THE REBALANCING ACT: WOMEN'S EXPERIENCES OF PSYCHOLOGICAL
WELL-BEING DURING SERIOUS SPORT INJURY

by

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Committee Page

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The Rebalancing Act: Women’s Experiences of Psychological Well-Being During Serious Sport Injury

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Abstract

Sport injury is a stressful event because it poses threats to an athlete’s physical, emotional, and social well-being (Heil, 1993), which manifests cognitively, emotionally, and behaviourally (Brewer, 2007). There is also much to be gained from the sport injury experience (Tracey, 2003). There has been little attention given to athletes’ psychological well-being (PWB) during injury recovery. PWB is defined as “living well or actualizing one’s true potentials” (Deci & Ryan, 2001, p.2). A thematic analysis of semi-structured interviews with 12 currently seriously injured women varsity athletes (out of sport for 21+ days) was employed to explore their perceptions and experiences of PWB during sport injury recovery. Four main themes were identified. Firstly, my life is chaos and out of control: participants perceived sport injury to trigger an identity crisis and a sense of loss, leaving them feeling overwhelmed and stagnant in pursuit of their athletic goals. Secondly, pressures shaping response to sport injury: sport culture was a dominant pressure, which included participants pushing through and normalizing pain and injury. As well participants’ fears and anxiety perpetuated their negative emotional appraisals of injury, and social support was only perceived as valuable if it came from someone with personal injury experience. Thirdly, maybe I can: adaptation from the disruption sport injury: adaptation included a process of resisting and accepting, expanding the self, rebalancing, and gaining awareness. At the crux of adaptation was rebalancing oneself to enter a state of equilibrium, harmonizing PWB. Moreover, participants perceived sport and global PWB to collide, where both played a large role in one another. However, it was identified that global PWB is the foundation of one’s PWB. Finally, sport injury growth: after reappraisal participants identified sport injury as a learning experience, resilience and triumph, and having a greater appreciation for sport and health. Findings suggest that sport injury is can initially hinder one’s PWB,
however once one can rebalance their PWB sport injury is perceived as a positive event that can lead to sport injury growth. These findings could help further our understanding of injured athletes’ experiences of PWB and how athletes could be better supported.
Lay Summary

Seriously injured women varsity athletes were interviewed to gain an understanding of their perceptions and experiences of psychological well-being (PWB) during sport injury. The findings indicate that sport injury is a stressful and challenging event that disrupts one’s typical functioning. This included struggles with negative emotional responses, identity crises, and feeling overwhelmed. Additionally, they experienced pressures to play through pain and injury, as this is normalized in sport. Social support from those with like experiences helped athletes manage injury recovery. In adapting to sport injury, participants engaged in rebalancing the self to establish a new state of PWB. Moreover, in overcoming the challenges of sport injury, participants were able to personally grow from their experience. Findings demonstrate that sport injury is challenging and can initially hinder one’s PWB, however once one can rebalance their PWB, sport injury is perceived as a positive event that can lead to sport injury growth.
Preface

This research was approved by the University of British Columbia’s Behavioural Research Ethics Board (H17-02618). A version of this work will be submitted for publication. I conceptualized, designed and carried out this research with the support of my supervisor, Dr. Peter Crocker. I was responsible for developing the research questions, participant recruitment, data collection/interviews, transcription, analysis, and thesis preparation. Dr. Peter Crocker, Dr. Andrea Bundon, and Dr. Leah Ferguson are co-authors on this thesis. The co-authors provided guidance, comments, and feedback on the study design, literature review, data interpretation, and final thesis preparation.
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Dedication

Dedicated to my family; my roots & my strength.
Chapter 1: Introduction

“I had lost a lot of confidence during the long layoff. And for a long time after I returned, I still held back. All I could think about was protecting my knee from another injury”


Serious injury is a growing concern in sport. In 2007, it was estimated that there were over 23 million sport injuries per year, a number that could very well keep rising (Brewer, 2007). There has also been an increase in the occurrence of serious injury at the elite level (Orchard & Seward, 2002). Sport injury is a stressful event because it poses threats to an athlete’s physical, emotional, and social well-being (Heil, 1993). Elite athletes invest a lot of time in sport, thus a serious injury is likely to be perceived as a traumatic event with physical and psychological consequences (Quinn & Fallon, 1999). It can be challenging for athletes to maintain their psychological well-being in highly demanding and performance-oriented contexts (Lunqvist & Sandin, 2014).

