2019

Exploring Psychological Readiness to Return to Sport After Injury

Scott Donald
dona7910@mylaurier.ca

EXPLORING PSYCHOLOGICAL READINESS TO RETURN TO SPORT AFTER INJURY

By

Scott Donald

BSc. HK. St. Francis Xavier University, 2017

THESIS

Submitted to the Faculty of Graduate Studies

Kinesiology and Physical Education

in partial fulfillment of the requirements for

Master of Kinesiology

Wilfrid Laurier University

Abstract

Athletes are often cleared to return to sport with little emphasis on psychological readiness in relation to physical readiness. This is important because athletes who are not psychologically ready to return to sport (RTS), despite being physically cleared, may lack motivation to compete and lack confidence in their abilities (Podlog, Banham, Wadey, & Hannon, 2015), drop out of sport, fear re-injury (Ardern et al., 2014), worry about future performance (Podlog & Eklund, 2006), experience anxiety and feel depressed (Tracey, 2003) or incur further injury (McCullough et al., 2012). Remarkably, there is no definition of psychological readiness consistently used in the literature. It is imperative to understand this construct more accurately before practitioners over-rely on Glazer's (2009) Injury-Psychological Readiness to Return to Sport Scale (IPRRS).

The purpose of this study was to explore injured athletes' experiences and perceptions of psychological readiness during rehabilitation and after return to competition (RTC). Interviews focused on athletes' emotions, behaviours, and cognitions surrounding the RTC process. Thematic analysis of personal interviews involving 15 university student-athletes before and after RTC (30 interviews total) revealed four inherent characteristics (mental, individual, dynamic, knowing), multiple precursors (RTC precursors, coping precursors), and three major attributes of injured athletes' psychological readiness (confidence, focus, realistic expectations). A definition of psychological readiness to RTS is proposed. Current conceptualization of psychological readiness still needs refinement, but results from this research should be used to facilitate improvement of the IPRRS or development of a new measure and aid athletic therapists, coaches, and athletes in the utilization of more comprehensive RTS protocols.

Acknowledgements

First and foremost, I would like to thank my supervisor, Dr. Jill Tracey. Since the beginning you put my interests ahead of everything else and always made sure I was enjoying the process. You taught me to have passion for my work, to expand my knowledge beyond my own area of interest, and perhaps most importantly, to think for myself. Your guidance throughout this project has been irreplaceable.

Next, I would like to thank my Thesis Advisory Committee, Dr. Jennifer Robertson-Wilson and Dr. Amy Gayman. You both graciously kept me in check when I wanted to take on more than I could handle. This project would not be where it is without your deep knowledge in the research process and boundless attention to detail. A special acknowledgement goes out to Dr. Roger Buehler from the department of psychology at WLU for taking on the role of external examiner. Roger, thank you in particular for challenging the analytic process and the presentation of results, you contributed greatly to the credibility of my research.

To the WLU athletic therapists, Jamie Carlson, Jen Childs, and Jennifer Martins, I seriously could not have been in contact with so many athletes in such a smooth and timely manner without your incredible efforts. Much of the success of this project is due to your kindness, thoughtfulness, and willingness to help. Thank you for your patience with me even in the busiest of times.

Lastly, I extend enormous appreciation to all of my participants. The schedule of a student-athlete is exceedingly overwhelming, and you not only supported me with your valuable time, but made our interactions enjoyable and effortless. Thank you for sharing your experiences, perspectives, and unique insights.

Table of Contents

List of Figures

Glossary of Terms

Active coping: A coping effort characterized by an attempt to use one's own resources to deal with a problem situation (Zeidner & Endler, 1996).

Approach-focused coping: "The process of initiating actions toward a stressor in order to reduce its intensity" (Gallagher & Gardner, 2007, p. 49).

Avoidance-focused coping: "Efforts at reducing the effects of the stressor (i.e. thoughts and/or emotions) by engaging in behavioral efforts to disengage from the source of stress" (Gallagher & Gardner, 2007, p. 49).

Cognitive appraisal: "A process through which the person evaluates whether a particular encounter with the environment is relevant to his or her wellbeing, and if so, in what ways" (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986, p. 992).

Confidence: The degree of certainty individuals have about their ability to succeed (Vealey, 1986).

Fear of re-injury: Preoccupation with the occurrence of an injury after an initial injury of the same type and location (Walker, Thatcher, & Lavallee, 2010).

Motivation: "The underlying attitudes and goals that give rise to action" (Ryan & Deci, 2000, p. 54).

Phenomenological approach: A focus on exploring how human beings make sense of experience and transform experience into consciousness, both individually and as shared meaning (Patton, 2002).

Return to competition (RTC): The process of a previously injured athlete entering competition.

Return to sport (RTS): The process of a previously injured athlete returning to full participation in sport without restriction (resumed participation in strength and conditioning activities, practice, and competition) (Creighton, Shrier, Schultz, Meeuwise, & Matheson, 2010).

Self-distraction coping: A coping effort characterized by an attempt to divert attention away from a stressor and toward other unrelated thoughts or behaviors (Carver, 1997).

Self-efficacy: "Judgements of how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982, p. 122).

Sport confidence: "The belief or degree of certainty individuals possess about their ability to be successful in sport" (Vealey, 1986, p. 223).

"When I come back from an injury it's not whether my body's ready for it, it's if my head is ready for it." - *Isaak*

Chapter 1: Literature review

Sport injury can be a difficult experience for athletes. Athletes often have the necessary physical and psychological skills to succeed while they are healthy; however, the same is not necessarily true while dealing with injury. Physical injuries restrict athletes from training and competing, and psychological skills typically used in competition are not necessarily used during rehabilitation. Lacking psychological skills during injury rehabilitation may hinder athletes' abilities to cope effectively with the demands of rehabilitation and the emotional upheaval accompanying the injury experience (McCullough et al., 2012; Santi & Pietrantoni, 2013). Problems, such as sport dropout, further injury, and performance decrements tend to occur when athletes lack psychological readiness to return to sport after injury, and most often occur due to lack of motivation and fear of re-injury (Ardern et al. 2014; McCullough et al., 2012). In order to combat these problems, more research is needed to understand how injured athletes can improve psychological readiness.

The following review of the literature begins with an introduction to typical appraisals and responses athletes experience after sport injury. This overview of the interaction between cognitive, emotional, and behavioral responses in injured athletes should provide a basic understanding of the key factors involved in the psychology of sport injury. Following, an overview of research on psychological readiness along with its proposed dimensions from recent literature will be acknowledged to help guide the methodology of the present study. The

contribution of coping strategies on injury response and psychological readiness will then be discussed, followed by the rationale and purpose of this research study.

1.1 Psychological response to injury

In addition to the physical impairments associated with sport injury, a variety of emotions can accompany the injury experience including, but certainly not limited to, feelings of worry and loss, decreased self-esteem, frustration, and anger (Ruddock-Hudson, O'Halloran, & Murphy, 2014; Tracey, 2003). These negative emotions are in large part influenced by the athlete's initial cognitive appraisal of the injury. Clement, Arvinen-Barrow, and Fetty (2015) observed that cognitive appraisal was influenced by the athlete's perception of the injury. If athletes perceived the injury to be severe or expected to be away from sport for an extended period of time, they had a more negative appraisal than those who perceived their injury as less inhibiting. In other words, the perceived severity of the injury contributed to the athlete's cognitive appraisal, which in turn affected their emotional response to it.

This notion was previously introduced in a qualitative study conducted by Tracey (2003) on the emotional responses of injured athletes. Negative thoughts about the impact of an injury on training and competition led athletes to feelings of depression and anxiety, while positive thoughts had the potential to enhance motivation to return to competition. Accordingly, cognitive appraisal of the injury also impacted athletes' behavioural responses. Athletes who felt a sense of control over their injury and recovery were often more invested in their rehabilitation, exhibited by learning details about their injury and how to expedite the recovery process (Tracey, 2003). Emotional and behavioural responses to injury can then influence subsequent cognitive appraisals, and the same process can occur as behavioural responses influence emotions (Wiese-Bjornstal, Smith, Shaffer, & Morrey, 1998). Wiese-Bjornstal and colleagues (1998) originally

proposed this idea, in which the integrated model of response to sport injury depicted the reciprocal relationships between an injured athlete's cognitive appraisals, emotional responses, and behavioural responses. All three responses impact an athlete's coping strategies, and all are influenced by personal factors (e.g., personality traits, coping skills) and situational factors (e.g., time in the sport season, rehabilitation environment) over time.

Tracey's (2003) illustration of the changes in athletes' appraisals and emotional responses across rehabilitation helps deduce the importance of understanding psychological readiness to return to sport. Within 24 to 72 hours after injury, athletes express an array of emotions, including frustration, confusion, worry, and decreased self-esteem (Tracey, 2003). At one-week post injury, segregation from the team triggers more emotional responses that lead to athletes seeking social contact and support. By three weeks post-injury, athletes who return or are close to returning to sport display more positive emotions and are better able to cope with other areas of life, but still feel isolated from the team. Tracey (2003) suggested future research investigate emotional state immediately before and after return to competition. It is reasonable to surmise that after return to competition, athletes may express further changes to their emotional responses and coping abilities.

The response to injury is complex, and so the return from injury is relatively individualistic. Various personal and situational factors influence athletes' responses to injury. Masten, Strazar, Zilavec, Tusak, and Kandare (2014) noted distinct personality traits that influence psychological response to injury. Athletes with higher emotional lability (i.e., uncontrollable fluctuation in mood) were more likely to catastrophize the injury, while traits such as neuroticism and calmness, significantly predicted effective coping behaviors and better adjustment to stress. Interestingly, Dawson, Hamson-Utley, Hansen, and Olpin (2014) assessed

physiological and subjective stress in injured athletes and observed significantly higher levels of reported stress in females than males, despite no difference in cortisol levels, strongly suggesting psychological stress responses to injury may not coincide with physiological stress markers. Since injury can impact athletes similarly and differently across physical and psychological characteristics, effort not only needs to be put towards understanding when athletes are physically ready to return to sport, but also psychologically ready. The following sections outline the importance of psychological readiness to return to sport and the need to understand and define psychological readiness going forward.

1.2 Psychological readiness to return to sport

The need for an athlete to be physically ready to return to sport after injury is evident. Creighton, Shrier, Shultz, Meeuwisse, and Matheson (2010) designed a decision-based model in which recommendations were provided for clearing an athlete to return to sport. Such recommendations focus around evaluations of the athlete's health status (e.g., physical signs and symptoms, psychological state), evaluations of the risk in participation (e.g., type of sport the athlete is re-entering, competition level), and specific decision modifiers (e.g., time in the sport season, desire to compete). The athlete's psychological state and desire to compete are the only two psychological factors out of 19 factors considered to clear an athlete for sport participation (Creighton et al., 2010). Athletes are often cleared to return to sport with little to no emphasis or attention on their psychological readiness in relation to their physical readiness (Forsdyke, Gledhill, & Ardern, 2017). This is a considerably important issue in sport because athletes who lack psychological readiness, despite being physically cleared to play, might be unmotivated to compete, lack confidence in their abilities (Podlog, Banham, Wadey, & Hannon, 2015), drop out of sport, fear re-injury (Ardern et al., 2014), fear future performance (Podlog & Eklund, 2006),

experience anxiety and feel depressed (Tracey, 2003) or experience further injury (McCullough et al., 2012).

Currently, there is no definition of psychological readiness that is consistently used in the sport literature (Podlog et al., 2015). Lack of a clear definition is problematic as this means the same phenomenon is not necessarily being measured or assessed every time research is conducted on psychological readiness in sport. For example, past research on psychological readiness has adopted the notion that simply returning to sport is the only criterion for successful psychological recovery from injury (Ardern et al., 2014; Kvist et al., 2013). Researchers have adopted this perspective based on the belief that if an athlete is physically cleared to return to sport after ACL reconstruction and decides to return after a long hiatus from sport, he or she is psychologically ready to compete. In such cases, data collection ceases once the athlete returns to training. However, it would be credulous to believe with the current state of research on psychological readiness that simply returning to sport means an athlete is psychologically prepared to re-enter competition. For example, an athlete might be motivated to return to sport, but lack necessary psychological skills to cope with the challenges of transitioning from rehabilitation to competition (Podlog & Eklund, 2006). Due to this lack of logical consistency, other researchers have deemed psychological readiness to exist when the athlete meets certain psychological criteria before returning to competition (Podlog et al., 2015; Podlog et al., 2012), much like how the athlete must meet physical criteria before being cleared to return to training and competition.

The latter perspective was used as a starting point for the eventual construction of a definition of psychological readiness. Specifically, athletes who are psychologically ready possess psychological attributes that contribute to pre-injury performance levels or higher and

lack attributes that lead to sport dropout or re-injury. It is possible not all defining attributes of psychological readiness have been identified in the literature thus far, however researchers currently refer to athletes being psychologically ready to return to sport when they have (1) confidence in returning to sport, (2) realistic expectations of sporting capabilities, and (3) motivation to regain previous performance standards (Glazer, 2009; Podlog, et al., 2015). The following sections provide an overview of the literature covering the development of the concept, then the three main attributes of psychological readiness are briefly explored, followed by the provision of an operational definition of psychological readiness to RTS.

1.3 Development of psychological readiness

Research has concentrated primarily on injured athletes' psychological readiness to return to sport (RTS), however, return to competition (RTC) is emphasized in the present study and refers to a more specific process within RTS. The process of RTS refers to re-entering training, practice, and competition, whereas RTC solely refers to the process of re-entering competition. A necessary distinction is made because of the reported changes that occur in the psychological response of athletes from the time of injury to RTC. This study devotes a particular focus on RTC in order to augment the overall understanding of RTS. It is possible greater insight into attributes concerning psychological readiness to RTC can contribute to further understanding of attributes pertaining to psychological readiness to RTS. Both processes are mentioned throughout the entirety of this study, but the important difference is psychological readiness to RTS encompasses psychological readiness to RTC.

The conceptualization of psychological readiness has primarily been developed by qualitatively assessing the psychological needs of athletes as they re-enter competition. However, early work by Podlog and Eklund (2005) retrospectively examined the relationship

between motivation to RTS (using the Adapted Sport Motivation Scale; Pelletier et al., 1995) and psychological RTS outcomes (measured by the Return to Sport After Serious Injury Questionnaire; Podlog & Eklund, 2005) in 180 competitive athletes from Canada, Australia, and England. Athletes ranged in age from 18 to 44 years (mean = 25 years) and had returned from injury in the past six months to 14 years (mean = 2 years, 9 months). The study included athletes who had been injured for a minimum of two months. Results indicated a positive relationship between intrinsic motivation and positive psychological outcomes after return, such as a new-found outlook on sport. In contrast, the most extreme form of extrinsic motivation was positively related to negative psychological outcomes, such as reduced confidence and higher fear of re-injury. These findings provided preliminary implications suggesting motivation to RTS likely impacts psychological readiness to return.

In 2006, Podlog and Eklund further explored the experiences of 12 elite athletes from Canada and Australia returning to sport following injury. Athletes ranged in age from 18 to 28 years (mean = 21 years) and length of injuries ranged from two months to 14 months (mean = 7 months). Initial interviews were conducted one week to one month prior to RTC, while the second, third and, in some cases, fourth interviews were conducted within 1-2 months, 3-4 months, and 6-8 months, respectively, following the initial interview. Interview questions were designed to allow the athletes to address important psychosocial issues and processes involved in RTS (e.g., thoughts, emotions, fears, support networks, expectations, goals, setbacks, accomplishments, and growth). Although specific dimensions of psychological readiness were not intentionally addressed in the study, the results laid the groundwork for future research to explore potential cognitions and appraisals relevant to psychological readiness. Most athletes reported motivation to regain pre-injury performance standards and accomplish personal bests

likely because, in doing so, they would feel a sense of competence and efficacy in their abilities. Additionally, being able to perform skills at a high level of competency without experiencing further injury increased confidence in athletes, and fear of re-injury was an adverse experience in which athletes felt the need to overcome. This work suggested feelings of confidence in one's sporting capabilities and overcoming fear toward re-injury may go hand-in-hand, to some degree (Podlog & Eklund, 2006).

Podlog and Eklund (2009) examined the experiences of the same 12 athletes as Podlog and Eklund (2006) with intent to gain a more comprehensive understanding of high-level athletes' perceptions of successful RTS following injury. Athletes indicated a successful RTS incorporates returning to pre-injury performance levels, staying true to pre-injury performance goals, maintaining realistic expectations of sporting capabilities, remaining unconcerned with re-injury, and having the ability to overcome adversity (i.e., being able to cope with adverse situations). Of particular interest, athletes reported performance accomplishments and positive feedback instilled feelings of competence and satisfaction, which facilitated more positive appraisals of the return from injury.

Podlog and colleagues (2012) similarly explored the experiences of 11 adolescent athletes throughout rehabilitation and RTS. Athletes were Australian and ranged in age from 12 to 17 years (mean = 15.3 years). Injuries ranged in length from one month to 13 months (mean = 5.4 months). Interviews were conducted throughout the rehabilitation phase (from time of injury to time of medical clearance), pre-RTC phase (from time of medical clearance to time of RTS) and RTC phase (within the first three months of the athletes' RTC). A successful RTS was reported by the athletes as including attainment of higher levels of athletic achievement than pre-injury, avoiding re-injury, and receiving positive feedback from coaches and significant others.

On the other hand, lacking a successful RTS included feelings of not matching pre-injury performance level, lacking confidence during play, lacking adequate fitness levels, and having a negative mindset. These findings also highlight the notion that psychological readiness largely relies on perceived competence in the form of performance accomplishments and verbal feedback from others.

Podlog, Banham, Wadey, and Hannon (2015) explored experiences of psychological readiness in seven competitive athletes from the United Kingdom who ranged in age from 18 to 30 years (mean = 21.9 years). Injury length ranged from four months to three years and athletes were in the process of returning to sport or had returned to sport within the past 12 months. The study used focus groups to explore how injured athletes recognize psychological readiness and how psychological readiness may be developed. One-on-one interviews were also conducted to allow athletes to share their own specific experiences and perceptions of psychological readiness during RTS. The results of this study supported previous research, such that athletes reported the most essential psychological elements of a successful RTS to include confidence in returning to sport, realistic expectations of sporting capabilities, and motivation to regain previous performance levels. These attributes make up the current definition of psychological readiness and are briefly explored before an operational definition of psychological readiness to RTS is proposed.

