel badly when I fail to meet my athletic goals.

Strongly Disagree Neutral Strongly Agree
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

13. Being an athlete is who I am and I want to make a career of sport.

Strongly Disagree Neutral Strongly Agree
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

14. It is important that other people know about my sport involvement.

Strongly Disagree Neutral Strongly Agree
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

15. I get a sense of satisfaction when participating in sport.

Strongly Disagree Neutral Strongly Agree
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

16. My participation in sport is a very positive part of my life.

Strongly Disagree Neutral Strongly Agree
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

17. I typically organize my day so I can participate in sports.

Strongly Disagree Neutral Strongly Agree
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

18. I would be very depressed if I were cut from the team and could not compete in sport.

Strongly Disagree Neutral Strongly Agree
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

19. I participate in sport for the recognition/fame.

Strongly Disagree Neutral Strongly Agree
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

20. My sports involvement has influenced my day-to-day decision-making.

Strongly Disagree Neutral Strongly Agree
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

21. Being an athlete is an important part of who I am.

Strongly Disagree Neutral Strongly Agree
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

22. I feel good about myself when I play well in practice or competition.

Strongly Disagree Neutral Strongly Agree
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

Role Identity Rating

Think about how important each identity is to you **on a day-to-day basis**, then use the scale to rate the importance of each identity to you.

Least Important Moderately Important Most Important
0_____10_____20_____30_____40_____50_____60_____70_____80_____90_____100

The importance of **family** to me (from 0 to 100) is: _____

The importance of **friendships** to me (from 0 to 100) is: _____

The importance of **athletics** to me (from 0 to 100) is: _____

The importance of **academics** to me (from 0 to 100) is: _____

The importance of **religion** to me (from 0 to 100) is: _____

The importance of **romance** to me (from 0 to 100) is: _____

Appendix F: Adapted Change Event Inventory

Adapted Change-Event Inventory (ACEI)

Gender Male Female

Age: _____

Country of Origin :

Competitive Sport:

Year of Experience in the Sport:

Level of competition: Collegiate Div 1; Collegiate other; Semi-professional; Professional; International; other_____

Are You Still an Active Athlete:

Section 2: Specific questions about a change-event

1. How significant was this event in your career. at the time it happened?	1 Not at all	2	3 Neural	4	5 Very Much
2. How positive or negative was this event in your career, at the time it happened?	1 Very Negative	2	3 Neural	4	5 Very Positive
3. How positive or negative was this event perceive by other people, at the time it happened?	1 Very Negative	2	3 Neural	4	5 Very Positive
4. What emotions did you experience when this event first appeared?	1 Very Negative	2	3 Neural	4	5 Very Positive
5. How concerned were you when this event first appeared?	1 Not at all	2	3 Neural	4	5 Very Much
6. How much control did you feel you had over this event, at the time it happened?	1 Not at all	2	3 Neural	4	5 Very Much
7. How motivated were you to play your sport just before this event first appeared?	1 Not at all	2	3 Neural	4	5 Very Much
8. How motivated were you to play your sport after this event happened?	1 Not at all	2	3 Neural	4	5 Very Much
9. How confident were you that you could address this event in a satisfying way?	1 Not at all	2	3 Neural	4	5 Very Much
10. How motivated were you to take the necessary adjustments to effectively cope with this event?	1 Not at all	2	3 Neural	4	5 Very Much
11. How well did you cope with this event?	1 Not at all	2	3 Neural	4	5 Very Much