1.1 Sport Injury

Previous research has focused on a range of psychosocial factors such as motivation, life stress, and social support and how these factors impact injured athletes’ well-being during the injury recovery process and upon return to play (Brewer, 2007; Clement, Arvinen-Barrow, & Fetty, 2015; Tracy, 2003; Wiese-Bjornstal, Smith, Shaffer, & Morrey, 1998). Sport injury can have a psychological toll on athletes that manifests cognitively, emotionally, and behaviourally (Brewer, 2007). Seriously injured athletes often struggle with frustration, depression, anger, and anxiety (Brewer, Linder, & Phelps, 1995; Chan & Grossman, 1988; Johnston & Carroll, 1998; Tracy, 2003). Athletes also face challenges with athletic identity, self-esteem, goal interruption, and withdrawal from sport during recovery (Heil, 1993; Pargman, 1993). Despite the challenges
of experiencing sport injury, athletes have stated that there is much to be gained from the sport injury experience (Bianco et al., 1999; Podlog & Eklund, 2006; Roy-Davis, Wadey, & Evans, 2017; Salim & Wadey, 2018; Tracey 2003). Athletes have reported personal growth, building stamina (Bianco et al., 1999), appreciation of being healthy (Tracey, 2003), and sport performance enhancement when looking back on their sport injury experience (Udry, 1997; Wiese-Bjornstal et al., 1998).

While researchers have highlighted and investigated the sport injury recovery process, many existing studies have focused on rehabilitation related outcome variables (e.g. rehabilitation behaviours, treatment adherence, and motivation) (Lu & Hsu, 2013), and there has been very little attention given to athletes’ psychological well-being during this time. Sport injury is important to examine as it can have a profound psychosocial impact on competitive athletes (Brewer, 2007). Research is needed to examine the experiences of seriously injured athletes and how psychological well-being is affected during the injury recovery process.

1.2 Psychological Well-Being

Over the past decade there has been an increased interest in psychological well-being (Ryan & Deci, 2008), a dynamic construct that can change as a result of one’s challenges and transitions in life (Ryff, Singer, & Dienberg-Love, 2004). Psychological well-being is defined as living well and actualizing one’s potentials (Deci & Ryan, 2008). Sport psychology research on elite athletes’ well-being suffers from vague and variable definitions of well-being, and knowledge of what makes up sport-related well-being is insubstantial (Lundqvist, 2011). In the literature psychological well-being is treated as an unspecific variable, is inconsistently defined, and is assessed using a variety of indicators that are not theoretically grounded (Lunqvist, 2011).
Psychological well-being within the sport psychology literature is still vague, and research on the topic of well-being within competitive sport is relatively new (Lundqvist, 2011), thus, psychological well-being in sport warrants further research as the knowledge of factors that impact athlete well-being are sparse, and prevalence of well-being among athletes is unknown (Lundqvist, 2011).

It is useful to draw our attention to seriously injured athletes as they can face many unique psychosocial challenges (Udry, 1997), that can undermine well-being. As well, varsity post-secondary athletes are a vulnerable population to compromised health and well-being (Gould & Whitley, 2009). Varsity post-secondary athletes experience high levels of stress, primarily due to the many demands they face in their dual role as athlete and student (Gould & Whitley, 2009; Kimball & Freysinger, 2003). Furthermore, women are more likely to experience higher levels of academic stress than males (Misra & McKeen, 2000), and exhibit poorer psychological adjustment to sport injury (Appaneal, Levine, Perna, & Roh, 2009). Thus, it is due to greater academic stress and poorer adjustment to injury that women athletes were the population of focus. To date, very few studies have examined injured women varsity post-secondary athletes’ experiences of psychological well-being during the injury recovery process.