1.3.1 Confidence

Confidence could be the most important attribute of psychological readiness. It has been reported by athletes as “the key element of psychological readiness” (Podlog et al. 2015, p. 5). In a review of psychosocial factors and rehabilitation outcomes, researchers suggested that high self-confidence can stem from two sources: 1) confidence in the injury site and 2) confidence in

one's ability to meet the demands of sport performance (Forsdyke, Smith, Jones, & Gledhill, 2016). As mentioned previously, feeling in control of the injury and rehabilitation leads athletes to think more positively about the situation and behave accordingly, often resulting in stronger adherence to rehabilitation. High confidence (or self-efficacy) is conducive to strong belief in, and motivation towards, a positive outcome in a task or activity (Bandura, 1977) and has a direct impact on injury-induced anxiety. Setting effective goals, visualizing positive images and sensations of the return to competition, and feeling adequate social support are all strong contributors to self-confidence throughout injury and leading up to RTS (Santi & Pietrantoni, 2013), which might explain the beneficial impact of confidence on psychological readiness.

1.3.2 Realistic expectations

Athletes' unrealistic performance expectations (e.g., overestimation of abilities) might cloud their perceptions of readiness. In addition, the attempt to meet high expectations can risk re-injury and the inability to meet expectations can detract from athletes feeling psychologically ready and successful upon RTC (Podlog et al., 2015). Podlog and colleagues (2015) emphasized the importance of coaches and rehabilitation specialists aiding athletes in establishing realistic goals and expectations to ensure readiness. Athlete qualities such as patience, acceptance of physical limitations, and flexible goal-setting were deemed influential in creating realistic expectations. Patience helped ensure reasonable return timelines, acceptance helped athletes realize skill execution and performance would not immediately meet previous standards, and effective goal-setting helped athletes recognize the necessary steps to reach certain athletic abilities. Readjusting goals and expectations when presented with unforeseen circumstances and poor performances has been deemed essential to perceiving RTS as successful because new perspectives can lead to satisfaction with smaller accomplishments (Podlog & Eklund, 2009).

1.3.3 Motivation

Motivation to regain previous performance standards has been expressed by athletes as going "hand-in-hand with being psychologically ready" (Podlog et al., 2015, p. 8) since motivation helps athletes overcome the challenges associated with RTS. Some of the factors contributing to one's motivation to RTS are also associated with successful sport performance, such as goal-setting, social support, and sport enjoyment. More specifically, Podlog and Eklund (2005) found that lacking motivation can significantly contribute to athletes' decisions not to RTS after injury despite being physically cleared to return. This might be due to the high level of motivation required by elite and sub elite athletes to overcome potential difficulties during RTS. They also noted intrinsic motivational factors likely contribute to more positive sport perspectives, and extrinsic motivational factors likely lead to concerns upon return to sport. Understanding the circumstances that motivate athletes during rehabilitation might indicate potential contributing factors to psychological readiness.

1.4 Measures of psychological readiness

In addition to the current attributes of psychological readiness that have been identified in the literature, it is possible there are more that have not yet been established due to the somewhat limited amount of research done on the topic to date. For example, re-injury anxiety, understood synonymously as fear of re-injury, has not been reported as a central attribute of psychological readiness, but more specifically as a lower-order theme impacting one's confidence returning to sport (Podlog et al., 2015). However, re-injury anxiety has been recognized as an important element for discussion around RTS because athletes who can effectively manage re-injury anxiety experience more positive outcomes from rehabilitation (Ardern et al., 2014; for a review see Forsdyke et al., 2016). Furthermore, psychological readiness to RTS has been assessed using

different quantitative measures that are limited in terms of the attributes that are considered to reflect the general concept of psychological readiness. Measures of psychological readiness should provide insight into all of the attributes that comprise an athlete's psychological readiness to RTS. In addition to understanding how psychological readiness is conceptualized in the literature, understanding how psychological readiness has been measured is necessary so an assessment tool that considers the comprehensive definition can be developed. A brief overview will be provided of three measures that have been used to inform decisions around psychological readiness to RTS in one form or another.

The Re-Injury Anxiety Inventory (RIAI; Walker, Thatcher, & Lavallee, 2010) focuses on an athlete's anxiety toward re-injury during rehabilitation and re-entrance into training and competition. Internal consistency of items measuring rehabilitation re-injury anxiety (alpha = 0.98) and re-entry into competition re-injury anxiety (alpha = 0.96) was above the 0.7 criterion value. More research is needed to assess the concurrent and predictive validity of this measure. The RIAI is a 28-item survey that asks injured athletes to assess each item as related to the self, from 0 (not at all) to 3 (very much so). The inventory includes items directly assessing an athlete's re-injury anxiety (e.g., "I am worried about becoming re-injured during re-entry into competition") and items concerned with injury appraisals (e.g., "I have doubts that I will remain injury free during re-entry into competition") but lacks inclusion of an athlete's confidence and motivation to adequately perform in competition, which have been recognized as important attributes of psychological readiness.

The ACL-Return to Sport after Injury Inventory (ACL-RSI) was developed by Webster, Feller, and Lambros (2008) to assess the psychological impact of returning to sport following anterior cruciate ligament (ACL) reconstruction surgery. The ACL-RSI is the strongest predictor

of returning to pre-injury level sport 12 months post ACL reconstruction and has demonstrated construct validity (Ardern et al., 2014). The 12-item scale focuses on three types of psychological responses associated with RTS: emotions (e.g., “Do you find it frustrating to have to consider your knee with respect to your sport?”), confidence in performance (“Are you confident that you can perform at your previous level of sport participation?”), and risk appraisal (e.g., “Do you think that you are likely to re-injure your knee by participating in your sport?”). The ACL-RSI has been used to measure psychological readiness in injured athletes (Ardern et al., 2014) but was designed specifically for athletes returning from ACL injuries and therefore lacks generalizability.

The Injury-Psychological Readiness to Return to Sport Scale (IPRRS; Glazer, 2009) is a six-item questionnaire rated on a 100-point scale with responses provided in intervals of 10 (0 = little to no confidence, 50 = moderate confidence, 100 = utmost confidence). The IPRRS is comprised of six items that measure efficacy beliefs (e.g., “Confidence in skill level/ability”), including two items that specifically focus on confidence (or lack of anxiety) toward the injury (e.g., “Confidence in injured body part to handle the demands of the situation”). The six items were developed by a panel of experts informed on the topic of psychological readiness, with the purpose of tailoring items to appropriately relate to athletes from every sport background. The scale has been used to assess athletes’ psychological readiness as perceived by athletes and coaches (de la Vega, Barquin, Aguayo, & Marquez, 2017). Results indicated significant differences in psychological readiness across all four stages of measurement (following injury, before entering practice, before entering competition, and after competition). No differences were found related to scores reported by coaches, suggesting athletes’ self-report data was accurate. De la Vega et al. (2017) indicated that confidence plays a key role in returning to sport,

however it is important to note the IPRRS lacks items surrounding athletes' appraisals and motivation to regain previous performance standards and only contains questions regarding confidence.

Although these quantitative measures of psychological readiness are valid assessment tools of specific factors relating to readiness, none of the measures encompass findings from the most recent literature on psychological readiness. Therefore, the present study used qualitative inquiry as the primary method of exploration for psychological readiness, using quantitative measures as methods triangulation to support and aid in the depiction of qualitative findings. Since the current attributes emerged from qualitative analyses, qualitative inquiry might provide further insight into the psychological factors contributing to readiness to RTS after injury, such as athletes' appraisals, confidence, fear, motivation, and coping strategies. Coping strategies are a particular point of interest because of their influence on affect, behavior, and cognition throughout injury (Wiese-Bjornstal et al., 1998). Podlog et al. (2015, p. 1) acknowledged that "it is apparent that many athletes may be reentering competitive sport before feeling mentally prepared to do so or in spite of the fact that they lack sufficient psychological skills necessary for coping with the challenges inherent in the return transition." For this reason, it is possible coping has an influence on psychological readiness. Different coping strategies will be discussed in terms of positive and negative influences throughout rehabilitation and how athletes use different strategies depending on injury severity.

1.5 Coping

Athletes attempt to cope with their injuries and physical rehabilitation in different ways. Similar to one's cognitive appraisals influencing the response to injury, the quality and intensity of perceived stress influence the coping strategy employed to overcome injury (Anshel,

Jamieson, & Raviv, 2001). Coping is defined as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984b, p. 141). Two main coping strategies, avoidance-focused coping and approach-focused coping impact an athlete's response to injury (Gallagher & Gardner, 2007; Podlog et al., 2012). Those who employ an avoidance-focused coping strategy interpret injury as a threat and exhibit behaviors that dissociate from the stressor (i.e., injury). Conversely, those who express approach-focused coping strategies interpret injury as a challenge and exhibit behaviors toward the stressor to reduce its intensity (Gallagher & Gardner, 2007).

1.5.1 Avoidance-focused coping

Avoidance-focused coping strategies have been found to significantly predict increased emotional distress throughout injury. Gallagher and Gardner (2007) suggested this is the case particularly in contexts similar to that in which the injury occurred. These findings may partially explain the increased fear of re-injury that athletes experience when re-entering training and competition. In contrast, Carson and Polman (2010) explored the role of avoidance coping in injury rehabilitation and identified several beneficial outcomes. It appears avoidance coping facilitates short-term benefits such as distraction from injury, toleration of pain, and development of new hobbies. However, becoming too absorbed in distraction strategies and hobbies outside of sport may hinder the rehabilitation process (Carson & Polman, 2010).

1.5.2 Approach-focused coping

Researchers have shown that maintaining the appropriate coping strategy is influential on rehabilitation adherence. For instance, approach-focused coping strategies involve deliberate action plans toward a goal (Podlog et al., 2012). Setting action plans in conjunction with goals

can help injured athletes feel in control of rehabilitation. In addition, setting clear and realistic goals can motivate athletes to adhere to their rehabilitation regimen (Hamson-Utley, 2008), and has been found to be most effective when goals are set in collaboration between the athlete and rehabilitation team (Baker, Marshak, Rice, & Zimmerman, 2001; Podlog et al., 2012). Additionally, athletes have expressed that setting goals cooperatively with the therapist helps maintain motivation and reduce uncertainties surrounding the injury (Podlog et al., 2012). Research on elderly (Baker et al., 2001) and adolescent (Podlog et al., 2012) participants suggests cooperative goal-setting in a rehabilitation context has the potential to benefit a broad range of age groups.

Levy, Polman, and Clough (2008) examined goal intentions and adherence in 70 athletes participating in a sport injury rehabilitation program. After 8 to 10 weeks in which participants were instructed to adhere to one 20-minute session of home-based rehabilitation per week (in addition to two clinic rehabilitation sessions per week), Levy and colleagues suggested that action plans may help injured athletes act on their goal intentions while at home. In other words, setting plans to act on goal intentions may help individuals cope with the perceived barriers that keep them from adhering to their rehabilitation exercises. Gollwitzer and Sheeran (2006) termed these action plans as *implementation intentions*. An implementation intention is an if-then plan that links a situational cue with a response that will effectively help attain a goal. For example, if situation A is encountered (e.g., 20 minutes of free time during the day), behaviour B is initiated (e.g., initiating planned rehabilitation exercises) in order to reach goal C (e.g., a certain number of rehabilitation sessions per week). Setting implementation intentions has been documented to improve the rate of goal attainment because doing so often helps people confront and cope with the problems that arise along the way to achieving a goal (Gollwitzer & Sheeran, 2006).

1.5.3 Coping with injury severity

Athletes who experience short-term injuries may experience different challenges and express different coping strategies throughout rehabilitation, compared to those who experience long-term injuries. Masten et al. (2014) found that athletes with less severe injuries, lasting up to one month, used more negative coping strategies (e.g., catastrophizing) to deal with pain, compared to athletes with more severe injuries lasting from one month up to six months. The athletes with less severe injuries also used fewer positive, or approach-focused, coping strategies. Masten et al. (2014) propose that athletes with more severe injuries displayed more positive coping strategies because they may have had stronger desires to be integrated into the rehabilitation process as quickly as possible, and injury length allowed more time to adjust to rehabilitation. These findings suggest injury severity impacts the psychological and behavioural response to injury, including their abilities to cope with the challenges of rehabilitation. Understanding the experiences of athletes with less severe and more severe injuries might provide insight into the relationship between coping and psychological readiness attributes across different situations and experiences.

1.6 Definition of psychological readiness

The psychological attributes and psychosocial factors identified in the literature that contribute to pre-injury performance levels and help athletes avoid dropout or re-injury (Podlog et al., 2015) were used to guide the development of qualitative interview questions (e.g., focusing on the emotions and cognitions during pre and post RTC) and subsequently construct a more informed and useful definition for future research in this area. Only attributes considered by Podlog et al. (2015) to define psychological readiness were used to construct an operational definition, since this is the only research that has specifically attempted to conceptualize

psychological readiness using athletes' experiences and perspectives. For the purpose of this study, the operational definition of psychological readiness to RTS is defined as *a dynamic psychosocial process in which athletes return to sport while possessing realistic expectations of the injury and abilities, high confidence in the injury site and ability to perform, and high motivation to regain pre-injury performance levels*. Understanding how psychological readiness has been developed up to this point aided in properly developing interview questions to build upon this definition.

1.7 Rationale

It is evident that a qualitative approach has been the primary method used to refine the attributes of psychological readiness in athletes returning to sport. Appropriately, qualitative methodologies are useful in establishing the meaning of a phenomenon from the views of those who have experienced it (Creswell, 2014). The qualitative studies summarized above included injured athletes who were away from sport-specific training and competition for at least one month (and often much longer), however, did not account for experiences of athletes with acute injuries lasting less than one month. Accounting for this missing piece in the literature may prove important for athletes with injuries lasting up to one month who struggle or cannot cope with returning to sport, and as a result, are not psychologically ready to RTS. The present study included participants with injuries lasting less than and more than one month to further understand the role of coping in the RTS, and RTC, process.

A qualitative approach has been used to explore the specific experiences of athletes as they transition from injury rehabilitation to sport training and competition. Yet, researchers have only conducted interviews within several months after RTC, possibly because athletes have reported challenges throughout this period (Leddy, Lambert, & Ogles, 1994; Podlog & Eklund,

2006). Exploring this phenomenon within only days after RTC may prove useful for participants' recall of their experiences. However, it may not provide the athletes with enough time to recognize the early challenges or successes pertaining to their RTC. An inherent interest in the present study was to explore experiences of psychological readiness in athletes before RTC and within two weeks following RTC. This timeline has not been used previously to qualitatively assess psychological readiness and it allowed for detailed and immediate examination of athlete experiences after transition to competition.

Most importantly, previous research has assumed that an optimal level of psychological readiness prior to RTS is possible, at least in terms of the attribute(s) researchers have explored (Glazer, 2009; Walker et al., 2010; Webster et al., 2008). Specifically, each of the measures assessing psychological readiness allow for perfect scores (e.g., the IPRRS allows athletes to rate themselves 100 out of 100 points on all six items of 'readiness'). From a self-efficacy theory perspective, optimal self-efficacy, in large part, derives from performance accomplishments and mastery experiences (Bandura, 1977). Without opportunities to experience optimal physical and psychological states (those which may only be possible in competition) athletes may never feel completely confident or 'ready'. Of course, this is why athletes return to sport-specific training prior to re-entering competition. They want to feel as ready as possible to compete. Yet, performance in competition is likely how one's readiness to return is assessed by the athlete. Podlog et al. (2015) noted that athletes who had not yet returned to competition were unable to assess RTS outcomes of psychological readiness. Therefore, it may be the case that until athletes experience success and/or personal achievement in competition, they do not experience complete psychological readiness. As such, a clearer understanding of psychological readiness before and after RTC is necessary to better establish what constitutes athletes' feelings and experiences of

readiness. This may help sport psychology and sports medicine practitioners better understand assessment of psychological readiness and subsequently increase psychological readiness in athletes prior to RTC, or at least better identify those who are not psychologically ready to return.

A primary goal of the present study was to augment the exploration of athletes' experiences and perceptions of psychological readiness to allow future research to improve upon the one scale specifically designed to measure psychological readiness, the IPRRS (Glazer, 2009). The IPRRS was developed in order to measure athlete psychological readiness, but the scale was created using perspectives of coaches and athletic trainers. Consequently, the IPRRS only measures athlete confidence throughout RTS. To understand psychological readiness in more detail, Podlog et al. (2015) explored perspectives of athletes who had personally experienced psychological readiness returning to sport and discerned additional attributes of psychological readiness including motivation and realistic expectations. As mentioned, research on this particular topic is still considered in its infancy so there are further attributes to consider that potentially impact psychological readiness, including concerns around RTS (e.g., re-injury anxiety) and the role of coping. The lack of consistent findings and definition of psychological readiness necessitate further study in this area.

1.8 Purpose

A more in-depth understanding of psychological readiness to RTS is warranted to guide injured athletes back to competition in a state of readiness and competence rather than anxiety and fear. However, researchers have recognized the need to develop a consistent operational definition of readiness that may be applied over the course of RTS and RTC. Therefore, the purpose of this phenomenological study was to explore injured athletes' experiences and

perceptions of psychological readiness during rehabilitation and after RTC. Further insight into athletes' psychological readiness to transition from injury rehabilitation to competition could help in the development of a definition of psychological readiness. Further insight could additionally support and/or improve the IPRRS, or help develop a more comprehensive measure of psychological readiness.

1.9 Research Questions

In order to explore athletes' experiences surrounding psychological readiness to RTS, the study was guided by the following research questions:

1. What factors contribute to athletes feeling psychologically ready to compete, prior to RTC?
2. What factors contribute to athletes feeling psychologically ready to compete, after RTC?
3. What factors, if any, differentiate psychological readiness before and after RTC?

Chapter 2: Methods

2.1 Research Design

This study aimed to explore the nature of injured student-athletes' experiences returning to competition. In order to understand perceptions of psychological readiness and accurately describe what these athletes experienced, the focus was to make sense of, and interpret, their experiences as directly as possible. Previous literature helped guide interview questions and interpretation of in-depth interviews, while quantitative tools were used as sources of data triangulation to support interpretation of interview responses and presentation of qualitative findings.