12. How satisfied were you with the way you have addressed this event, at the time it happened?	1 Not at all	2	3 Neural	4	5 Very Much
13. How positive or negative were the outcomes of this event?	1 Very Negative	2	3 Neural	4	5 Very Positive
14. How helpful was your past experience in similar events in coping with this specific event?	1 Not at all	2	3 Neural	4	5 Very Much
15. What was the importance of this event in your career, at the time it happened?	1 Not at all	2	3 Neural	4	5 Very Much
16. How positive or negative did you feel when this event first appeared?	1 Very Negative	2	3 Neural	4	5 Very Positive
17. What was the severity of this event in your career, at the time it happened?	1 Not at all	2	3 Neural	4	5 Very Much
18. How committed were you to play your sport just before this event first appeared?	1 Not at all	2	3 Neural	4	5 Very Much
19. To what degree you felt able to address this event in a positive way?	1 Not at all	2	3 Neural	4	5 Very Much
20. To what degree were you worried when this event first appeared?	1 Not at all	2	3 Neural	4	5 Very Much
21. How committed were you to play your sport after this event happened?	1 Not at all	2	3 Neural	4	5 Very Much
22. How committed were you to apply the necessary changes to address this event in a positive way?	1 Not at all	2	3 Neural	4	5 Very Much
23. How effective were your efforts to address this event?	1 Not at all	2	3 Neural	4	5 Very Much
24. How did other people feel about this event at the time it happened?	1 Very Negative	2	3 Neural	4	5 Very Positive
25. How much did you benefit from experiencing similar events in the past, in coping with this specific event?	1 Not at all	2	3 Neural	4	5 Very Much
26. How much influence did you have over this event, at the time it happened?	1 Not at all	2	3 Neural	4	5 Very Much
27. How happy were you with the way you have coped with this event?	1 Not at all	2	3 Neural	4	5 Very Much
28. How positive or negative did this event eventually end?	1 Very Negative	2	3 Neural	4	5 Very Positive

29. When this change event first appeared, what was your initial reaction? (Indicate one of the following)

A. ☐ I ignored the new situation. **Why?**_____

_____

B. ☐ I tried to cope with the new situation by myself, without consulting anyone. **Why?**_____

_____

C. ☐ I turned to receive emotional/professional support from others. **From whom? (indicate for each of the following)**

Family	Friends	Teammates	Coach	Assistant Coach	Trainer	Doctor	Mentor	Counselor	Sport Psychologist	Other ☐
☐ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes	Which?
☐ No	☐ No	☐ No	☐ No	☐ No	☐ No	☐ No	☐ No	☐ No	☐ No	_____

30. Was it your decision to consult with person, or were you instructed to do so by someone else?

☐ It was my decision. ☐ I was instructed to do so by someone else. **By whom?**_____

31. Based on your answer in 29, please indicate for each of the following (circle the relevant number) to what degree you feel the consulting those persons was helpful in coping with this event?

	very unhelpful			neutral			very helpful
Family	1	2	3	4	5	6	7
Friends	1	2	3	4	5	6	7
Teammates	1	2	3	4	5	6	7
Coach	1	2	3	4	5	6	7
Assistant Coach	1	2	3	4	5	6	7
Trainer	1	2	3	4	5	6	7
Doctor	1	2	3	4	5	6	7
Mentor	1	2	3	4	5	6	7
Counselor	1	2	3	4	5	6	7
Sport Psychologist	1	2	3	4	5	6	7
Other _____	1	2	3	4	5	6	7

32. To what degree did you have available professional resources in your environment (e.g., sport psychologist, counselor), at the time this event has happened? (circle the relevant number)

1 Low availability 2 3 4 Moderate 5 6 7 High availability

33. What would be the most accurate description of the way you have addressed this change-event?

A. ☐ I decided to ignore this change-event and tried to avoid thinking about it.

B. ☐ I first considered my options for reacting to the change-event, and then decided to make the necessary adjustments in order to effectively cope with it

C. ☐ I first considered my options for reacting to the change-event, but then decided not to make the necessary adjustments in order to effectively cope with it

D. ☐ I listened to the advice of others and acted according to their recommendations

E. ☐ I am not sure what I did

34. To what degree did you consider consulting a sport psychologist when you have addressed this event?

1	2	3	4	5	6	7
Not at all			Moderate			Very much

35. To what degree do you consider consulting a sport psychologist as useful in similar situations?

1	2	3	4	5	6	7
Not useful at all			Moderate			Very useful

36. Prior to experiencing this specific event; did you experience similar events in the past? ☐ Yes ☐ No

Appendix G: Post Traumatic Growth Inventory-42

PTGI- 42

For each of the statements below, **use the scale provided** to indicate the **degree to which this change occurred** in your life **as result of your injury or series of injuries.** The statements are arranged in pairs representing different types of change you might have experienced.