1.3 Sport Injury and Psychological Well-Being

The majority of the current research on sport injury and well-being has used quantitative methodology. Overall, the findings have suggested that sport injury is a stressful process posing threats to athlete well-being (Brewer, 2007; Heil, 1993), and that fulfillment of basic psychological needs can lead to athlete well-being (e.g. Adie, Duda, & Ntoumanis, 2008; Felton & Jowett, 2014; Gunnel, Crocker, Wilson, Mack & Zumbo, 2014). However, important research
gaps remain including identifying factors that impact athlete well-being (Lundqvist, 2011), as well as a lack of clarity in determining what makes up sport-specific psychological well-being (Lundqvist & Sandin, 2014). Building on the findings of the quantitative research, qualitative research may be especially important for exploring athletes’ subjective experiences with injury and psychological well-being, and help gain insight into their cognitions, emotions, and behaviours (Johnston & Carroll, 1998). Being able to develop an understanding of athletes’ experiences of sport injury and well-being can offer insight into how professionals may offer assistance to athletes during the injury recovery process, and potentially help make sport a pathway for psychological flourishing.

The purpose of this study was to use qualitative methods to explore the perceptions and experiences of psychological well-being among seriously injured women student-athletes during the injury recovery process. Further, this research examined global and context specific psychological well-being and athletes’ perceptions of the role they play in one another. More specifically, I examined the extent to which the experience of psychological well-being in sport contexts influences psychological well-being in non-sport contexts and vice versa during the injury recovery process.

1.4 Purpose and Research Questions

It is important to study and understand athlete well-being during the injury recovery process because sport can bring about negative psychological consequences (Heil, 1993; Quinn & Fallon, 1999), or paradoxically lead to personal growth (Bianco et al., 1999). Furthermore, little is known about sport psychological well-being during injury recovery (Lundqvist & Sandin,
Thus, the purpose of this study was to examine the role of athlete psychological well-being during the injury recovery process.

Most of the research examining competitive athletes’ well-being and sport injury has been quantitative in nature. As athletes’ well-being experience is “likely more rich and nuanced, and affected by the specific context surrounding the athletes” (Lundqvist & Sandin, 2014, p.5), a qualitative method would prove valuable. As Lundqvist and Sandin (2014) state, qualitative research may be especially important for the topic of well-being as it is complex and multifaceted. In addition, employing a qualitative approach is useful when studying sport injury (Brewer, 1994; Heil, 1993; Udry, 1997), as it could help provide the means to explore the subjective experiences and personal meaning of sport injury for the athlete (Anderson et al., 2004; Mainwaring, 1999), and help gain insight into athletes’ appraisals, emotions, and behaviours (Johnston & Carroll, 1998).

This study used qualitative method to explore injured athletes’ psychological well-being in-depth. Qualitative methods can reveal subtleties and complexities of the subject being studied (Anderson, 2010) and can provide a variety of detailed perspectives, and subjective and social meanings (Flick, 2009) attached to sport injury and psychological well-being. Moreover, an interpretivist constructionist paradigm was used to guide the exploration of seriously injured women athletes’ perceptions and experiences of sport injury and psychological well-being; where it is the belief that knowledge is socially constructed, affected by the specific social, cultural, and historical context (Hunter, 2010). It was vital to learn from participants and study their knowledge and practices, from their social position, especially injured women varsity athletes as they are more vulnerable to compromised well-being (Gould & Whitley, 2009).
Further research needs to consider athlete-generated descriptions of well-being to gain an understanding of athlete sport-specific and global well-being (Lundqvist & Sandin, 2014).

It is also useful to gain an understanding of how the global and sport-specific factors shape both the positive and negative experiences of athletes in sport environments (Smoll & Smith, 2002). The qualitative methodology will help place an emphasis on context, which will aid in understanding global and sport well-being and how the two play a role in one another. Context is important as one’s judgments of their well-being is related to significant contextual domains in their life (Diener, Lucas, & Scollon, 2003). Currently, global and sport-specific well-being warrant further investigation (Lundqvist, 2011). It has been emphasized that the contextual level subjective experiences of athletes needs investigation to understand well-being in the athletic population (Brady and Shambrook, 2006). This is a topic that needs further investigation, as sport injury can endanger athletes’ sport experiences and their mental health (Lu & Hsu, 2013), or lead to personal growth (Bianco et al., 1999).