The design consisted of a phenomenological approach to qualitative data collection, through semi-structured interviews with student-athletes to explore psychological readiness to RTS and RTC. Each athlete participated in one interview between their return to practice and RTC and one interview after RTC. In most cases, athletes were still in the late stages of rehabilitation during the first interview. To gain a more in-depth understanding of psychological readiness from the perspective of athletes, phenomenological inquiry was chosen for this study. A phenomenological approach is advantageous to understand student-athletes' meanings and experiences transitioning from rehabilitation to sport by capturing experiences of psychological readiness as directly as possible (Creswell, 2014; Patton, 2002). Semi-structured interviews allowed for emergent flexibility within the current study, helping to limit restrictions on interpretation, guide our inquiry throughout the interview process and permit interview questions to shift as new ideas emerged (Creswell, 2014).

2.2 Participants

For inclusion in the present study, participants were considered to have sustained a moderate to severe "time-loss" injury, defined as being unable to take full part in training and/or competition for a minimum of 8 days (Fuller et al., 2006). Concussed athletes were not considered for participation due to uncertain and often lengthy return timelines, and the cognitive demands of study participation contraindicated for concussion recovery protocols. Participants consisted of 15 student-athletes (n = 8 males, 7 females; mean age of 20.7 years, SD = 1.8) who sustained a moderate to severe injury. Student-athletes represented the following team sports: basketball (n = 1), football (n = 2), hockey (n = 3), lacrosse (n = 3), and soccer (n = 6). Injuries consisted of fractures (n = 2), shin splints (n = 2), sprains (n = 5), strains (n = 3), and tears (n = 3). Nine athletes were out of competition for less than 30 days, and six athletes were out of competition for over 30 days. The shortest time was 14 days and the longest was about two years. Two athletes were out of competition for at least one year. Average time between injury and RTC for the other 13 athletes was 31.7 days.

2.3 Procedure

2.3.1 Recruitment

Participants were recruited through three athletic therapists in a university department of athletics and recreation. The athletic therapists were supplied with copies of the letter of invitation to participate (see Appendix A). At onset of injury, one of the three therapists (depending on the sport the athlete played) presented athletes who met the inclusion criteria with the letter of invitation. Those who agreed to participate provided written consent for the therapist to share their contact information with the researcher, including first and last name, email address, and phone number. The principal investigator of this study was in regular contact with each athletic therapist and was informed of eligible and willing participants. Potential

participants were then contacted, an initial interview time was scheduled, and an informed consent statement was provided (see Appendix B). The researcher and participants were then in contact through phone and email to schedule the second interview after RTC. Five student-athletes completed the first interview without completing the second interview. Two of these individuals discontinued contact with the researcher and three individuals did not RTC within the sport season. Interviews completed with these five individuals were not included in the study. Participants recruited for this study were varsity student-athletes, all of whom were older than 16 years of age and did not need parental consent to participate.

2.3.2 Data collection

Four forms of data collection were used in this study. A demographic survey was used to collect general information about each participant prior to RTC. Following, the Brief COPE (Carver, 1997) was provided to assess potentially dysfunctional and adaptive coping responses to injury, and the IPRRS (Glazer, 2009) was used to assess each athlete's confidence in the ability to RTS. Finally, individual semi-structured interviews were conducted to inquire about each participant's perception of psychological readiness, as well as experiences returning to sport, specifically in regard to emotional responses, coping responses and the three current attributes of psychological readiness.

The demographic survey (see Appendix C) was used to gather information regarding each study participant. Participants were asked to include age, sex, year of eligibility, type of injury, time out of training/competition, and a list of past injuries with timelines. An athlete's history of injuries is an important piece of information because it is a personal factor contributing to rehabilitation efficacy and cognitive appraisal of the injury (Wiese-Bjornstal et al., 1998). Participants only completed the demographic survey prior to the initial interview.

The Brief COPE (Carver, 1997) is a 28-item inventory comprising relevant aspects of coping responses from 15 existing coping scales. The instrument was designed to measure 14 different coping responses (e.g., active coping, self-distraction coping), with two items representing each category of response (see Appendix D). For example, the scale includes two items to measure active coping, and two items to measure self-distraction coping, along with 24 other items representing 12 separate coping mechanisms. The overall purpose of this instrument is to assess potentially important coping responses, whether approach-focused (e.g., active coping, planning) or avoidance-focused (e.g., self-distraction, behavioural disengagement), across various real-life stressful situations. An inherent advantage of using this scale is that it measures multiple types of approach- and avoidance-focused coping strategies, and consequently, provides a detailed understanding of the specific coping strategies athletes use. A second advantage is items can be presented in a retrospective format (former coping responses), concurrent format (current coping responses), or in a dispositional format (general coping responses). All data used to develop the Brief COPE met or exceeded the minimum acceptable alpha scores (0.50) for reliability (Carver, 1997) and all items in the scale have been recognized as good representations of the response categories they are in. The scale has indeed shown good reliability and appears to have high content validity (Monzani, Steca, Greco, D'Addario, Cappelletti, & Pancani, 2015).

As previously discussed, Glazer's IPRRS (2009; see Appendix E) lacks recognition of athlete appraisals and motivation to regain pre-injury performance levels. Though, it is currently the only scale designed to measure psychological readiness in sport and has provided evidence of internal reliability as well as content, concurrent, and external validity (Glazer, 2009). An alpha reliability coefficient of at least 0.70 was computed for four separate time points throughout RTS

(after injury, before practice, before competition, after competition). External validity was established before ($r = 0.82$, $p < 0.001$) and after ($r = 0.83$, $p < 0.001$) competition between IPRRS scores as completed by the athlete and respective athletic therapist. Concurrent validity was determined by correlation analyses between the IPRRS and Total Mood Disturbance from the Profile of Mood States Short Form (McNair, Lorr, & Droppleman, 1992) across all four aforementioned time points. Negative correlations were found after injury ($r = -0.62$, $p = 0.02$), before practice ($r = -0.78$, $p < 0.001$), before competition ($r = -0.59$, $p = 0.004$), and after competition ($r = -0.57$, $p = 0.005$). Using the IPRRS was useful to determine athletes' confidence surrounding injury and performance and facilitated the ability to compare and contrast the leading measurement tool of psychological readiness with athletes' interview responses regarding their experiences of psychological readiness.

For the purpose of the present study, semi-structured interviews were used as the predominant method of data collection. Interviews took place at an agreed upon meeting space between the researcher and participant. To provide consistency across the data collection, the same researcher conducted all of the interviews. Two interviews were completed one-on-one with the athlete, audio-recorded, and transcribed verbatim. Average time between the first interview and RTC was 8.1 days and average time between RTC and the second interview was 8.8 days. Interviews lasted between 20 and 45 minutes each. Data collection ceased when all varsity sport seasons ended. The necessity to collect data within the academic year may have constrained the extent to which data saturation was reached, however no newly emerging themes were apparent throughout the final four interviews. In accordance with recommendations by Corbin and Strauss (2008), data analysis began after the first interview, allowing early identification of relevant concepts that influenced more sensitive listening in subsequent

interviews. This process helped the researchers recognize the extent to which new concepts were emerging.

The intent of using semi-structured interviews as the primary source of data collection was to obtain broad, varied perspectives from the participants (Creswell, 2014). In doing so, interview questions were open-ended in nature, so as to not limit the scope of potential responses. A central question was asked to gain information surrounding athletes' psychological readiness in general, followed by questions focused on athletes' experiences of the specific attributes of psychological readiness, and finished with a question asking participants to define psychological readiness (see Appendix F). It is important to note that the primary researcher introduced psychological readiness upon meeting each individual but did not provide a definition or further details. Throughout both sets of individual interviews, participants were directly asked to verbalize psychological readiness in two ways. Each participant was asked, 'Describe what it means for you to be psychologically ready to return to sport.' and 'How would you define psychological readiness?' The language of the main questions evolved during the data collection process to communicate more clearly to participants and for the interviewer to gain further understanding of participant responses, however the main intention of the questions did not change. Additionally, pre-determined and unplanned probe questions were used when patterns or commonalities arose throughout the interviews. This process was consistent with the assumptions of an emergent design (Creswell, 2014) and allowed the qualitative inquiry to remain flexible and meaningful.

Interview questions were pilot tested, before the commencement of data collection, with an athlete who had previously experienced injury and returned to sport but was not affiliated with the university where data was collected. The pilot interview was used to identify

ambiguities in the interview guide and make sure each question allowed for open responses. After the pilot interview, questions were also restructured more broadly to remove leading ideas. For instance, the question, “How, if at all, have your expectations surrounding your sporting capabilities changed since your return to competition?” was reformed to ask, “How, if at all, have your expectations changed since your return to competition?” The reduction in language allowed for greater comprehension of the question and more open responses.

2.4 Data analysis

Qualitative data analysis followed Corbin and Strauss’s (2008) coding guidelines for analysis involving open, axial, and selective coding methods. Although these guidelines for qualitative analysis were intended by Corbin and Strauss to be used for developing grounded theory, this procedure for coding data is akin to thematic analysis when a theory is not the primary purpose of coding (Braun & Clarke, 2006). An interpretivist epistemology guided this research analysis, meaning results are grounded in participants’ descriptions as well as the researcher’s interpretation of the data (Weed, 2009). Interpretivist epistemology allowed for iteration and comparison as data was collected and amalgamated.

In accordance with answering the research questions, this analysis was designed to decipher the factors contributing to athletes’ feelings of psychological readiness. A thematic analysis (searching for patterns within the data) was essential to determine the main characteristics and attributes of psychological readiness, specifically looking for significant statements and description. A grounded, interpretivist approach was also necessary to inductively determine external factors relating to psychological readiness that may not have been explored in previous literature, including further exploration around the process of RTC and any interactions involved. Therefore, this analysis involved the same procedural steps discussed by Patton (2002)

and Braun and Clarke (2006) for completing thematic analysis (identifying, coding, categorizing, classifying, and labelling the primary patterns in the data), but integrated the steps into broader procedural categories to account for grounded interpretation of external factors impacting feelings of psychological readiness. Procedural categories presented by Corbin and Strauss (2008), such as open, axial, and selective coding, were recognized to simplify the recursive analytic process by amalgamating steps involved in thematic and inductive analyses. This constant comparative method allowed for iteration between the following procedural steps.

Familiarization of the data occurred first, which consisted of transcribing, reading, and re-reading the interviews. Upon the third read-through, open coding was initiated, which involved conceptualizing the data by breaking it apart into separate ideas and then creating tentative labels for chunks of data that related together. The primary step involved in this was inductively labelling each participant's main ideas when asked to describe their own psychological readiness or define psychological readiness. Subsequent steps involved systematically labelling the main features of every other response and taking note of any response that inherently described or defined psychological readiness. Axial coding was comprised of identifying relationships among the open codes and fitting the related concepts together. Similar responses between participants were grouped together into main attributes of psychological readiness and higher-order themes. Finally, selective coding involved naming the core attribute or overall theme representing all data in a category, then going back to the transcripts to selectively code any data that fits within each category (Corbin & Strauss, 2008). An important step throughout selective coding consisted of systematically searching each higher-order theme labelled within the transcripts and deductively determining how it was described by

the participant. Detailed descriptions of higher-order themes were used to complete the construction of lower-order themes.

A thematic analysis is not necessarily concerned with the frequency of emergent themes throughout entire transcripts, since this would be a quantifiable measure (Vaismoradi, Turunen, & Bondas, 2013). Rather, the present analysis was concerned with capturing important data specifically in relation to each research question. Each interview was analyzed, ultimately resulting in a within-case profile for each participant, with a final stage involving cross-case profiles looking for similarities among the participants. This process helped ensure all data within a theme consistently held together, while additionally ensuring all themes were clearly differentiated in a clear and bold way to represent a whole picture (Patton, 2002). Inductive analysis was used to further conceptualize psychological readiness by understanding external factors relating to the process of RTS and RTC, while also understanding the interactions between external factors and participants. Through this rigorous process a comprehensive analysis was completed. In doing so, emergent themes and external factors enhance understanding of psychological readiness before and after RTC.

The Brief COPE (Carver, 1997) and IPRRS (Glazer, 2009) were used to augment the qualitative findings by comparing measure responses to interview responses. Similarities and differences between quantitative measures and interview data enhanced the researcher's understanding of participants' experiences and perceptions. For example, results from the Brief COPE were used to help understand how participants described dealing with concerns surrounding RTC. Similarly, IPRRS results helped decipher differences in how participants described confidence throughout the interviews.

2.5 Trustworthiness

Multiple approaches to data analysis enhance the ability of the researchers to accurately assess the findings, but more importantly, convince the readers of the trustworthiness, authenticity, and credibility of the findings. First, bracketing was used to inform the readers of any bias the primary researcher brought to the study and for the primary researcher to assess the process of data analysis and reduce subjectivity. Second, analyst triangulation and methods triangulation help build a more "coherent justification for themes" (Creswell, 2014, p. 251), adding to the trustworthiness of the qualitative findings.

2.5.1 Bracketing

This mental cleansing process helped the primary researcher identify the unique perspectives brought to the topic of study and clarify how the researcher's interpretations of the findings were shaped by personal background. For example, the researcher's past experience, socioeconomic standing, gender, or culture may have led to preconceived ideas that shaped the findings (Creswell, 2014). The bracketing process involved writing down potential points of contrast in experience that may have led to lack of neutrality by the researcher throughout the analysis. It helped ensure my experiences and preconceived notions of successful RTS and psychological readiness did not influence my interpretations of others' experiences. Specifically, when I felt as though I was using my own experiences to help guide my understanding of participant responses, I wrote down my experiences and how they related to my interpretation of the interview data. This helped me see the data more broadly and forced me to interpret interview responses as naturally as possible so as to not look for *the answer*. The brief personal description and contrasting experiences that follow are for the interest of the reader, so as to understand the perspective in which the primary researcher interpreted the data.

As the primary investigator, I have 10 years of experience in university sport and I have sustained several short and long-term injuries throughout that time period. I competed in cross-country running and track and field, both of which are considered individual sports. My conceptualization of psychological readiness includes being confident, composed, and grateful to be able to compete. The need to be grateful was likely caused by my incessant injury problems, leaving me devastated when I was unable to compete, but much more appreciative when I was able to.

Some participant responses contrasted my own experiences of psychological readiness. For one participant who experienced a year-long injury, lack of physical fitness resulting from missed training time altered her perception of her overall athletic potential. This diminished her sense of self-worth and ability to experience psychological readiness, which ultimately made her contemplate quitting the soccer team. In my experience, I never let my post-injury fitness levels influence my self-worth or perception of psychological readiness. A different participant related psychological readiness to knowing one's role on the team and acting as part of a unit. This perception also contrasted my experiences, likely because I competed in individual sports with less emphasis on team roles.

2.5.2 Triangulation

Analyst triangulation is a common approach used in qualitative analysis (Patton, 2002) and was applied in the present analysis. Patton (2002, p. 3) defines analyst triangulation as "having two or more researchers independently analyze the same qualitative data set and then compare their findings" to provide "an important check on selective perception and blind interpretive bias". The primary investigator individually analyzed the interview transcripts to develop categories and themes across the data. Following, transcripts were reviewed by a

supervising researcher and a critical peer and major themes were identified by each individual separately. Themes analyzed by the primary researcher were then presented to the peers and were examined to address the primary researcher's interpretations. The critical peer acted as a devil's advocate to intentionally challenge themes. This process was vital, since different analysts arrived at slightly different conclusions from the same data (Corbin & Strauss, 2008; Patton, 2002). These debriefs occurred in the form of scheduled formal meetings to discuss agreements/disagreements and come to a consensus on appropriate themes. This process occurred once for each of the two sets of interviews and allowed for the interpretations of each researcher to be challenged on ideas that were not agreed upon, while supporting interpretations that were similar, further enhancing thematic development and credibility of the findings.

Quantitative data from the Brief COPE (sum score ranging from 32 to 128) and IPRRS (sum score ranging from 0 to 600) were used as methods triangulation to help understand interview data and support the presentation of qualitative findings. This form of triangulation was used primarily to corroborate interpretations of qualitative data. Areas of convergence between qualitative and quantitative findings increase the trustworthiness and believability of the qualitative results (Patton, 2002). In contrast, areas of divergence contributed to understanding the innate intricacies of psychological readiness and contributed to the overall understanding of the interview data.

Chapter 3: Results

Participants' perceptions and experiences of psychological readiness are organized into three broad categories. First, perceptions and experiences are depicted by four characteristics that help describe psychological readiness as a construct: mental, individual, dynamic, and knowing. Following, main theme precursors are presented as factors that influence the main attributes of psychological readiness but were not described by participants as comprising psychological readiness itself. Finally, main themes of psychological readiness are presented, which are the necessary attributes participants considered psychological readiness to consist of.

3.1 Psychological readiness as a construct

A number of descriptive characteristics of psychological readiness to RTS after injury were identified (see Figure 1). In response to two main questions, 'Describe what it means for you to be psychologically ready to return to sport.' and 'How would you define psychological readiness?', participants conceptualized psychological readiness in the following ways:

1) Mental. Psychological readiness was recognized as a mental phenomenon and was often simplified as meaning "mentally prepared". As intuitive as this seems, recognition of psychological readiness as a familiar phenomenon meant participants acknowledged the existence of this construct and could speak about it. All participants identified psychological readiness as a mental phenomenon they had experienced in the past and would continue to experience into the future, at least to a certain degree. They were able to describe their experiences and perceptions of the phenomenon often without hesitation. Austin, a soccer player, defined it as "a mindset where an athlete is totally confident and fully able to play at their abilities no matter their situation." Participants also described psychological readiness as a

“mental state”, “mental ability”, and as “no mental busts”. Despite similar perceptions, psychological readiness was slightly unique to each individual participant.

2) Individual. Participants experienced unique situations influenced by their different sports, and the type and severity of injuries sustained. Beyond these objective attributes, participants also expressed differences in individual needs to be met in order to feel psychologically ready. For instance, Betty, a soccer player, expressed physical readiness as an essential prerequisite to her psychological readiness. Before returning to competition Betty said, “I think first and foremost for me it’s just I’ve always been someone who, when I’m physically ready, I’m mentally ready. So, I need that aspect for everything psychologically.” After RTC, Betty made it clear other athletes might not require physical readiness to the same degree to feel psychologically ready: “I don’t know if people put in the factor of physically ready into their mental ready… or psychological readiness. I don’t know if they correlate the two. I guess it just depends on the individual.”