Within each pair,
- you might **not have experienced either** change,
- you might have experienced **both** changes to some degree, or
- you might **only have experienced one type** of change.

Consider both statements in each pair, then rate the degree to which you experienced each type of change using the scale below.

0= I did not experience this change as a result of my crisis.
1= I experienced this change to a very small degree as a result of my crisis.
2= I experienced this change to a small degree as a result of my crisis.
3= I experienced this change to a moderate degree as a result of my crisis.
4= I experienced this change to a great degree as a result of my crisis.
5= I experienced this change to a very great degree as a result of my crisis.

Please **rate each item below** by placing the number from the scale that reflects your choice in the space provided to the left of the item.

____1a. I changed my priorities about what is important in life.

____1b. I find it difficult to clarify priorities about what is important in life.

____2a. I have less of an appreciation for the value of my own life.

____2b. I have a greater appreciation for the value of my own life.

____3a. I developed new interests.

____3b. I have fewer interests than before.

____4a. I have a diminished feeling of self-reliance.

____4b. I have a greater feeling of self-reliance.

____5a. I have a better understanding of spiritual matters.

____5b. I have a poorer understanding of spiritual matters.

1

____6a. I more clearly see that I cannot count on people in times of trouble.

____6b. I more clearly see that I can count on people in times of trouble.

____7a. I established a new path for my life.

____7b. I have a less clear path for my life.

____8a. I have a greater sense of distance from others.

____8b. I have a greater sense of closeness with others.

____9a. I am more willing to express my emotions.

____9b. I am less willing to express my emotions.

____10a. I am less certain that I can handle difficulties.

____10b. I know better that I can handle difficulties.

____11a. I am able to do better things with my life.

____11b. I am less capable of doing better things with my life.

____12a. I am less able to accept the way things work out.

____12b. I am better able to accept the way things work out.

____13a. I can better appreciate each day.

____13b. I appreciate each day less than I did before.

____14a. Fewer opportunities are available than would have been before.

____14b. New opportunities are available which wouldn't have been otherwise.

____15a. I have less compassion for others.

____15b. I have more compassion for others.

____16a. I put more effort into my relationships.

____16b. I put less effort into my relationships.

____17a. I am less likely to try to change things that need changing.

____17b. I am more likely to try to change things that need changing.

____18a. I have a weaker religious faith.

____18b. I have a stronger religious faith.

____19a. I discovered that I'm stronger than I thought I was.

____19b. I discovered that I'm weaker than I thought I was.

____20a. I learned a great deal about how disappointing people are.

____20b. I learned a great deal about how wonderful people are.

____21a. I better accept needing others.

____21b. I find it harder to accept needing others.

Appendix H: Interview Guide

Interview Questions

1. I see here that you participated in _____. Can you tell me a little more about your experience as an athlete before your injury.
   Probes
   - What level of competition did you participate at?
   - What was the type of team/the team structure?
   - How often did you train and what was the intensity of training?
   - If any, what is your injury history?

2. Can you describe your injury/ injuries? What was your reaction to this injury?
   Probes
   - What type of injury was it?
   - How long were/are you out for?

3. How would you describe your identity during your sporting career before the injury?
   Probes
   - What were things you valued most/ held the most importance to you?

4. When/did you know that it was a career-ending injury?
   a. What changed to make you know that you wouldn't be returning to the same level of sport?
      i. What impact does this injury have on your sport career (for those who are not out of sport).
   Probes
   - What was it like compared to other injuries?
   - How long do you have to do rehab for?

5. What, if anything, helped/ is helping you emotionally and mentally through the rehabilitation process?
   Probe
   - Who, if anyone helped you?
   - What sort of things did you do?

6. Have you experienced any changes in your sense of "who you are" throughout this transition process?
   Probe
   - What has changed, if anything, about what is important in your life
   - Do you identify yourself differently?

7. Were there specific mental training skills that you learnt as an athlete which you applied during the rehabilitation process?
   Probe
   - What impact, if any did these have on you?
   - What benefits do you think these mental training skills have?