In support of this point, but in contrast to Betty’s individual perspective, Elijah, a football player, did not feel the need to be completely physically ready before being psychologically ready. Prior to RTC, he claimed he was “one hundred percent” psychologically ready but only “sixty-five or seventy percent” physically ready. For Elijah, feelings of psychological readiness came from knowing what to do and where to be positionally during the game, whereas diminished feelings of physical readiness came from being a step behind others and not being able to physically move into certain positions.

Social support might also contribute to psychological readiness, however, Isaak, a soccer player, identified individual differences when it comes to accepting social support. He claimed

that in order for social support to contribute to psychological readiness an individual must have the self-esteem or resources to accept the support from others.

> It's up to the individual to be psychologically ready… Someone could keep telling you and saying these motivational things to you and telling you like, 'Oh I believe in you, you should believe in yourself. You're great, you're awesome, you're the best. This, this, this.' It will never really help unless you decide to accept it; accept what they're saying. So, if you're someone who has a lot of self-doubt and is very insecure about themselves, I think it's very hard for you to be psychologically ready just because if someone's trying to give you support, you're not gonna be able to accept it.

This was evident when comparing perspectives from Jess and Carson. Jess, a soccer player, insisted she performed poorly despite the support and positive feedback from teammates.

> I think deep down I really was disappointed in how I performed. At the end of the game I thought I played quite poorly and it wasn't up to the standard that I'm usually at… It was nice having [my teammates] as support and they thought that I played really well and it was nice hearing, I guess… But I disagree with them. I don't think I played well.

Jess's unwillingness to believe, and accept support from, her teammates was likely due to a number of factors, but was reinforced by self-doubt. In contrast, Carson, a football player, was able to build confidence in his broken fibula by accepting verbal support from the athletic therapist.

> [The athletic therapist] really helped me with that, having confidence in it. Just 'cause I'd be running when everybody's practicing, we'd be running down here and she'd be like, 'Look it's looking good, you're not limping' and I was like, 'I am limping', you know,

> ‘I’m fully limping, I can feel it making me limp’. ‘No, it’s not’. That was really reassuring, you know, she helped me with that a lot.

Interactions between physical and psychological components of readiness were complex. Many of the results that follow depict similarities across participant experiences and perceptions of psychological readiness, but it is essential to acknowledge that individual experiences and perceptions varied, and what worked for one individual throughout the RTS process did not always work for another. In most cases, numerous factors influenced the way participants felt, physically and psychologically.

3) Dynamic. Participants described psychological readiness as a dynamic process because it changed from day-to-day. For instance, Carson described psychological readiness as something he had to work towards rather than something he could quickly acquire.

> Being out of football for three weeks, for [Carson] to get revved up and go out on the field today it’s not a one-day process. It’s not a one-hour process. It’s something where now in my rehab I start to really, really start thinking about the return to play, thinking about exactly the plays I’m gonna make. Like what player I want to be when I’m out on the field, stuff like that. That all comes into play days before, weeks before my return, you know. Like if one day they say I’m no good and then the next they’re like, ‘Okay you’re good let’s tape you up and get you out there’, I wouldn’t be ready to go.

Darion, a soccer player, contrasted psychological readiness with physical readiness. He explained that physical readiness is a relatively constant feeling, but psychological readiness is more variable on a daily basis.

> So psychologically… it's a little more tough 'cause physically you can actually feel if you're good or not. Mentally, you know, on a day-to-day it could vary, like whatever happens to you in any given scenario.

Many participants believed it was not possible to ever be completely psychologically ready. More specifically, there were too many factors at play for it to be possible. Isaak believed it to be impossible to reach complete psychological readiness because of the inevitable doubts that cross the human mind.

> You're just not human if you don't for a second think to yourself 'What if something goes wrong?' So that's why I don't think you could ever be one hundred percent psychologically ready, because you're human, you're always gonna doubt something.

Before RTC, Betty expressed how she thought it possible for athletes to be confident into the range of ninety percent or higher, but not possible for anyone to reach one hundred percent. She claimed, "…you can try to get there, and you can fake it a little bit, but I don't think that's realistic." According to Betty, everyone has insecurities and issues to deal with that take away from complete readiness. After RTC, Betty addressed the continuous process of trying to reach psychological readiness:

> I don't think you can be one hundred percent confident or I don't think you can be one hundred percent mentally ready. I think it's just a continuous process and you just have to keep working at it and working at it and working at it.

Darion also made the claim that no one can ever be one hundred percent psychologically ready because of the myriad factors that play a role. He did, however, express that there is a baseline level of psychological readiness good enough for competition:

> I would say no one is ever really psychologically ready. It's just like so many different things have to fall in place for you to feel that super one hundred percent. And I guess in a way you need to feel maybe like a baseline and then it's like as soon as you feel that then you know you're ready. But to be a hundred percent ready all the time for everything, it is tough, but you're expected to do it.

Although reaching a state of complete readiness might not be realistic or possible given a variety of circumstances, psychological readiness can be built up over time. Isaak said, "I actually don't think you can be a hundred percent psychologically ready; I just think you're able to deal with situations better through experience." This is to say, one way to build psychological readiness might be for athletes to enter competitive situations.

4. Knowing. Once a certain degree of trust was established in the physical status of the injury, participants felt the need to metaphorically 'take the leap' into competition to comprehensively assess readiness. This leap was necessary to instill a feeling of "knowing". For example, when asked about his concerns going into competition, Darion said, "You wanna be able to say that you're fully ready for anything but you don't know until you do it." Darion continued to explain that he does not know his state of readiness until he makes a mistake or gets outperformed on a play. Once that happens, he can adjust to make sure it never happens again. Jess also stated she would not know she was ready until she performed in competition:

> I think in, you know, the tests and the doctors and the surgery, physically I am good to go but my mind just doesn't really believe it yet, and so that's why I really hope I can play in a real game because I think that will really help with how I feel. Like I'll just finally know that I am ready.

When asked what it means for him to be psychologically ready, Isaak made it clear he had to play a game in order to know:

> Psychologically ready, it's hard to say 'cause I didn't know until the game started… until I make the first good pass, or the first good challenge, the first good decision in the game, then you'll realize, 'Oh I am actually ready' because you could always say you're ready until the moment happens, kinda thing, right? And the game was the moment, I was just waiting for the first signal that I'll be okay.

It is likely practice is not enough for an athlete to feel psychologically ready. Before RTC, Oliver, a hockey player, regarded practice as an opportunity to improve physical conditioning and get used to performing necessary skills again, while competition would give him a clear indication of what he was capable of doing and what he still needed to work on.

> I guess the game will tell me how I actually feel, I think. I don't think I can judge it off practice. It's just different… I'll actually be able to see in the game, I can look back and be like, 'K this is what I struggle with, this is what I did well' and then you can actually find things to work on, which help your rehab. Whereas in practice when I'm doing that kind of stuff, I don't notice what I'm doing poorly as much as I would in a game. Just gets more exposed, right?

After entering competition however, Oliver's focus changed as his abilities progressed. After his first two games back, worries about his conditioning faded because he realized he was capable of keeping up with the other players. Focus then shifted to more important aspects of his performance.

> So, going into the first game I was definitely more nervous, and I was more worried about being able to keep up with the play, like with my conditioning. And then after that

> first weekend once I realized I could keep up, I was more worried about playing well, doing things right, making good plays. That kinda stuff. I wasn't really worried about my conditioning.

Participants possibly had a better indication of psychological readiness after RTC because they had more accurate understanding of how to attain the necessary attributes for competition. Throughout rehabilitation, practice, and competition, focus continually shifted to aspects of performance relevant to current fitness and skill levels. Participants reported needing the same overarching attributes before and after RTC to feel psychologically ready, but the means by which those attributes were attained progressed to account for changes in capabilities and perspectives. For example, Mila, a basketball player, defined psychological readiness before RTC as "trusting yourself" and "knowing your abilities". After RTC, Mila defined it as "trusting your abilities" and "knowing the plays, knowing all the players you're defending". The defining attributes that Mila provided before and after RTC, trust and knowledge, remained consistent, however Mila reported her ideas in more detail after RTC, indicating a greater understanding of the aforementioned attributes.

3.2 Main Theme Precursors

There were several emergent precursors to participants' psychological readiness (see Figure 2). Precursors (i.e., external factors) prompted RTC and impacted how participants coped with RTC, which respectively influenced the degree to which the main attributes of psychological readiness were experienced. Precursors to RTC included sport-specific demands, time in sport season, and length of season.

RTC Precursors. Sport-specific demands varied due to different values and requirements across athletes, coaches, and athletic therapists. Football culture, for example,

varied greatly from that of any other sport. Being "tough" and "resilient" were terms commonly used to downplay the extreme physical toll players experienced, which put higher demands on athletes to RTC. Frequently, athletic therapists worked to return injured players back to competition before they were physically recovered. That was evident for both football players in this study. For Carson's return, he put a pad over his broken fibula, taped it up, and ingested excess Tylenol in order to compete:

> I absolutely still feel pain. It's not what it was but it's functioning fully and I'm running the way I wanna run and stuff. Sometimes it's like I'll tweak it or something like that but I just have it taped and I have a pad over where the break was and everything when I'm on the field, so it feels good. I'm taking Tylenol through the roof, but I feel good.

Time in sport season played an important role in RTC. If participants were getting set to return to practice and competition at the beginning of season, they often had more cautious RTC timelines than returning near the end of the season. The end of season naturally consisted of more important competition including playoffs, and more of a demand for athletes to rush their return. Austin said rushing the process would have been discouraging had it happened to him: "If it was at the end of the season I definitely think I would be more, you know, discouraged because I'd probably be eager to get back before the season ends." In comparison, Oliver recalled trying to decide if rushing his MCL recovery was worth it: "…there's only four games left in our season and I knew that the rehab was gonna be probably another month. So I just was like, 'Does it really make sense to put in that time and effort?'" Betty mentioned that returning when she did in the season did not leave her enough time to build her confidence back up: "…it's not fully healed so not sure this season if I'll be like one hundred percent confident just because the

timeframe of it healing is not within our season. Like we literally have three weeks left of our season."

Length of season played a role in RTC decisions, since recovery time was limited by shorter seasons. Leo stressed the difference between professional hockey and university hockey in that regard:

> There's not as many games so it's hard to do that, take that time. I know in junior it's a little easier 'cause you play close to seventy games, so it's not like it doesn't cost you too much to take another week 'cause you're missing two, maybe three games. Here you're missing two games, which right now we're already almost halfway through the season.

Carson similarly drew attention to the short season and how it put pressure on him to RTC earlier than he was comfortable doing:

> It's this part of me that thinks maybe I need a day off, maybe I need a bit more time off or whatever. But all in all, this season's not long enough to just take your time, you know? After this season I'll have like six months to feel better about these things.

Aforementioned pressures to RTC can expedite the injury rehabilitation process, leaving participants feeling rushed and not psychologically, or even physically, ready to RTC. Coping precursors, however, were sources participants drew upon to help facilitate pressures to return.

Coping Precursors. Precursors to how participants coped with RTC included support, motivation, experience, and perspective. Support networks played an integral role in helping participants cope with RTC. The Brief COPE (Carver, 1997) revealed participants with short-term injures (<30 days) tended to seek out instrumental support before and after RTC. Instrumental support often came in the form of advice and information regarding the injury. One of Holly's biggest sources of support came from teammates who had previously experienced the

same injury and downplayed its severity. Emotional support was more prevalent for participants who sustained long-term injuries (>30 days), but only prior to RTC. Emotional support came in the form of encouragement, feeling wanted, and space to vent concerns. Betty expressed the importance of her support system on her ability to cope: "…the main thing that helps me the most is definitely getting support from my support system. So just being around them or having, you know, the quick chit chat."

Motivation also influenced one's coping response to the RTC process. When participants were motivated to RTC, they appeared to have an easier time dealing with the transition. Those who were not motivated to return attempted to put less effort toward the sport and more focus elsewhere (e.g., school, hobbies, social life), described as a behavioural disengagement coping strategy. Motivation came in numerous forms, including motivation to regain previous performance standards, motivation to compete in the sport they love, and motivation to contribute and be a part of the team. Even though Jess contemplated quitting soccer, the love for the sport motivated her to cope with her temporary underperformance and stay persistent through the challenging time. It is possible Jess's love for the sport motivated her to exhibit the acceptance coping strategy that she reported on the Brief COPE.

> [Motivation] comes from the fact that when I was a really good player on the team, soccer was the highlight of my day. It's one of my favourite things to do. And even though I'm not having as big of an impact on the team this year, I know that I will next year.

Kara believed motivation "kicks you into another gear" and sets an athlete up to be ready. When asked how motivation helped her readiness, she said: "I think they honestly go hand in hand, like in terms of their relationship with each other. 'Cause what are you ready for if you don't have a

motivation to be ready for something?" Motivation is a central force around action and behavior, and Kara's motivation to RTS is highly representative of her primary coping strategies of planning, reported on the Brief COPE.

History of injuries and experience dealing with them helped participants cope with RTC. Comparing the current injury to a past injury appeared to inform participants of what to expect throughout recovery and the RTC process. Darion found comfort in knowing he had been through a similar experience before:

> It's just comforting knowing that I had that ability in the past and I don't doubt that I can do it just as well again with whatever injury I'm dealing with at that time. So… it's kinda something I've had before and just kinda knew exactly, you know, the general steps you need to take. Like good state of mind, just willing to work, don't get too down on yourself, things like that.

Carson was able to more readily cope with his broken fibula by comparing it to a more severe injury from the past. This might have helped Carson exhibit his primary coping strategy of acceptance, as identified by the Brief COPE: "…having dealt with an injury that was significantly bigger and longer in terms of how long I was gonna be out, that really helped me see a bit clearer with this one." In contrast, Betty had never previously experienced an ankle sprain, which made it difficult to cope: "…throughout all my competitive years I haven't really had a serious injury until this year so I hadn't known how to cope with things and really get through certain things."

Finally, putting the injury in perspective with the rest of life, which could be interpreted as a positive reframing coping strategy, allowed participants with short- and long-term injuries to cope with and accept the injury for what it was. This coping strategy is interpreted as a very

individualized approach to dealing with RTS, and depicts participants' well-rounded identities. Austin, who was out of competition for 18 days, re-evaluated the situation when he felt down:

> I think I take kind of a certain viewpoint whereas it's not the most important thing in the world, you know what I mean? I like to step back and re-evaluate my situation if I'm feeling kinda down. That's what I usually do to remind myself also with the confidence thing, I kinda step back and think about the situation. I put things into perspective.

Betty, who was injured for close to two months, stated:

> …what has helped me, especially with this injury, is putting things into perspective. You know soccer's a sport. You know, not like dying or anything, knock on wood. But it is a sport at the end of the day. So just trying to put that into perspective and knowing what's most important in life.

RTC precursors affected the timelines athletes abided by while returning back to competition. Sport-specific demands, time in sport season, and length of season caused athletes to rush rehabilitation, but coping precursors acted to offset the negative impact of RTC precursors on psychological readiness. Support, motivation, experience, and perspective allowed athletes to more readily cope with the pressures of RTC (e.g., using emotional and instrumental support, acceptance, positive reframing) and possibly put more effort toward aquiring the necessary attributes of psychological readiness.

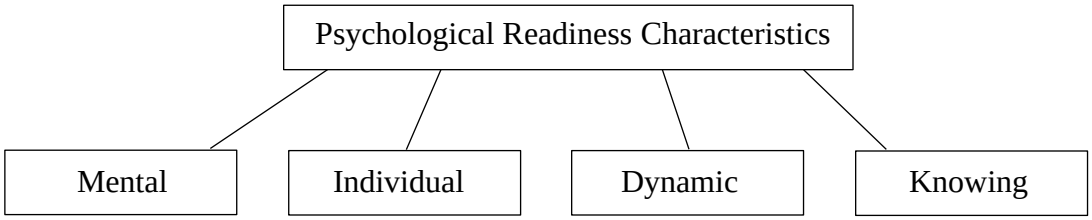

Figure 1. Descriptive characteristics of psychological readiness to return to sport (RTS) after injury.

Main Theme Precursors

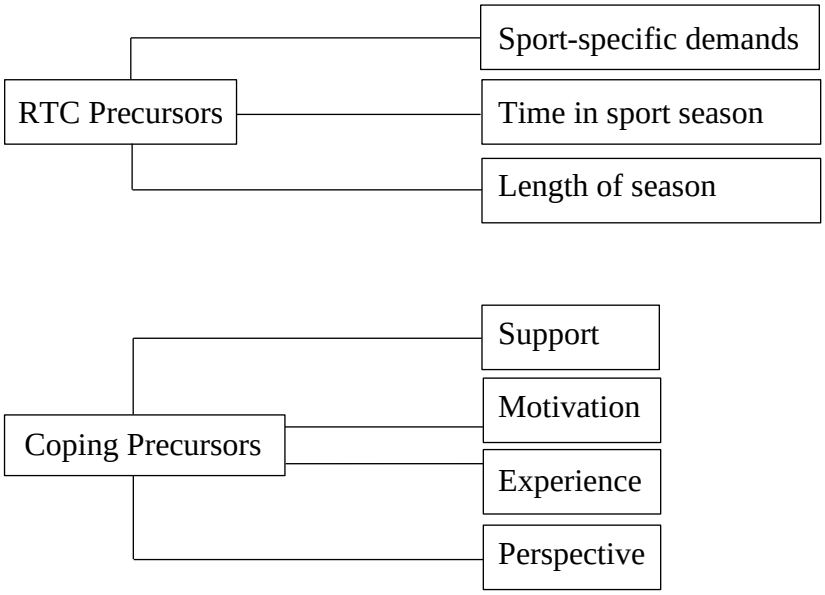

Figure 2. Precursors to main attributes of psychological readiness to return to sport (RTS) after injury.

3.3 Main Themes

Analysis revealed a number of themes and subthemes of psychological readiness to RTS after injury that further our conceptualization of the concept. Themes were organized into three overarching categories of psychological readiness: (a) confidence, (b) focus, and (c) realistic expectations. Within each of these major categories, subthemes were categorized into higher

order and lower order themes for before and after RTC (see Figure 3 and Figure 4). In the following sections, each main theme and subtheme within this organizational framework is explained.

1. Confidence

Participants expressed confidence to be an exceptionally relevant dimension of psychological readiness. Specifically, for an athlete to feel psychologically ready to RTC confidence was apparently essential. Results from the present study suggest confidence consisted of two higher order subthemes: (a) confidence in injury, and b) confidence to perform.

Confidence in injury. For participants to have confidence in the injured body part to handle the demands of competition, they felt the need to have confidence the injury was physically ready and would not interfere with the ability to compete. Although participants differed in the degree to which they felt confident with the physical status of the injured body part before entering competition, results from the IPRRS suggest 10 out of 15 participants felt more confidence in the injury to handle the ensuing demands after playing at least one game, while four participants had no change in confidence and one participant felt less confidence. After playing in a game, Carson was asked to define psychological readiness and he said: “I think it’s just one’s ability to go forward without doubt in themselves. I mean, in relation to an injury, certainty that the injury is okay and that it’s working… that you’ve recovered.” For Carson, certainty his leg would be functional in a game allowed him to move forward with minimal doubt. Similarly, in response to being asked to describe what it means for her to be psychologically ready to compete, Jess said: “I guess psychologically just having the confidence in yourself and in your body to be able to perform as best as you can while being safe still.”

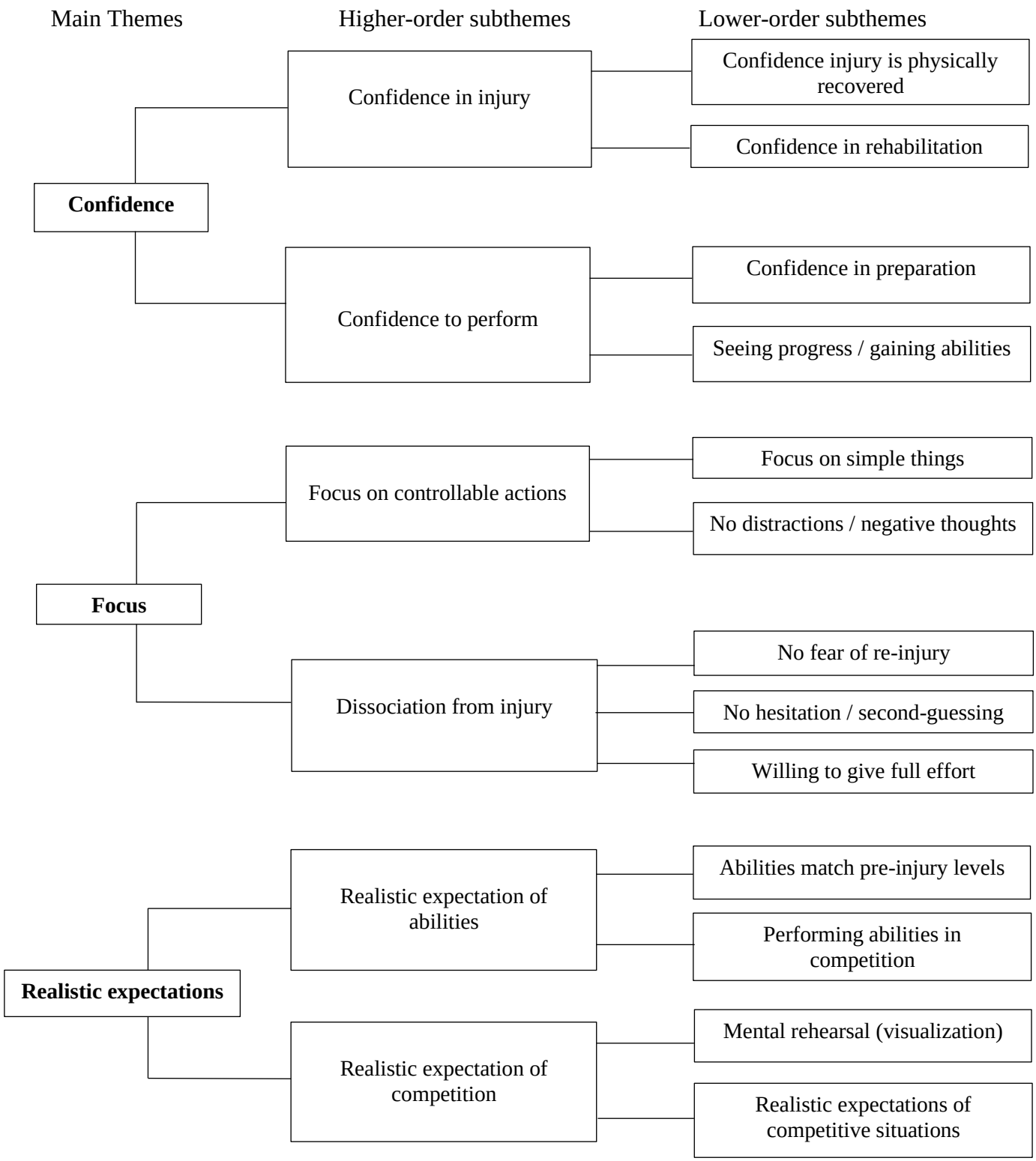

Figure 3. Main themes, higher-order themes, and lower-order themes of psychological readiness prior to return to competition (RTC).

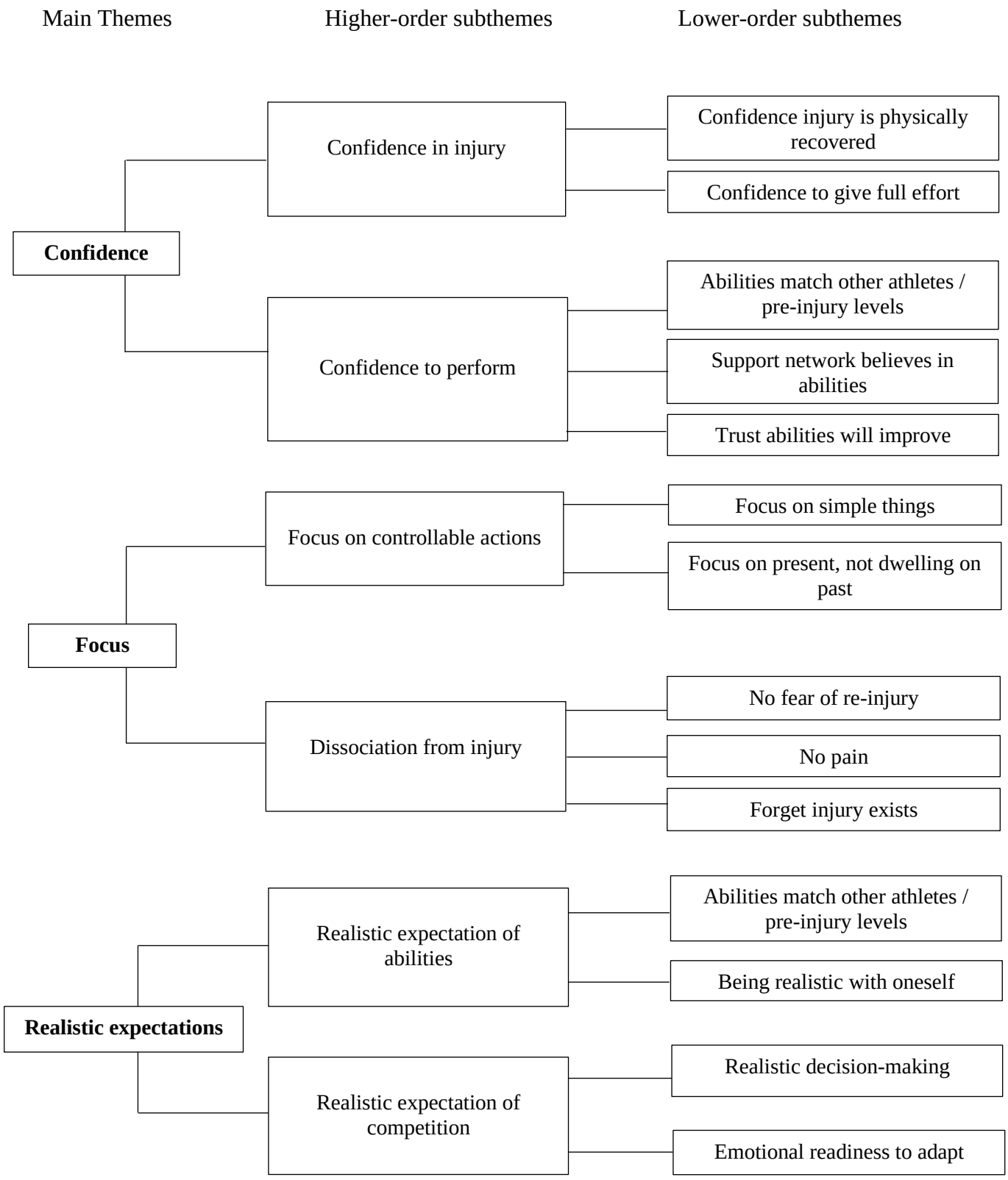

Figure 4. Main themes, higher-order themes, and lower-order themes of psychological readiness after return to competition (RTC).

There was one major change in the source of confidence throughout the RTC process. Before RTC, participants gained confidence from rehabilitation, whereas after RTC they gained confidence from being able to give their full effort. Prior to their return, participants gained confidence in the injured body part by finding control over rehabilitation exercises. As progress was made and goals were accomplished, confidence was instilled that the injury could handle higher demands. Carson explained this process:

> I think the confidence in my ankle will come back just in me doing my rehab and achieving small goals, you know, like walking and then jogging and then running and stuff, and changing direction and stuff like that. So that stuff will kinda build my confidence up and up and up.

After RTC, participants gained confidence from "pushing it" and competing at full speed. Confidence was at its highest when the athlete did not feel physically limited by the injury. When asked if there would have been a difference in his gameplay if he had been pressured to RTC one week earlier than he did, a hockey player, Nigel, said:

> I could see that I would've definitely been a little more cautious or protective of my back, I'm sure. Going into corners I'm sure I would've been thinking like, 'Oh God, I hope my back doesn't give out here', opposed to now that I'm a hundred percent confident it's good, that I don't think I'll be hesitant or restraining to my full ability or effort level.

Confidence to perform. Similar to the need to be confident in the physical injury, many participants expressed confidence to perform sport-specific abilities was essential in feeling psychologically ready to compete. Prior to RTC, confidence to perform abilities came from work that was put in throughout rehabilitation, preparation leading up to competition, and seeing abilities progress. When asked where his main source of confidence comes from, Leo said:

> I think a lot of that confidence is just the preparation part. I mean you do everything you can to prepare for something, you feel ready. You know, all those doubts I think start to dwindle just ‘cause you’re really focused and you know what you gotta do. So it’s just I think preparation is key.

After RTC, confidence came when fitness and abilities matched pre-injury levels, the athlete trusted abilities would improve, and/or a support network believed in those abilities. For some participants, confidence was gained from these sources in their first game back. For others, confidence was slowly built up game by game. When asked to describe her psychological readiness, Mila explained the gradual development of confidence through trust and support:

> Trusting myself, confidence… with my knee, with my abilities. I know I’ll get there eventually. I just have to take it game by game, I think. It’ll gradually come… I kinda just second-guess myself a lot. So, I think if I just get rid of the nerves and kinda just trust my own abilities and that my teammates will support me with it I think I’ll feel a lot better.

Carson illustrated how confidence in his fibula and confidence in abilities may interact. For him, an optimal level of confidence in both domains was not necessary. It might be possible to have a suboptimal level of confidence in the physical injury if there is sufficient confidence in abilities: “If you can compete and win reps even with a little bit of pain, I think that the confidence builds, in that like, ‘Wow my abilities can exceed my injury, like they can defy the odds a little bit.” This idea was depicted well by Carson’s IPRRS results after RTC. Carson’s confidence in his ability to not concentrate on the injury (rated 50 out of 100) was much lower than his overall confidence to play (80 out of 100) and confidence in his skill level/ability (90 out of 100). Leo, a hockey player, noted this same interaction. He made the important distinction between games when he felt psychologically ready versus games when he did not feel as ready. If his MCL did

not cause him problems until later on in the game, he did not need as much confidence in it because he had already built confidence in his abilities.

> I feel like you get a good stride under you and you get good skating under you early on, you're feeling more confident, you're making good plays. Say it happens in the second (period) where you feel it (the injury), so you got stuff to back up on. You feel good about yourself early on in the game.

But if the MCL caused Leo problems early on in competition, it inhibited his confidence and moved his attention toward the injury:

> I think that's been a huge part, just noticing it early in the game and it kinda lingering in your mind. You may not feel it again, but I think just thinking about it as the game goes on. Realizing, 'Oh shoot, careful.'

Confidence was hindered or improved depending on perspective and where one's attention was directed. Participants were able to gain control of confidence by focusing on particular aspects of performance. Focus, though, was not simply a means by which confidence was developed, but an inherent attribute of participants' psychological readiness.

2. Focus

Many participants deemed themselves most psychologically ready to RTC when they were able to remain focused in the present without distraction. The primary distraction that got in the way of feeling psychologically ready was the injury, but there were also reports of distractions like overthinking, high expectations, and other life stresses. Even lacking fitness reportedly had an effect on one's ability to focus. Results consisted of two higher order subthemes of focus returning to sport: a) focus on controllable actions and b) dissociation from injury.

Focus on controllable actions. Being able to stay focused on controllable actions was deemed of vital importance. Before and after RTC, participants felt they needed to focus on the simple aspects of performance instead of attempting more complex skills they could perform prior to injury. Before RTC, Oliver said, "I'm not expecting to come back and play like I was before I got hurt. I'm expecting to come back, keep it simple, do my job, whatever, and then just build off that each game." Leo suggested how he increased his psychological readiness: "I think a big part was just sticking with it, keeping it simple to start, and I think that just kinda mentally gave me a boost to really focus and stay on the right track…" Darion addressed how focusing on simple things can eventually increase confidence and performance:

> … keep it simple 'cause that way you can kinda get into a rhythm. Like a lot of simple things can kinda build your confidence towards doing it well and then doing it great and then maybe even trying those other new things as well.

In addition to focusing on the simple aspects of performance, the second lower-order subtheme that emerged before RTC in order to focus on controllable actions was the need to reduce or eliminate distractions. From Isaak's perspective, even though he was physically ready, performance was hindered when his attention was away from sport.

> When I come back from injury it's not whether my body's ready for it, it's if my head is ready for it. And that for me has to do a lot with school, if I'm behind a lot in school, all that kinda stuff. And I could come into training one hundred percent healthy, nothing's hurting me, but my mind is somewhere else, and no matter if I'm fit or not, I'm gonna play bad 'cause I'm just psychologically not ready to give my full attention to the training session.

Isaak believed that no one could remain completely focused without distraction for an entire game. After RTC, he said: “If you’re a hundred percent, complete hundred percent psychologically ready, I feel like all your attention and focus and all your thoughts should be about what you’re doing. I don’t think that’s possible.” Betty mentioned that comments and expectations from teammates can take away from focus while on the field:

> I think as a team people always expect you to perform and try to play at the highest level. But when you have this injury that’s not one hundred percent and that’s always at the back of your head it’s very hard to do that. It’s also very hard to kind of focus on yourself when you’re out there and ignore all the comments and stuff.

The second lower-order subtheme that emerged post RTC was the need to focus on the present and not dwell on the past. Grace, a soccer player, spoke in terms of looking forward at her progression rather than backward at her shortcomings. “It’s nice knowing that you’re accomplishing a little bit more every day. So, it’s like something to focus on, rather than looking back at what you can’t do.” Dwelling on mistakes can detract from focusing on the present. Carson talked about the detriment dwelling on mistakes could have on performance and the reminders he had to give himself:

> It’s just back to reminding myself I’m gonna make mistakes, I’m human, I’m doing this for fun and it’s not gonna last forever so if I keep dwelling on the mistakes then I’m gonna get caught up in it and lose track of what I’m doing, you know?

Austin claimed he was in control of dwelling on mistakes or not, and since he could not control a past mistake, he had to focus on the present to make sure he did not repeat mistakes:

> Instead of dwelling on [a mistake] I'll say, 'Okay next time I'll just be better', right? Instead of worrying about the bad in situations I try to stay positive and just do whatever I can, whatever is in my power, 'cause obviously there's some stuff you can't control.

Dissociation from injury. An injury can act as a distractor for many athletes as they return back to competition, whether they physically feel it or not. It can cause pain, but also fear and hesitation. The ability to not think about the injury was difficult for participants, since it was often perceived as out of their control. For some participants, keeping one's mind off of the injury was not possible until the injury was completely physically recovered. Before the injury was fully recovered however, participants expressed the defining attributes of what it means to not think about the injury.

Participants discussed being fearful of re-injury pre and post RTC. In fact, other than inadequate fitness levels, re-injury was the most commonly cited concern about competition. Moreover, participants did not feel completely psychologically ready to compete as long as they had a fear of re-injury. Prior to RTC, Jess was fearful of re-injury because tearing an anterior cruciate ligament caused her the most pain she had ever felt:

> I think the big fear of mine still is that I'm gonna re-injure myself… it's still so scary to me because I know how painful it was. Like it was the most pain I've ever felt in my whole life when I fully tore it and I just don't wanna feel it again.

Post RTC, fear of re-injury still detracted from Jess feeling psychologically ready: "Honestly, I don't really think I'm psychologically ready yet because sometimes I'll be playing and then I just get this weird thought like, 'What if I hurt my knee again?' and it just happens out of the blue." For Darion, feeling his hip flexor caused him to immediately think about the possibility of re-

injury. He said, “My first thought when I started feeling it again was like, ‘Oh, jeez. I hope I didn’t re-aggravate it to the point where I can’t play anymore.’”

Prior to RTC, participants also believed psychological readiness meant no hesitation and no second-guessing. When asked to define psychological readiness, Grace said: “Not thinking about the injury, for sure. And not second-guessing myself, and not worrying about the bad things, just focusing on where I am.” Grace explained that even if an athlete is physically ready, there may still be doubts in competition:

> Even if you’re physically ready, you could go into those tackles but psychologically, you might second-guess yourself or take a step back like, ‘Maybe I’m not that ready’ or ‘Maybe my body will give out’ or just mentally just not there.