8. There is this concept of GFA which happens in some people after a traumatic event or stressors which alter peoples normal functioning. This phenomenon is said to be present when people even in the face of adversity have a positive change in their life following. Given this definition would you say you experienced a positive change? Could you explain/expand on it?

a. Did any of the psychological skills mentioned previously play a role in this phenomenon?

9. Looking back was there any mental training skills which you think would be beneficial to an individual I the midst of the transition process.

NLP - Probes

In NLP there are three general types of statements which individuals use which may mask the original meaning or lead to confusion. These are deletions, generalizations, and distortions. When the participants use these statements probes will be used to clarify what the individual actually means and potentially expand the response. This will allow the researchers to analyze the data more effectively and limit inferences made by the researchers. The following are probes for various deletions, generalizations and distortions.

Deletions

- Unspecified nouns : "who or what specifically…?"
- Unspecified verbs: "how specifically…?"
- Comparisons: "compared with what …?"
- Judgements: "who is making this judgment, and on what grounds are they making it?"
- Nominalization: turning it into a verb and asking for the missing information "who is nominalizing about what and how are they doing it?"

Generalizations

- Modal operators of possibilities: "what happened if you did …?" or "what prevents you…?"
- Modal operators of necessity: "what would happen if you did/didn't ….?"
- Universal Quantifiers: "has there ever been a time when …. ?

Distortions

- Complex equivalences: "how does this mean that?"
- Presuppositions: "what leads you to believe that …?"
- Cause and effect: " how exactly does this cause that?"
- Mind reading: "how exactly do you know … ?"

Appendix I: Member Check

Dear (*insert participants name)*,

We would like to thank you again for your participation in our study. Attached is a copy of your interview on (*insert date)* transcribed verbatim. Please review the transcript. If you have any corrections, additions, or information you would like removed use a separate font color to indicate the desired changes. When the data is presented, colloquial terms as well as sentence fillers (i.e. “um” and “ah”) may or may not be removed. If you have any, please let me know what you would like changed and return the information to us by email. If you have any questions you are welcome to call us at any time. As noted in the consent form you completed previously, if we do not hear from you by (*insert date 2 weeks from e-mail date*), we will assume the transcript is fine and proceed with our project.

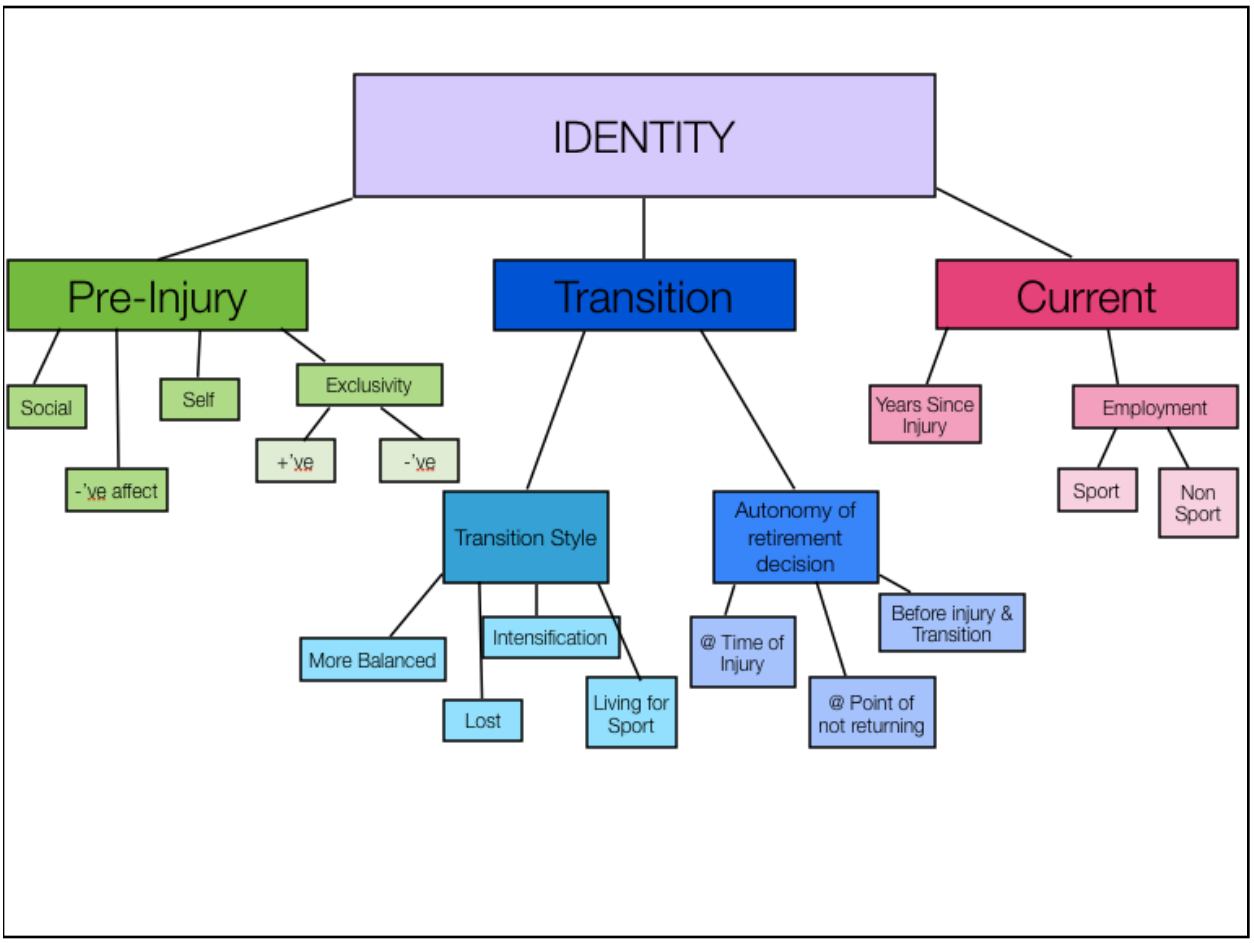
Once the data is analyzed we will ask you to review the themes that were identified to emerge from the data. This is not a requisite of participation in the study but if you would be interested in volunteering to provide feedback on the themes identified by the researchers please indicate by replying to this email indicating your interest.