Being hesitant and fearful of re-injury are two examples of how thinking about the injury inhibited psychological readiness. Participants also used a strategy to intentionally dissociate from the injury and adequately perform. This was a method of “faking it” or, in other words, being willing to give a full effort despite the potential consequences. As previously stated, confidence to give full effort was one example of how participants had confidence in the injury post RTC. In the case of this lower-order subtheme however, willingness to give a full effort pre RTC included an intentional ignorance of the injury, rather than confidence in the injury. As Elijah said, he lied to himself about his physical status until he believed his lies:

> I lie to myself a lot, man. I lie to myself. The past week just saying ‘I’m gonna play’, like I told you. I lie to myself so much that I believe it. I believe my lies. It’s like, just from the get-go I was like, when it first happened I thought I wasn’t gonna play but I just kept lying to myself. I don’t know. I just keep pushing through it, just try to be resilient.

When asked if there would be any strategies he would use to stay focused and not think about his metacarpal fracture in competition, Elijah said: “Not let the opponent see that I’m in pain. Stand up straight at all times.” Betty said she used self-talk to convince herself she was ready to go, even when she knew she was not. She followed that up by saying, “Sometimes you gotta fake it till you make it, right?” For Darion, he had to give his full effort and simply hope his hip flexor held up, even if it didn’t feel completely ready for competition:

> You just kinda have to look at things a positive way and hope that your body will hold up and then know that you’re willing just to give a hundred percent effort even if you’re not feeling it that day. You just gotta be like, ‘You know what, screw it, I gotta push myself. I’m not helping myself if I don’t, I’m not helping my team if I don’t, so what’s the point in not doing it? Might as well go all in.’

Post RTC, pain naturally caused participants to think about the injury. In some cases, when participants could compete without pain, the injury was one less thing to worry about. But for participants like Leo, pain made them feel a step behind:

> The games I haven’t felt good I would say I haven’t skated well, just in terms of I haven’t been fast, and I think maybe just thinking about it, thinking about how the pain is the odd time. It just makes me a step behind.

Conversely, pain was not a distraction for Austin because he knew it was not making his ankle injury worse. He said:

> I won’t think about it beforehand, so I’ll just play like it’s not there. And then if it bothers me a little bit it’s fine because a little bit of pain is okay. But it’s nothing serious, it’s not like anything detrimental is happening.

For Holly, focusing on the competition helped her focus less on the pain of her shin splints. She felt as though the injury was not as important to think about as the competition.

> I just think because the game is so important, I tune it out. Like even if it is hurting, I don't notice it because I'm so focused on what the picture is here that I feel like my shins are like a little picture. Like the little box in the corner that I don't really need to worry about. It's like, 'I gotta focus on this.'

Holly did, however, dwell more on the shin pain before and after competition because she had nothing else to focus on. It was during these times she experienced the most psychological distress. For most participants, if the injury did not cause them pain or they were able to "tune it out", the next step was to forget the injury existed at all. Oliver suggested an athlete to be psychologically ready when the focus is on the competition and the athlete has forgotten about the injury:

> When you're psychologically ready or mentally ready, you're focused on the task at hand, you're not distracted by whatever it is. I guess in this case, an injury. You forgot about it, you're just focused on the game at hand, you're dialed in.

Similarly, Carson believed an athlete to be psychologically ready when the injury was completely out of mind. He said, "I think just erasing the idea that you had an injury and stuff, that you're limited with that. I think that's psychological readiness."

3. Realistic Expectations

The third main dimension of psychological readiness was realistic expectations. Knowing what to expect allowed participants to RTC without major physical and psychological setbacks. Most importantly, participants felt psychologically ready to RTC when they could anticipate

what was going to happen. The two higher-order subthemes within this dimension were: a) realistic expectation of abilities, and b) realistic expectation of competition.

Realistic expectation of abilities. Prior to and post RTC, participants compared fitness and abilities to pre-injury levels in order to gauge performance. Darion stated prior to returning his goal was to reach or surpass the level he was competing at before injury and this acted as a motivator for him:

> You wanna get back to where you were, so ultimately that's the end goal. And even, you know, improving upon where you were. Like coming back from an injury and being in a better spot than you were pre-injury, that's always amazing. So, I'd say doing that or having that in mind is always something that athletes who are injured should have because it'll just kinda get that fire burning in you…

Participants also gauged their fitness and abilities by comparing themselves to others. Darion noted that being physically able to keep up with others gave him confidence and refined his expectations: "As of now, I would say I'm pretty stable psychologically. Like I have that kinda confidence back, knowing that I'm able to keep up physically helps a lot."

As previously mentioned, some athletes felt they needed to perform in competition before they could know what to expect of their abilities. Although practice was a good opportunity to increase fitness and improve skills, competition was a better indication of abilities and consequential feelings of readiness.

After RTC, being realistic with oneself was important for individuals so as to not experience psychological setbacks. Participants who believed they were more ready to compete than they truly were often became frustrated and upset after underperforming or after pushing the injury too quickly. Oliver expressed the discouragement:

> Instead of just being happy and being like, ‘Okay just one step at a time’ I kinda just expected to come back in and be close to where I was at, and I wasn’t. So that mentally was a little discouraging.

This was ultimately detrimental to psychological readiness post RTC. Oliver overcame this by staying realistic in his expectations:

> I need to kinda keep telling myself I’m not gonna come back right away and be as good as I was, ‘cause I was probably in the best shape I was before and so then to come back after three months of not doing anything, I need to kinda just keep telling myself, ‘This is what you should expect’.

Realistic expectations of competition. A large degree of psychological readiness came from understanding the feeling of competition. This understanding came more easily after RTC, so prior to RTC, participants attempted to understand this feeling by knowing what to expect in competitive situations and mentally rehearsing competitive scenarios.

Knowing what to expect of competitive situations put participants in a state of comfort, and the comfort in knowing what was going to happen instilled a sense of readiness. As Kara, a lacrosse player, put it, psychological readiness means “knowing that everything’s gonna be okay and having a goal that you know you can achieve.” Likewise, Elijah said he was psychologically ready, despite not being physically ready, because “I know my assignments, I know where I need to be, I know what I have to do.” Being mentally prepared, to Oliver, meant knowing his abilities matched his prior standard and knowing what to expect of the game:

> Well, just being mentally prepared, being able to go into a game and thinking, ‘Okay I’m ready to play, I’m gonna be able to make the plays that I could before.’ I guess mentally knowing what to expect of the game.

On the other hand, from Isaak's point of view, not knowing what was going to happen impaired him psychologically:

> …when I'm thinking, 'Am I ready to play?' it's something like a negative factor so it holds me back, psychologically holds me back. I wanna think that I'm ready. I think that I am ready. I think that I'm fit to play, I think that I can, but it's all like based on possibilities 'cause I don't know what's gonna happen in the future.

Holly believed psychological readiness to be somewhat related to emotional readiness. If an athlete allowed emotion to impair perspective, they might not fully grasp what to expect in competition:

> I think if you have a negative affectivity, you're probably not psychologically ready for what's about to happen because you're only seeing the negatives that could possibly come with the situation… But with a more positive affectivity… you're going out and you're just understanding everything that could possibly happen and you're just ready for any outcome.

Prior to RTC, participants had realistic expectations through the use of mental rehearsal, or visualization. Elijah talked about "taking mental reps" by watching someone else play his position. This way he managed to practice plays in his head as if he were on the field:

> Taking mental reps, watching my teammate take reps. Watching through his mistakes and learning from them and watching what he does wrong and what he does right and his alignment and his reads. Just little things like that have helped me mentally when I haven't practiced at all.

Darion described an analogous visualization practice from the sidelines:

> When I watch the scrimmages that I can't participate in, let's say last week, the guys who were playing my spot I like look at them. I'm like 'Okay let's see what they do and let's see if that's something I would do.' or, 'What would I do differently?' or 'What would they do differently?' or 'What did they do differently?' and then with that I kinda see would I be able to make that quick 180 turn and sprint backwards.

Post RTC, participants were more specific as to how to have realistic expectations in competition. Participants needed to be realistic with their decision-making. This lower-order subtheme refers to being able to gauge one's own ability to make proper decisions. Darion shared his view on how returning to competition after injury impacts fitness, which impacts one's ability to adequately make decisions:

> …if you're running a lot just because of the position or maybe the way the game's going, you're obviously gonna be quite tired and then you may not think as clearly because you're tired. You're breathing heavily, and your mind may … just feel scrambled at the time. So every decision going through your head, it's kind of like the first thing you see is like the first thing you do, which may not be the best option.

The second lower-order theme was emotional readiness to adapt. Several participants addressed the ability to adapt to unexpected situations with emotional poise. Kara said, "So when you're psychologically ready for something it shows and that comes from how you handle your emotions." When things don't go as expected, participants expressed it was essential to be able to accept it, adapt, and move on. Kara later said, "You can't dwell on it 'cause that's the toxic part. It's not the actual moment that happened – the toxic part is your reaction." Isaak used an example of a professional soccer player to explain that emotional strength can be built up through experience in order to adapt to competitive situations.

> So the soccer player who played 500 games, he was nervous ‘cause he could lose this game that means a lot to him. That’s why he’s not a hundred percent psychologically ready and that’s okay to not be a hundred percent ready. But he is able to still go out there and play good because he has taught himself and adapted to how to handle that situation. So that’s what it is. I actually don’t think you can be a hundred percent psychologically ready; I just think you’re able to deal with situations better through experience.

Among precursors to RTC and coping, four descriptive characteristics help conceptualize athletes’ experiences and perceptions of psychological readiness; it is mental, individual, dynamic, and knowing. Psychological readiness appears to additionally consist of three constant themes before and after RTC, including confidence, focus, and realistic expectations.

Chapter 4: Discussion

The purpose of the study was to explore injured athletes' experiences and perceptions of psychological readiness transitioning from rehabilitation to competition. It appears this was the first research study since Podlog et al. (2015) to explore the key attributes of psychological readiness. This was the first research study to investigate psychological readiness at two time points – once during rehabilitation and once after RTC – and the first study to include perspectives of athletes with injuries lasting less than one month. The results from this study suggest four general characteristics of psychological readiness, numerous antecedents, and three main themes. The three main themes included confidence, focus, and realistic expectations. Noteworthy were the similarities between participant descriptions and definitions of psychological readiness before and after RTC.

Participants had similar overarching needs before and after RTC to feel psychologically ready, however differences across lower-order subthemes underscored shifts in perspective as participants progressed from practice to competition. As participants became more competent, confidence was drawn from new sources, focus was devoted to more relevant tasks, and expectations were raised. Participants certainly needed the same attributes to feel psychologically ready before and after RTC. From pre to post RTC participants consistently articulated the need to have confidence in the physical status of the injury; expressed the need to focus on simple tasks; and compared abilities to pre-injury levels in order to form realistic expectations.

Perhaps less clear are the reasons *why* these themes consistently contributed to athlete psychological readiness. One potential explanation is that these key attributes moderated emotions and behaviours that were debilitative to feelings of readiness. Another possible explanation is these attributes increased participants' sense of self-control leading to more

successful appraisal processes of the injury and competition. The following chapter discusses the results in regard to past literature, new findings, and potential mechanisms of effect to help explain the consistency of perspectives across interviews.

Confidence

The most widespread perception shared by participants in this study was that confidence is a staple dimension of psychological readiness. Confidence was mentioned in some capacity by all of the participants. Similarly, Podlog et al. (2015, p. 10) identified confidence as "a key component" of psychological readiness and the IPRRS scale developed by Glazer (2009) consisted of six items pertaining to athlete confidence returning back to sport. Much like Glazer's work and research by Podlog and colleagues (2015), results from the present study identified confidence as multidimensional in nature. Participants expressed the need to have confidence in the injured body part and confidence to perform. Results from Podlog and colleagues (2015) labelled confidence in rehabilitation as a higher-order subtheme of confidence returning to sport, which was influenced by factors such as rehabilitation progress, knowledgeable sport medicine staff, and rehabilitation facilities. Confidence in the injury was another higher-order subtheme of confidence returning to sport. In contrast, the present study identified confidence in rehabilitation as a lower-order subtheme of confidence in the injury because participants reported confidence in the injury as having been influenced by confidence in athletic therapy staff and rehabilitation progress. It appears confidence in the injury and confidence in rehabilitation are both deemed by athletes as necessary for psychological readiness, but the difference in findings suggests athletes might place separate emphasis on confidence gained from the injured body part and confidence gained directly from the rehabilitation environment when reporting overall confidence to RTC.

Although the mechanism as to why confidence was needed for psychological readiness is not entirely clear, it is possible confidence acted as a buffer from debilitative emotions such as anxiety and fear (Forsdyke et al., 2016). Results from the present study indicated potential support of this hypothesis. For some participants, confidence in abilities mitigated the need for confidence in the injury. Specifically, confidence in one domain potentially reduced debilitative emotion toward another domain. In other words, confidence in abilities reduced anxiety toward the injury. Considering this, the potential interaction between confidence and emotional attributes should be considered when assessing psychological readiness. The interaction between social support and distress might be a good place to start.

Social support – a source of confidence and coping for participants in this study – is a recognized buffer between sport injury and distress, leading to more successful recovery outcomes in collegiate athletes (Yang, Peek-Asa, Lowe, Heiden, & Foster, 2010). Research by Lu and Hsu (2013) suggested the facilitative effect of social support on well-being in injured athletes is moderated by hope. In their research, social support did not affect subjective well-being in injured athletes with high hope but did increase well-being in those with low hope. This might be because hope is considered effective in helping people persevere in response to challenges and threats, and so is social support, or more specifically, verbal persuasion. The presence of one coping mechanism (i.e., hope) might negate the need for another (i.e., verbal persuasion). These findings could explain a mechanism of effect for confidence because of the interaction between confidence and hope. Confidence is a belief that one can rely on something (e.g., injury, abilities) to reach a desired goal, and hope is a perception entailing that belief. Since one's hope moderates the effect of social support on well-being, it is possible confidence moderates the buffering effect of verbal persuasion on emotional distress.

Focus

The emergent theme of focus provides a novel contribution to the psychological readiness literature. Components of focus were previously recognized in the literature but were devoted exclusively to describing confidence. For example, Glazer's IPRRS (2009) considered "confidence to not concentrate on the injury" (p. 186) an essential aspect of psychological readiness. Additionally, Podlog et al. (2015) identified having minimal "re-injury preoccupations" (p. 8) as representative of confidence in one's injured body part. Interaction between confidence and focus is inevitable, but results from the present study suggest there is more of a distinction between the two attributes than previous research has shown.

For participants in the present study, psychological readiness to RTC after injury meant that focus was not devoted to the injured body part. As recognized by the IPRRS, confidence to not concentrate on the injury is likely one piece of the psychological readiness puzzle. However, results indicate an individual's concrete ability to dissociate from the injury is also apparently necessary, and this ability often required self-control. Participants experienced difficulty freeing their minds of the injury, but those who were able to do so typically felt better and more psychologically ready.

A possible explanation for the impact of focus on psychological readiness comes from research on self-control by Baumeister, Bratslavsky, Muraven, and Tice (1998). They discovered acts of choice and self-control reduce resources available for subsequent volition, a state termed *ego depletion*. Hypothetically, this means the more attention participants in the present study devoted to one resource (e.g., injury), the less attention was left to be devoted to other resources (e.g., performance). This idea was supported in an investigation of the association between ego depletion and distractibility in basketball players (Englert, Bertrams, Furley, & Oudejans, 2015).

Researchers discovered free throw shooters with intact self-control strength, as opposed to depleted self-control strength, were more proficient in ignoring distracting stimuli and consequently, outperformed ego-depleted shooters. In essence, the more attention devoted to one thing temporarily reduces the attention available for another. This might explain why participants felt, to be psychologically ready to RTC, a distinct need to stop thinking about the injury.

Research by Furley, Bertrams, Englert, and Delphia (2013) also provided evidence of a self-control capacity for focusing attention on task performance and distraction avoidance. Specifically, researchers found self-control to play a critical role in decision-making. Results from the present study suggest an influence of fatigue on decision-making, but it is possible athletes experience a combined impact of inhibited self-control and increased fatigue on decision-making ability. Ego depletion could account for the allocation of one's attentional capacity in competition, but also for the capacity to gauge decision-making ability when it comes to realistic expectations.

Realistic expectations

The third key attribute of psychological readiness was realistic expectations. Analogous with the previous two themes, Glazer's IPRRS (2009) provides a good starting point to understand how realistic expectations have been considered in relation to athlete psychological readiness. Items on the IPRRS relate to how athletes expect to feel and perform in the future (e.g., confidence to play without pain, confidence in injury to handle the demands of the situation) but does not assess the accuracy of these expectations. Evidence suggests, however, that realistic expectations are integral to ensure readiness (Podlog et al., 2015) and successful RTS after injury (Podlog & Eklund, 2009). Herein lies an important missing feature of a scale designed to evaluate psychological readiness. Nevertheless, it is not yet established why realistic

expectations influence psychological readiness, but previous findings point to one's desire to perform.

Findings from Podlog and Eklund (2009) indicated an athlete's desire to RTC and perform well might play a role in developing unrealistic expectations. Athletes from that study found it difficult to set realistic goals returning to competition while having a strong desire to compete. According to the authors, athletes experienced "a state of deprivation" (p. 541) when they felt the need to gain competitive advantage but could not do so. Cognitive dissonance between desire and ability could ultimately lead to more risk-taking behaviour and impair one's feeling of psychological readiness.

Podlog et al. (2015) identified realistic expectations as a general dimension or attribute of psychological readiness. Specifically, athletes expressed the importance of patience, acceptance of post-injury limitations, and effective and flexible goal-setting. Athletes in the present study also articulated the need to recognize post-injury limitations and to not set overambitious goals. Athletes in the study by Podlog et al. (2015) appeared to need to downplay high expectations and the overwhelming desire to re-enter competition. In contrast, athletes in the present study expressed a definitive *need to know* what to expect from abilities and in competition, and in doing so, needed to be realistic in their expectations. It may be the case that knowing what to expect allows an athlete to more readily express patience or acceptance, or vice versa, but further research would be required to explore the relationship between these concepts.