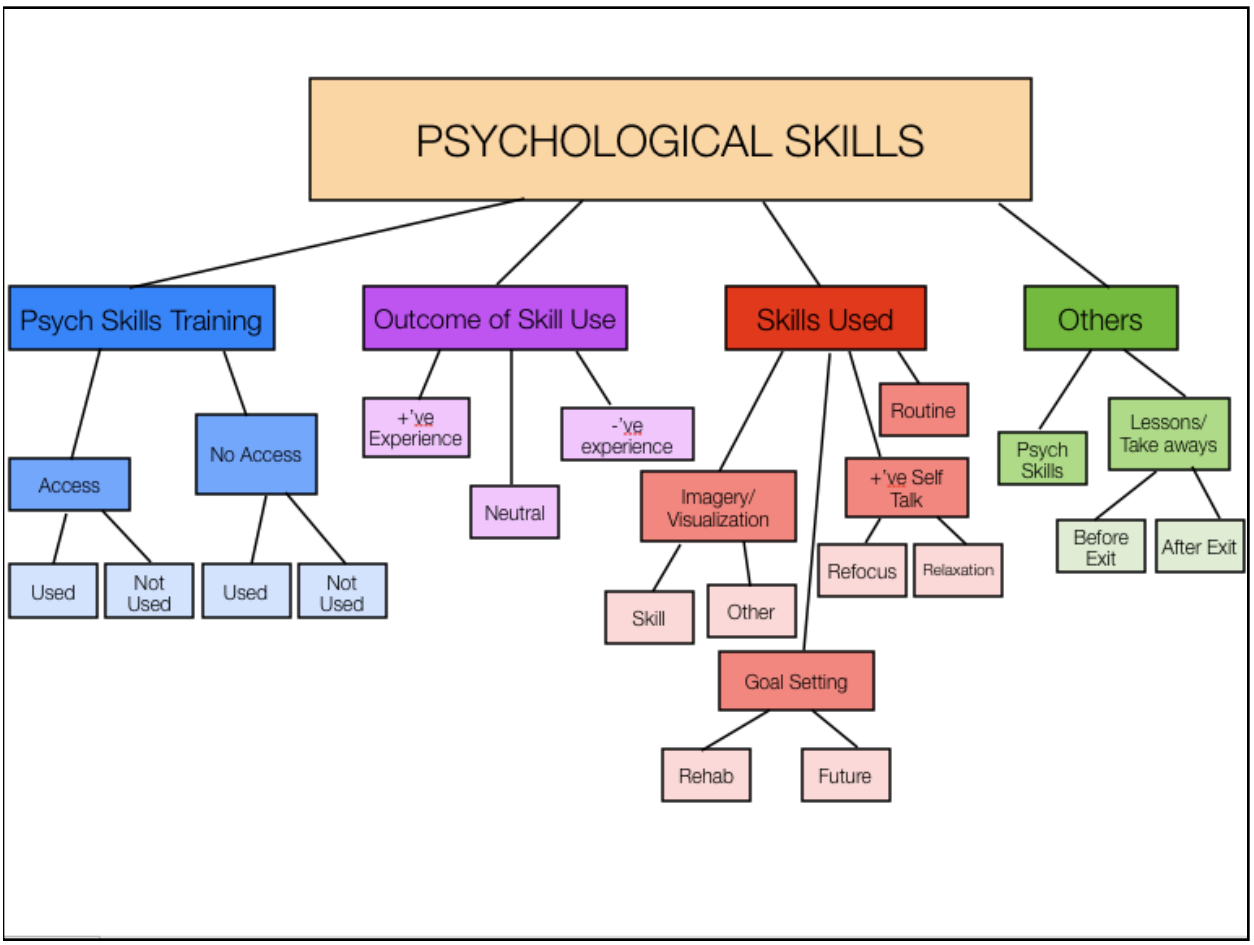
Thank you again for your time. Sincerely,

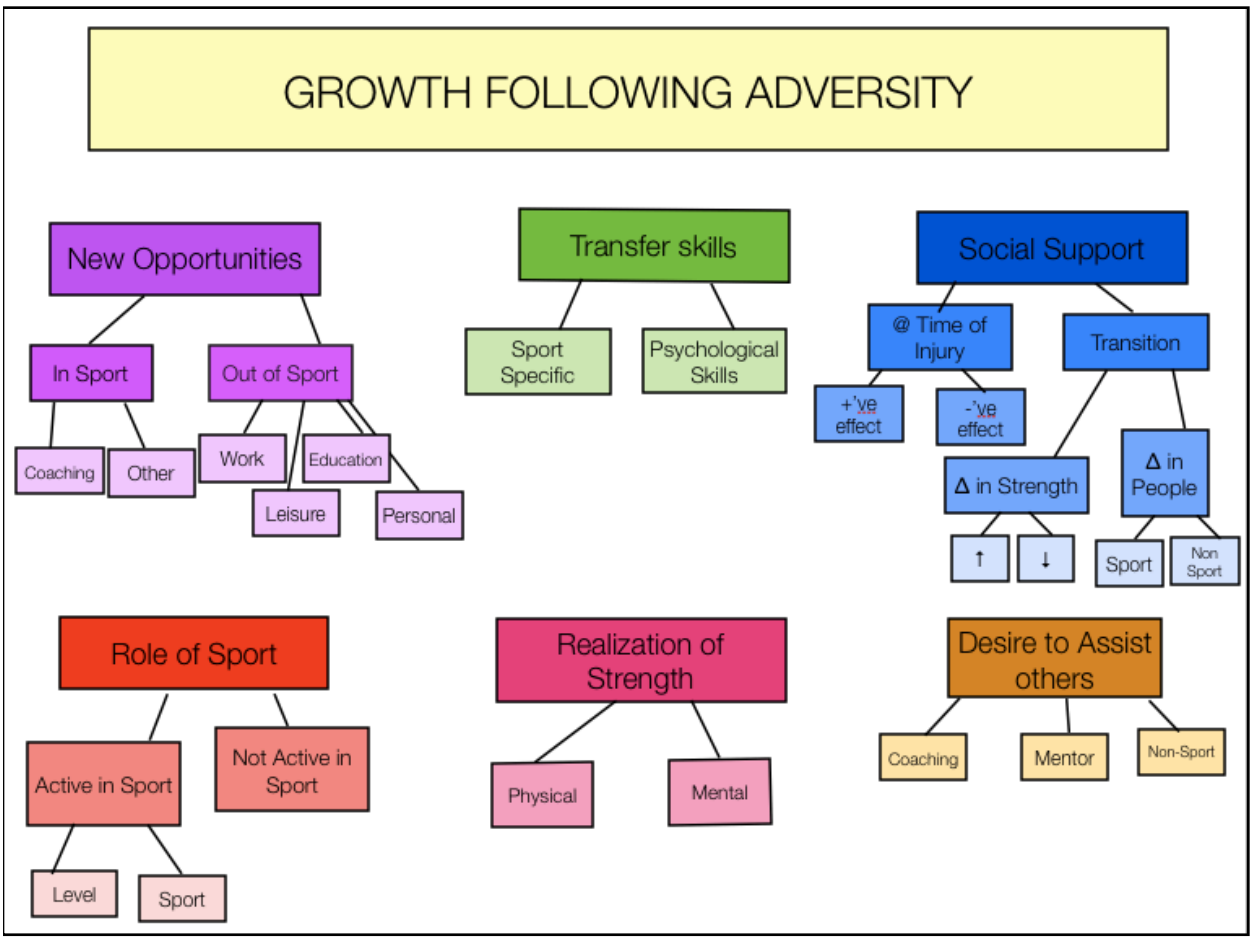
Alanna Riordan
MSc Candidate, Wilfrid Laurier University
Kinesiology & Physical Education
(613) 883-8707