One possible explanation for expectations playing such a key role in psychological readiness is that over-estimation of readiness leads to under-compliance with rehabilitation, which in addition to high negative affective responses, results in less successful RTC outcomes (Ivarsson, Tranaeus, Johnson, & Stenling, 2017). In other words, over-estimation of abilities

leads to more risky behaviour, which leads to negative affect (when abilities do not match expectations), ultimately causing feelings of uncertainty and poor performance. Problems occur when athletes have unrealistic expectations and feel the compelling need to test their abilities in unique competitive situations. Realistic expectations might allow athletes to avoid setbacks, both physically and psychologically.

Novel to the present study, many participants recognized that in addition to knowing what to expect of one's abilities, knowing what to expect in competition was of equal importance (e.g., knowing the speed of the game, having a sense of the opponent's capabilities). Unsurprisingly, athletes said that the most appropriate way to know what to expect was to enter competition. In saying this, participants who had not yet returned to competition, and for that reason did not know exactly what to expect, needed a certain degree of trust in the injury in order to "take the leap" into competition. It is possible participants who had more realistic expectations before RTC did not need to rely so heavily on trust and therefore, perceived RTC as a lower risk behaviour and felt more psychologically ready to RTC.

4.1 Defining psychological readiness

To date, research on psychological readiness to RTS has been limited. Ardern et al. (2014) researched psychological readiness by investigating psychological factors influencing an athlete's choice to RTS after injury. As previously stated, however, simply returning to sport is not representative of psychological readiness to compete. Psychological readiness precursors from the present study, such as sport-specific demands and time of season, suggest RTC timelines were not entirely under the control of the athletes, but subject to situational factors. As a result, psychological readiness may not coincide with actual time of return. According to Podlog and colleagues (2015), psychological readiness can be experienced at any time

throughout the RTS process: "…psychological readiness is a dynamic, psychosocial process which athletes may experience before, during, or after their transition from rehabilitation to returning to competitive sport." (p. 13) Psychological readiness is therefore considered to not only be experienced before, but also during and after, RTC.

Research by Podlog and colleagues (2015) identified motivation to regain previous performance standards as a main attribute of psychological readiness. Motivation did not emerge as an attribute of psychological readiness in the present study, but as a precursor to the main attributes. Motivation was revealed in many forms and appeared to act as a prerequisite to psychological readiness; a potential buffer from the psychological factors that hinder psychological readiness during RTC. This supports the notion that motivation is a driving influence on one's decision to return to training and competition (Podlog & Eklund, 2005; Podlog & Eklund, 2006) and acts on one's coping mechanism to facilitate the RTC process (Podlog et al., 2012). Yet, despite the value of motivation on RTC, participants did not identify motivation as a central tenet to psychological readiness.

Coping precursors such as support and motivation to contribute to one's team suggest psychological readiness was under the influence of one's social environment and is therefore a *psychosocial* process. Coping precursors such as injury experience and life perspective provide evidence for individual influences on readiness. Situational (i.e., sport and social) factors as well as personal (i.e., injury and individual) factors are consistent with the Integrated Model of Response to Sport Injury (Wiese-Bjornstal et al., 1998) and help explain the complexity of the injury experience and hence, psychological readiness. Results from the present study provide further description of psychological readiness to RTS and RTC, more specifically.

Findings from the present study represent psychological readiness to RTS by the following descriptive characteristics: psychological readiness is 1) mental; 2) individual; 3) dynamic; and 4) knowing. These characteristics contribute to a working definition of psychological readiness but should not be considered all-encompassing. This research has helped form a more nuanced progression of the definition but more work is needed to further understand this complex construct, specifically around factors and mechanisms that contribute to feelings of psychological readiness. Taking into account the evidence from the present study, it is suggested that psychological readiness to RTS is a dynamic psychosocial state in which an athlete has the confidence and focus to meet realistic expectations in the competitive environment before and/or after RTC.

4.2 Implications

This research provides novel perspectives on psychological readiness. The IPRRS (Glazer, 2009) was developed based on the perspectives of seven athletic trainers, professors, and coaches with experience in athletic injuries and sport psychology. Seeking a more in-depth point of view, Podlog et al. (2015) conducted the first research on injured athlete perspectives of psychological readiness, having interviewed seven athletes from two different sports retrospectively. The present study built on previous literature and considered athlete perspectives at two time points throughout the transition from rehabilitation to competition. Previous research has not identified differences in athlete perspectives of psychological readiness across the RTC phase, however, research regarding adolescent perspectives of a successful return throughout RTS has indicated increases in mental strength, intrinsic motivation, sport performance, and one's ability to push through challenging life circumstances (Podlog et al., 2012). This supports the present findings that injury experience helps athletes cope with future injury, however, a

novel contribution of the present study was the immediate, prospective timeframe of data collection throughout RTC. Another strength of this research was the diverse population, in terms of sport and injury. Fifteen participants represented five different sports and eleven separate injury types, ranging in length from 14 days to two years. Although research on psychological readiness could still be regarded as in its infancy, current conceptualization of the construct and its precursors should be taken into consideration to amend the IPRRS and improve the definition of psychological readiness.

Results from the present study and from research by Podlog et al. (2015) strongly suggest an addition of items to the IPRRS, or the development of a new measure, in order to more accurately assess athlete psychological readiness. Whether an addition of items to the IPRRS or creation of new measure is most fitting, recommendations of new measure items are as follows: First, items regarding realistic expectations should be considered and assessed purposefully in comparison with expertise in physical therapy and recovery. Suggested items include: “I expect my skills/abilities to be equal to or better than before my injury”; “I expect my decision-making to be equal to or better than before my injury”; and “I feel ready to adapt to unforeseen circumstances”. Additionally, inclusion of items relating to focus is also recommended. Suggested items include: “I am able to stay focused on actions within my control”; “I am able to stay focused in the present and not dwell on the past”; and “I am able to not think about the injury”.

Changes to the IPRRS or the development of a new measure would be vital in order for athletic therapists to gain a better understanding of an athlete’s psychological readiness as they progress through rehabilitation. Certain physical standards could be assessed in conjunction with psychological standards to make adjustments to rehabilitation protocol. For instance, an athlete

might be physically able to complete a pivot, but not able to dissociate focus from the injury in competition for fear of feeling pain, leading to poor execution. Subsequently clearing the athlete for competition would be contra-indicated without considering psychological readiness. This reinforces the need for a more integrated team approach in rehabilitation and RTC decisions.

It is necessary to establish a team of professionals to aid rehabilitation and corroborate RTC decisions as appropriately as possible. Hamson-Utley, Martin, and Walters (2008) noted that athletic and physical therapists who had or intended to have formal training in psychological skills held more positive attitudes on the use of psychological skills with injured athletes, allowing them to help athletes manage the psychological trauma associated with injury. In contrast, therapists who are not educated on the use of psychological skills may need to draw upon a team of professionals to address psychological concerns. Holt et al. (2017) recommended one way to actually integrate research to practice would be to hire individuals with a specific research implementation role. A second suggestion was to facilitate strong partnerships between researchers and sport organizations – a feasible option for sports teams within university settings. Nevertheless, integration of professional opinions from athletic therapists, physical therapists, mental performance consultants, psychologists and sports medicine practitioners might help athletes effectively progress toward physical and psychological readiness. Higher- and lower-order themes from the present study suggest practical techniques to facilitate psychological readiness in athletes, including fostering social support networks to improve confidence, implementing mental skills training for improved focus, such as mindfulness practice, and flexible goal-setting to establish realistic expectations.

4.3 Limitations and Future Directions

The first limitation with this research is in regard to the sample of participants. All 15 participants were team sport athletes (e.g., football, hockey, soccer), with no representation from individual sport athletes (e.g., cross-country running, golf, swimming). Discernable differences in what constitutes psychological readiness might exist between the two types of athletes. For example, one participant perceived an attribute of psychological readiness to be knowing one's role on the team, which might not be relevant for individual sport athletes. Although individual sport athletes often contribute to team scores, emphasis remains on individual performance because an athlete can win or lose independently of team performance. More research regarding the generalizability of these findings across individual sports is befitting.

Second, the IPRRS was administered before each interview. This was intended to reduce potential researcher influence on scale responses. In retrospect, administration of the IPRRS might have influenced participant interview responses. Possible bias occurred by asking participants to define psychological readiness after having them complete a scale in which the construct was defined by six types of confidence. To account for this, participants' perceptions of confidence were probed, and responses distinguished a variety of higher and lower-order themes. This supports that methodological bias did not result in untrue interview responses, but it is important to note in future research the theme of confidence might not be used as universally to define psychological readiness as it was in this study.

Future research should investigate more in-depth the role of emotion in psychological readiness. Emotion-related themes did not emerge as central to participant perceptions of psychological readiness, but main themes like confidence and realistic expectations might have had large influences on emotional regulation, or vice versa. The role of confidence, specifically its breadth across domains (i.e., injury, fitness, skills, etc.), on emotional response could provide

insight into best practices when it comes to psychological rehabilitation. Emotion might also play a role in realistic expectations, particularly when desire and ability do not coincide. This idea presents the opportunity to explore research on neuroticism in relation to psychological readiness and coincidently expand into literature on personality. Neuroticism is a personality trait that elicits a tendency toward emotional lability and negative affect (McCrae & John, 1992; cited in Grove & Cresswell, 2007). Grove and Cresswell indicated it, among other personality dispositions, influences thoughts, feelings, and behaviours during recovery from injury. This idea presents the possibility for more future research to examine further commonalities between psychological readiness and psychological response to injury.

Since athletes returning to competition are in the midst of their psychological response to injury, similarities inevitably exist between psychological readiness and the Integrated Model of Response to Sport Injury. As this research has shown, personal (e.g., injury experience) and situational (e.g., time in sport season) factors, presented by Wiese-Bjornstal et al. (1998), also influence psychological readiness. Factors presented by Wiese-Bjornstal and colleagues that were not examined in the present study could expand understanding of psychological readiness. For example, individual differences like personality and athletic identity, demographic variables such as gender, age, and ethnicity, environmental factors including varying season lengths, and social factors such as coach and teammate pressures, are worthy of investigation.

Research investigating generalizability of psychological readiness attributes across different sports, particularly individual sports, is recommended. As previously mentioned, sport culture differed greatly between team sports included in this research. For example, football culture put higher demands on injured athletes to return, and football players perceived psychological readiness as more distinct from physical readiness than athletes from other sports.

Considering the differences that emerged between team sport athletes, it is possible individual sport athletes could offer new perspectives on what it means to be psychologically ready to RTC following injury. Psychological readiness is also highly individualized, so research devoted to athletes of different ages and levels of sport participation is recommended.

4.4 Conclusion

The present study explored athletes' perceptions and experiences of psychological readiness to RTS. Athletes perceived psychological readiness to be influenced by various psychosocial factors (e.g., support, motivation, sport culture), and conceptualized psychological readiness to be defined by four descriptive characteristics (mental, individual, dynamic, and knowing) and three main attributes (confidence, focus, and realistic expectations). Although this research supported previous literature on the topic (Glazer, 2009; Podlog et al. 2015), several new concepts were discussed that contribute to current and future understanding of psychological readiness and provide practical information for rehabilitation specialists. The results strongly suggest focus plays a key role in psychological readiness and athletes need to experience competitive situations as much as possible prior to RTC. Finally, this study provided new direction for future study, including the potentially influential roles of emotion and sport type on psychological readiness.

References

Anshel, M. H., Jamieson, J., & Raviv, S. (2001). Cognitive appraisals and coping strategies following acute stress among skilled competitive male and female athletes. *Journal of Sport Behaviour, 24*(2), 128-143.

Ardern, C. L., Osterberg, A., Tagesson, S., Gauffin, H., Webster, K. E., & Kvist, J. (2014). The impact of psychological readiness to return to sport and recreational activities after anterior cruciate ligament reconstruction. *British Journal of Sports Medicine, 48*, 1613-1619. doi:10.1136/bjsports-2014-093842.

Baker, S., Marshak, H., Rice, G., & Zimmerman, G. (2001). Patient participation in physical therapy goal setting. *Physical Therapy*, *81*(5), 1118-1126.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191-215. doi: 10.1037/0033-295x.84.2.191.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, *37*(2), 122-147.

Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology*, *74*(5), 1252-1265.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101.

Carson, F., & Polman, R. (2010). The facilitative nature of avoidance coping with sports injury rehabilitation. *Scandinavian Journal of Medicine and Science in Sports*, *20*, 235-240. doi: 10.1111/j.1600-0838.2009.00890.x

Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the

Brief COPE. *International Journal of Behavioural Medicine*, *4*(1), 92-100. doi: 10.1207/s15327558ijbm0401_6.

Clement, D., Arvinen-Barrow, M., & Fetty, T. (2015). Psychological responses during different phases of sport-injury rehabilitation: A qualitative study. *Journal of Athletic Training*, *50*(1), 95-104. doi: 10.4085/1062-6050-49.3.52.

Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage Publications.

Creighton, D. W., Shrier, I., Shultz, R., Meeuwisse, W. H., & Matheson, G. O. (2010). Return-to-play in sport: A decision-based model. *Clinical Journal of Sports Medicine*, *20*(5), 379-385. doi: 10.1097/JSM.0b013e3181f3c0fe.

Creswell, J. W. (2014). *Research design: qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: SAGE Publications.

Dawson, M. A., Hamson-Utley, J. J., Hansen, R., & Olpin, M. (2014). Examining the effectiveness of psychological strategies on physiologic markers: Evidence-based suggestions for holistic care of the athlete. *Journal of Athletic Training, 49*(3), 331-337. doi: 10.4085/1062-6050-49.1.09.

De la Vega, R., Barquin, R. R., Aguayo, E., & Marquez, S. (2017). Restoration of confidence and perception of coaches following sports injury. *Cogent Psychology, 4*. doi: 10.1080/23311908.2017.1312047.

Englert, C., Bertrams, A., Furley, P., & Oudejans, R. R. D. (2015). Is ego depletion associated with increased distractibility? Results from a basketball free throw task. *Psychology of Sport and Exercise, 18,* 26-31.

Folkman, S., Lazarus, R. S., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. J. (1986).

Dynamics of a stressful encounter: Cognitive appraisal, coping, and encounter outcomes. *Journal of Personality and Social Psychology*, *50*(5), 992-1003. doi: 10.1037/0022-3514.50.5.992.

Forsdyke, D., Gledhill, A., & Ardern, C. (2017). Psychological readiness to return to sport: Three key elements to help the practitioner decide whether the athlete is really ready? *British Journal of Sports Medicine*, *51*, 555-556. doi: 10.1136/bjsports-2016-096770.

Forsdyke, D., Smith, A., Jones, M., & Gledhill, A. (2016). Psychosocial factors associated with outcomes of sports injury rehabilitation in competitive athletes: A mixed studies systematic review. *British Journal of Sports Medicine*, *50*(9), 537-544. doi: 10.1136/bjsports-2015-094850.

Fuller, C. W., Ekstrand, J., Junge, A., Anderson, T. E., Bahr, R., Dvorak, J., …, Meeuwisse, W. H. (2006). Consensus statement on injury definitions and data collection procedures in studies of football (soccer) injuries. *Scandinavian Journal of Medicine and Science in Sports*, *16*, 83-92. doi: 10.1111/j.1600-0838.2006.00528.x.

Furley, P., Bertrams, A., Englert, C., & Delphia, A. (2013). Ego depletion, attentional control, and decision making in sport. *Psychology of Sport and Exercise*, *14*(6), 900-904. doi: 10.1016/j.psychsport.2013.08.006.

Gallagher, B. V. & Gardner, F. L. (2007). An examination of the relationship between early maladaptive schemas, coping, and emotional response to athletic injury. *Journal of Clinical Sport Psychology*, *1*, 47-67. doi: 10.1123/jcsp.1.1.47.

Glazer, D. D. (2009). Development and preliminary validation of the injury-psychological readiness to return to sport (I-PRRS) scale. *Journal of Athletic Training*, *44*(2), 185-189. doi: 10.4085/1062-6050-44.2.185.

Gollwitzer, P., & Sheeran, P. (2006). Implementation Intentions and Goal Achievement: A meta-analysis of effects and processes. *Advances in Experimental Social Psychology*, *38*, 69-119. doi: 10.1016/S0065-2601(06)38002-1.

Grove, J. R., & Cresswell, S. L. (2007). Personality correlates of appraisal, stress, and coping during injury rehabilitation. In D. Pargman (Ed.) *Psychological bases of sport injuries* (3rd ed.) (pp. 53-77). Morgantown, WV: Fitness Information Technology.

Hamson-Utley, J. J. (2008). The comeback: Rehabilitating the psychological injury. *International Journal of Athletic Therapy and Training*, *13*(5), 35-38. doi: 10.1123/att.13.5.35.

Hamson-Utley, J. J., Martin, S., & Walters, J. (2008). Athletic trainers' and physical therapists' perceptions of the effectiveness of psychological skills within sport injury rehabilitation programs. *Journal of Athletic Training*, *43*(3), 258-264. doi: 10.4085/1062-6050-43.3.258.

Ivarsson, A., Tranaeus, U., Johnson, U. & Stenling, A. (2017). Negative psychological responses of injury and rehabilitation adherence effects on return to play in competitive athletes: a systematic review and meta-analysis. *Journal of Sports Medicine*, *8*, 27-32. doi: 10.2147/OAJSM.S112688.

Kvist, J., Österberg, A., Gauffin, H., Tagesson, S., Webster, K., & Ardern, C. (2013). Translation and measurement properties of the Swedish version of ACL-Return to Sports after Injury questionnaire. *Scandinavian Journal of Medicine and Science in Sports*, *23*, 568-575. doi: 10.1111/j.1600-0838.2011.01438.x.

Lazarus, R. S., & Folkman, S. (1984b). *Stress, appraisal and coping*. New York, NY: Springer.

Leddy, M. H., Lambert, M. J., & Ogles, B. M. (1994). Psychological consequences of athletic

injury among high-level competitors. *Research Quarterly for Exercise and Sport*, *65*(4), 347-54. doi: 10.1080/02701367.1994.10607639.

Levy, A., Polman, R., & Clough, P. (2008). Adherence to sport injury rehabilitation programs: an integrated psycho-social approach. *Scandinavian Journal of Medicine and Science in Sports, 18*, 798-809. doi: 10.1111/j.1600-0838.2007.00704.x.

Lu, F. J. H., & Hsu, Y. (2013). Injured athletes' rehabilitation beliefs and subjective well-being: The contribution of hope and social support. *Journal of Athletic Training, 48*(1), 92-98. doi: 10.4085/1062-6050-48.1.03.

Masten, R., Strazar, K., Zilavec, I., Tusak, M., & Kandare, M. (2014). Psychological response of athletes to injury. *Kinesiology, 1*, 127-134.

McCullough, K. A., Phelps, K. D., Spindler, K. P., Mattava, M. J., Dunn, W. R., Parker, R. D., …, Reinke, E. K. (2012). Return to high school and college level football following ACL reconstruction: A MOON cohort study. *American Journal of Sports Medicine, 40*(11), 2523-2529. doi: 10.1177/0363546512456836.

McNair, D. M., Lorr, M., & Droppleman, L. F. (1992). *Manual for the profile of mood states (POMS)* (Revised ed.). San Diego, CA: Educational and Industrial Testing Services.

Monzani, D., Steca, P., Greco, A., D'Addario, M., Cappelletti, E., & Pancani, L. (2015). The situational version of the Brief COPE: Dimensionality and relationships with goal-related variables. *Europe's Journal of Psychology, 11*(2), 295-310. doi: 10.5964/ejop.v11i2.935.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Pelletier, L. G., Tuson, K. M., Fortier, M. S., Vallerand, R. J., Briere, N. M., & Blais, M. R.

(1995). Toward a new measure of intrinsic motivation, extrinsic motivation, and amotivation in sports: The Sport Motivation Scale (SMS). *Journal of Sport and Exercise Psychology, 17*, 35-53. doi: https://doi.org/10.1123/jsep.17.1.35.

Podlog, L., Banham, S. M., Wadey, R., & Hannon, J. C. (2015). Psychological readiness to return to competitive sport following injury: A qualitative study. *The Sport Psychologist, 29*, 1-14. doi: 10.1123/tsp.2014-0063.

Podlog, L., & Eklund, R. (2005). Return to sport after serious injury: A retrospective examination of motivation and psychological outcomes. *Journal of Sport Rehabilitation, 14*, 20-34. doi: 10.1123/jsr.14.1.20.

Podlog, L., & Eklund, R. (2006). A longitudinal investigation of competitive athletes' return to sport following serious injury. *Journal of Applied Sport Psychology, 18*(1), 44-68. doi: 10.1080/10413200500471319.

Podlog, L., & Eklund, R. (2009). High-level athletes' perceptions of success in returning to sport following injury. *Psychology of Sport and Exercise, 10*, 535-544. doi: 10.1016/j.psychsport.2009.02.003.

Podlog, L., Wadey, R., Stark, A., Lochbaum, M., Hannon, J., & Newton, M. (2012). An adolescent perspective on injury recovery and the return to sport. *Psychology of Sport and Exercise, 14*, 437-446. doi: 10.1016/j.psychsport.2012.12.005.

Ruddock-Hudson, M., O'Halloran, P., & Murphy, G. (2014). The psychological impact of long-term injury on Australian Football League players. *Journal of Applied Sport Psychology, 26*(4), 377-394. doi: 10.1080/10413200.2014.897269.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and

new directions. *Contemporary Educational Psychology, 25*, 54-67. doi:10.1006/ceps.1999.1020.

Santi, G., & Pietrantoni, L. (2013). Psychology of sport injury rehabilitation: A review of models and interventions. *Journal of Human Sport and Exercise*, *8*(4), 1029-1044. doi:10.4100/jhse.2013.84.13.

Tracey, J. (2003). The emotional response to the injury and rehabilitation process. *Journal of Applied Sport Psychology, 15*, 279-293. doi: 10.1080/714044197.

Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing and Health Sciences, 15*, 398-405. doi: 10.1111/nhs.12048.

Vealey, R. S. (1986). Conceptualization of sport confidence and competitive orientation: Preliminary investigation and instrument development. *Journal of Sport Psychology, 8*, 221-246. doi: 10.1123/jsp.8.3.221.

Walker, N. Thatcher, J. & Lavallee, D. (2010). A preliminary development of the Re-Injury Anxiety Inventory (RIAI). *Physical Therapy in Sport, 11*, 23-29. doi: 10.1016/j.ptsp.2009.09.003.

Webster, K. E., Feller, J. A., & Lambros, C. (2008). Development and preliminary validation of a scale to measure the psychological impact of returning to sport following anterior cruciate ligament reconstruction surgery. *Physical Therapy in Sport, 9*(1), 9-15. doi: 10.1016/j.ptsp.2007.09.003.

Weed, M. (2009). Research quality considerations for grounded theory research in sport and exercise psychology. Psychology of Sport and Exercise, 10, 502-510. doi: 10.1016/j.psychsport.2009.02.007.

Wiese-Bjornstal, D., Smith A., Shaffer, S., & Morrey M. (1998). An integrated model of response to sport injury: Psychological and sociological dynamics. *Journal of Applied Sport Psychology, 10*, 46-69. doi: 10.1080/10413209808406377.

Yang, J., Peek-Asa, C., Lowe, J. B., Heiden, E., & Foster, D. T. (2010). Social support patterns of collegiate athletes before and after injury. *Journal of Athletic Training, 45*(4), 372-379. doi: 10.4085/1062-6050-45.4.372.

Zeidner, M., & Endler, N. S. (1996). *Handbook of coping: Theory, research, applications*. New York: Wiley.

Appendix A

INVITATION TO PARTICIPATE

WILFRID LAURIER UNIVERSITY

REB # 5792

You are invited to participate in a research study that will explore the experiences of injured athletes before and after return back to competition. This project is being conducted by Scott Donald, with the supervision of Dr. Jill Tracey, and is a requirement of the Master's degree program in the Department of Kinesiology and Physical Education at Wilfrid Laurier University.

We recognize the challenges that come with injury, so we are attempting to gain an understanding of what it means for you to be psychologically ready to return to sport after injury. As the researcher, it is my hope that your experiences may be used to help athletes compete at their best immediately following return to sport. I also hope that your participation will allow you to recognize your mental strengths as an athlete.

Participation in this study will involve:

3 short questionnaires (about 5-10 minutes, in total)
1 interview before you return to competition and 1 interview after you have returned (about 30-60 minutes each)

Your participation in this study is strictly **voluntary** and you may choose not to participate or to withdraw at any point without any effect on your rehabilitation program or participation in varsity sport. Participation is also **confidential**, which means your name will not be shared and information can only be used with your consent.

If you would like more information about participating in this study, please fill out your information below and place it in the provided envelope. If you are not interested, please place this form in the envelope without completing it. Your Athletic Therapist will return the sealed envelope to the researchers.

Name (First & Last)	
Email	
Cell Phone	

I give consent for my Athletic Therapist to share the suspected condition of my injury and expected injury timeline with the primary investigator of this study.

Signature of athlete: _____

If you chose to provide contact information, a researcher will contact you to schedule an interview. At that time, you will be provided with details of the study and will have the opportunity to provide Informed Consent and participate in the study, or to choose not to participate.

For the Athletic Therapist only:
I will keep the participation of this athlete in the current study confidential and will not share the suspected injury condition or expected injury timeline with anyone other than the primary investigator.

Signature of Athletic Therapist: _____

If you have any questions regarding this study, please do not hesitate to contact us directly.
Thank you for your time and consideration.

Scott Donald
MKin Candidate,
Wilfrid Laurier University
Kinesiology & Physical Education
dona7910@mylaurier.ca

Dr. Jill Tracey
Associate Professor,
Wilfrid Laurier University
Kinesiology & Physical Education
jtracey@wlu.ca

Appendix B

INFORMED CONSENT STATEMENT

WILFRID LAURIER UNIVERSITY

Title of Study: Exploring Psychological Readiness to Return to Sport After Injury

Investigator: Scott Donald
MKin Candidate,
Wilfrid Laurier University
Kinesiology & Physical Education
dona7910@mylaurier.ca
(902) 968-1054

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 a research study that is looking to explore the experiences of injured athletes before and after their return back to competition. This research study is being conducted by Scott Donald with 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.

PURPOSE AND PROCEDURE:

The purpose of this study is to explore injured athletes' experiences of psychological readiness before and after return to sport. You will be asked to complete a total of three short questionnaires that will take 5-10 minutes to complete. Following this you will be asked to participate in a 30 to 60-minute interview regarding your injury experience and the psychological readiness involved in a successful return to sport. 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 two weeks of receiving the document. The transcript may be several pages in length so the time this will take may depend on the length of the interview. You may send your response to us by email, regular mail, or telephone. If we do not receive a response from you within two 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.

CONFIDENTIALITY:

All information submitted by you will be strictly confidential. Interviews will be audio recorded and transcribed verbatim. At this point any factors leading to direct identification 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. Melissa pare, a graduate student, will have access to the interview transcripts after direct identifiers have been removed. This data will be anonymized information and risk of identification of individuals is low. All consent and questionnaire responses will be stored in separate locked locations.

The athletic therapist will share the suspected condition of your injury with the primary investigator of this study. This will include the initial injury diagnosis and your expected injury timeline. This information will be used by the primary investigator to properly schedule the interviews and will not be shared with anyone else.

BENEFITS AND RISKS:

Participant experiences may be used to help you recognize feelings of psychological readiness, so you can compete at your best immediately following return to sport. Specifically, participation will allow you to recognize mental strengths as an athlete in addition to areas that need improvement (e.g., confidence, motivation, ability to cope, etc.). The experiences you share will build on the current body of research, with the possibility to be used in an applied setting throughout rehabilitation and transition back to competition.

There are minimal psychological and emotional risks associated with this research. You will be asked to recall information regarding the occurrence of your injury, your emotional response and thought process, and factors believed to contribute to your psychological readiness. It is possible that you may feel uncomfortable sharing these experiences and divulging information. Feeling distressed or a rise of negative emotion may occur when recounting the injury and the transition process. If, during or after the process, you feel that you 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 given to you or securely destroyed. You are not required to answer any questions that make you feel uncomfortable or you do not wish to answer. Following the interview, you will be sent the interview transcripts electronically (you may request a hard copy), at which point you are able to amend or omit any information or quotations you do not want used during this study. I thank you in advance for your participation in this study.

RESULTS OF THE STUDY:

If you indicate that you are interested in the results of this study, you will be sent a letter outlining the common themes that were found among participants.

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 Scott Donald or Dr. Jill Tracey.

Scott Donald University
MSc Candidate,
Wilfrid Laurier University
Kinesiology & Physical Education
(902) 968-1054
dona7910@mylaurier.ca

Dr. Jill Tracey
Associate Professor,
Wilfrid Laurier University
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. Jayne Kalmar, Chair, University Research Ethics Board, Wilfrid Laurier University, (519) 884-0710, extension 2033 or jkalmar@wlu.ca.

I have received a copy of this 3-page form. I have read and understand the above information. I agree to participate in this study.

Participant's signature_____ Date _____

Investigator's signature_____ Date _____

Direct quotations (with pseudonyms) may be used in presentations or a final write-up of this research study. Please initial the following box if you do not wish to have your quotations used.

☐

Please keep a copy of this consent form.

Appendix C

DEMOGRAPHICS SURVEY

Please print

First Name: _____ Last Name: _____

Age: _____

Sex: F / M (circle one)

Sport: _____

Type of injury: _____

History of injuries:
If you have no history of injuries, simply leave the following chart blank.
If you have had at least one injury in the past, please specify the year, type, and length.

Year of Injury	Type of Injury (e.g., torn left hip flexor; sprained ankle)	Rehabilitation Time (e.g., 6 months; 2 weeks)

Appendix D

BRIEF COPE

Source: Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioural Medicine*, *4*(1), 92-100.

This questionnaire concerns how you coped with your injury. Try to rate each item separately in your mind from the others. Make your answers as true for you as you can. Use the following response choices:

1 = Not at all 2 = A little bit 3 = A medium amount 4 = A lot

___ 1. Turned to work or other activities to take my mind off things.
___ 2. Concentrated my efforts on doing something about the situation I'm in.
___ 3. Said to myself "this isn't real."
___ 4. Used alcohol or other drugs to make myself feel better.
___ 5. Got emotional support from others.
___ 6. Gave up trying to deal with it.
___ 7. Took time to figure out what I'm really feeling.
___ 8. Took action to try to make the situation better.
___ 9. Refused to believe that it has happened.
___ 10. Said things to let my unpleasant feelings escape.
___ 11. Got help and advice from other people.
___ 12. Used alcohol or other drugs to help me get through it.
___ 13. Tried to see it in a different light, to make it seem more positive.
___ 14. Criticized myself.
___ 15. Realized that my feelings are valid and important.
___ 16. Tried to come up with a strategy about what to do.
___ 17. Got comfort and understanding from someone.
___ 18. Gave up the attempt to cope.
___ 19. Looked for something good in what was happening.
___ 20. Made jokes about it.
___ 21. Did something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
___ 22. Accepted the reality of the fact that it has happened.
___ 23. Allowed myself to express my emotions.
___ 24. Expressed my negative feelings.
___ 25. Tried to find comfort in my religion or spiritual beliefs.
___ 26. Tried to get advice or help from other people about what to do.
___ 27. Learned to live with it.
___ 28. Thought hard about what steps to take.
___ 29. Blamed myself for things that happened.
___ 30. Prayed or meditated.
___ 31. Let my feelings come out freely.
___ 32. Made fun of the situation.

Appendix E

INJURY-PSYCHOLOGICAL READINESS TO RETURN TO SPORT SCALE

Source: Glazer, D. D. (2009). Development and preliminary validation of the injury-psychological readiness to return to sport (I-PRRS) scale. *Journal of Athletic Training, 44*(2), 185-189.

Please rate your confidence to return to your sport in intervals of 10 on a scale from 0 - 100.

For the sake of this scale:

0 = no confidence at all

50 = moderate confidence

100 = complete confidence

1. My overall confidence to play is

   0-------10-------20-------30-------40-------50-------60-------70-------80-------90-------100

2. My confidence to play without pain is

   0-------10-------20-------30-------40-------50-------60-------70-------80-------90-------100

3. My confidence to give 100% effort is

   0-------10-------20-------30-------40-------50-------60-------70-------80-------90-------100

4. My confidence to not concentrate on the injury is

   0-------10-------20-------30-------40-------50-------60-------70-------80-------90-------100

5. My confidence in the injured body part to handle the demands of the situation is

   0-------10-------20-------30-------40-------50-------60-------70-------80-------90-------100

6. My confidence in my skill level/ability is

   0-------10-------20-------30-------40-------50-------60-------70-------80-------90-------100

Appendix F

INTERVIEW GUIDE

Introductory Statement (To be said prior to the commencement of the interview):

Thank you for agreeing to meet with me to discuss your experiences returning to sport after injury. I appreciate your willingness to participate and the time you have taken to do so. I would like to make this a comfortable experience for you. In order to do this, I will briefly outline the types of questions I will ask you throughout the interview. First, I will begin by asking you to briefly describe your injury experience, including immediate reactions and feelings. Then we will discuss your thoughts around what it means to be ready to return to sport and the contributing psychological factors.

Please feel free to interject with comments at any time throughout the interview, even if they pertain to a topic we have already discussed. You may decide not to answer certain questions, or you may choose to stop the interview altogether. If at any time throughout the interview you wish to do so, please let me know.

Before we start, do you have any questions for me? (If not, or after questions have been answered) May I turn the tape recorder on? (Wait for participant to respond affirmatively, and then turn on the tape recorder) Okay, let's begin.

Pre-return to competition questions

1. When did you first start playing your sport competitively?

2. How did your injury occur?

    2.1 What was your initial reaction to the injury?

    2.2 What was your initial reaction to the injury diagnosis?

    2.3 Describe your emotions at the time of injury.

3. What does it mean for you to be physically ready to return to sport after injury?

4. What does it mean for you to be psychologically ready to return to sport after injury?

    4.1 How would you describe your current readiness to return to sport?

5. Describe what motivates you to stay involved in your sport after injury.

6. Describe any concerns (if at all) you have about returning to sport following your time off from injury.

    6.1 How do you attempt to cope with any concerns you have returning to competition?

    6.2 Describe any strategies you used, such as positive self-talk, imagery, or goal-setting.

    6.3 Describe any support from family or friends that helped you cope with injury.

7. How do you think you will perform once you begin competing?

    7.1 How do you think your performance will compare to your pre-injury performance?

8. Describe your emotions regarding your injury recovery at this time.

9. How do you define psychological readiness?

10. Is there anything about your upcoming return to sport we have not talked about that you would like to discuss?

11. Do you have any questions for me?

Return to competition questions

1. Since we last spoke, describe what returning to sport has been like for you, physically.

2. Since we last spoke, describe what returning to sport has been like for you, psychologically.

3. Describe what it means for you to be psychologically ready.

4. How do you think you have performed since returning to competition from injury?

    4.1 How have you performed in comparison to before your injury?

    4.2 What do you attribute this to?

5. What, if anything, has motivated you throughout your return to competition?

    5.1 If nothing has motivated you, what has helped you prepare to be ready for competition?

6. Describe any concerns (if any) you may have had since returning to competition.

    6.1 Why do you think you have experienced these concerns?

    6.2 How did you attempt to cope with any concerns you had returning to competition?

7. How (if at all) have your expectations changed since your return to competition?

    7.1 What do you attribute this to?

8. Describe your current emotions regarding your past injury.

9. How do you define psychological readiness?

10. Is there anything about your return to competition we have not talked about that you would like to discuss?

11. Do you have any questions for me?

Appendix G

MEMBER CHECK LETTER

Dear _____,

Thank you again for your participation in this study. Attached with this document is a copy of the two interview transcripts. We did not edit out the 'ums' or 'ahs' (etc.) since we typically want to remain true to the interview and data. Pauses in speech were also identified in the transcripts to help our interpretation of what was said during each interview. Typically, when presenting quotations, they are edited for grammatical errors as well.

Please review the transcripts. If you have any corrections, additions, or information you would like removed, please use the comment function, use track changes in the document, or use another identifiable method to make a comment that would be obvious to us. If we do not hear from you within 2 weeks, we will assume the transcript is fine and proceed with our project.

Thank you again for your time.

Scott Donald University
MSc Candidate,
Wilfrid Laurier University
Kinesiology & Physical Education
(902) 968-1054
dona7910@mylaurier.ca

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