Dr. Jill Tracey
Associate Professor, Wilfrid Laurier University
Kinesiology & Physical Education
(519) 884-0710 ext. 4216

Appendix J: Visual Representation of Themes




PSYCHOLOGICAL SKILLS
Psych Skills Training
Outcome of Skill Use
Skills Used
Others
Access
No Access
Used
Not Used
Used
Not Used
+'ve Experience
Neutral
-'ve experience
Imagery/ Visualization
Routine
+'ve Self Talk
Refocus
Relaxation
Skill
Other
Goal Setting
Rehab
Future
Psych Skills
Lessons/ Take aways
Before Exit
After Exit


GROWTH FOLLOWING ADVERSITY
New Opportunities
In Sport
Out of Sport
Coaching
Other
Work
Education
Leisure
Personal
Transfer skills
Sport Specific
Psychological Skills
Social Support
@ Time of Injury
Transition
+'ve effect
-'ve effect
Δ in Strength
Δ in People
↑
↓
Sport
Non Sport
Role of Sport
Active in Sport
Not Active in Sport
Level
Sport
Realization of Strength
Physical
Mental
Desire to Assist others
Coaching
Mentor
Non-Sport

Appendix K: PTGI-42 Results - Participant

	P1	P2	P3	P4	P5	P6	P7	P8	P9
Relating to other (+'ve)	1	2	**3**	2	0	0	1	**3**	1
Relating to other (-'ve)	0	0	2	0	0	0	0	0	0
New Possibilities (+'ve)	1	**3**	2	1	2	1	1	2	**3**
New Possibilities (-'ve)	2	0	**3**	0	0	1	0	1	1
Personal Strength (+'ve)	1	**3**	**3**	**3**	2	0	1	2	2
Personal Strength (-'ve)	**3**	0	2	0	0	0	0	1	0
Spiritual Change (+'ve)	0	0	1	0	0	0	0	**3**	0
Spiritual Change (-'ve)	0	0	2	0	0	0	0	0	0
Appreciation of Life (+'ve)	1	**3**	2	0	1	1	1	2	**4**
Appreciation of Life (-'ve)	0	0	**3**	0	0	0	0	0	0

0 = I did not experience this change as a result of my crisis.

1 = I experienced this change to a very small degree as a result of my crisis.

2 = I experienced this change to a small degree as a result of my crisis.

3 = I experienced this change to a moderate degree as a result of my crisis.

4 = I experienced this change to a great degree as a result of my crisis.

5 = I experienced this change to a very great degree as a result of my crisis.