As majority of sport injury and well-being research has been quantitative, this study addressed this methodological gap by using qualitative methods, as well as adding a substantive contribution as it consisted of an in-depth examination of seriously injured athletes’ recovery process and their experiences of psychological well-being. This could help support and add to current theoretical assumptions to help drive theory based definitions and frameworks for athlete well-being. Thus, the purpose of this study was to explore seriously injured women athletes’ perceptions and experience of psychological well-being during the sport injury recovery process.
The following research questions were addressed:

1. How do injured women athletes perceive and experience psychological well-being during the injury recovery process in the sport context?

2. How do injured women athletes conceptualize psychological well-being in the sport and global context, and the role that they play in one another?
Chapter 2: Literature Review

The study was informed by the literature in the areas of well-being, specifically hedonic and eudaimonic well-being, and models of psychological well-being. Furthermore, the literature review on well-being in sport will cover well-being in relation to self-determination theory and basic psychological needs theory, needs thwarting, coach climate, achievement goals theory, self-compassion, and qualitative findings.

2.1 Well-being

Over the past decade there has been a shift in focus from studying the amelioration of psychopathology to examine the presence of wellness, well-being, and human growth (Deci & Ryan 2008). Well-being is studied among a variety of populations and is described as a highly subjective and multi-faceted experience (Diener, Suh, Luca, & Smith, 1999; Keyes, 2005). Well-being is referred to as “optimal psychological experience and functioning” (Deci & Ryan, 2008, p.1). Well-being has been broken down into two distinct traditions, which are known as hedonism (Kahneman, Diener, & Schwarz, 1999) and eudaimonism (Waterman, 1993). Hedonism and eudaimonism are founded on different views of human nature (Deci & Ryan, 2008). Although there is considerable overlap between hedonia and eudaimonia, they are distinct (Deci & Ryan, 2008; Ryff & Keyes, 1995). It is important to recognize that hedonic and eudaimonic well-being are likely to influence each other over the course of a person’s life (Keyes, Ryff, & Shmotkin, 2002), thus it is crucial to understand both perspectives before focusing in on psychological well-being.
2.1.1 Hedonic Well-being Perspective

The hedonic well-being perspective emerged in the 1950s as a search for an indicator of quality of life (Keyes et al., 2002). The hedonic perspective was given prominence as a relevant measure of quality of life, because although people live in an objectively defined world, they respond to their subjectively defined world (Keyes et al., 2002). Within the hedonic perspective, subjective well-being is identified as a way to measure hedonic well-being (Diener & Lucas, 1999). Subjective well-being is defined as “experiencing a high level of positive affect, a low level of negative affect, and a high degree of satisfaction with one’s life” (Deci & Ryan, 2008, p.1). Thus, the three main constructs of subjective well-being are positive affect, negative affect, and life satisfaction. Positive affect refers to positive emotional experiences or moods (e.g. happiness, pleasure, interest, enthusiasm, and inspiration), where negative affect refers to negative emotions or moods (e.g. anger, contempt, guilt, sadness, and fear) (Diener, 2000). Life satisfaction is defined as a cognitive evaluation of the perceived distance from one’s life aspirations (Deci & Ryan, 2008; Campbell, Converse, & Rodgers; 1976). Life satisfaction also encompasses an individual’s wishes of how life should be, and it is a broad long-term cognitive evaluation (Lundqvist 2011).

Ryan and Deci (2001) differentiated happiness from subjective well-being by stating that subjective well-being consists of high positive affect and low negative affect, whereas happiness is the balance of positive and negative affect. Keyes, Shmotkin, and Ryff (2002) expanded on this by stating that subjective well-being is “a judgemental long-term assessment of one’s life, whereas happiness is a reflection of pleasant and unpleasant affects in one’s immediate experience” (p. 1008). Subjective well-being predominantly involves pleasure and it tends to be individualistic and based up how good one feels (e.g. balance between positive and negative
affect, and life satisfaction) (Bauer, McAdams, & Pals, 2008). Lundqvist and Sandin (2011) elaborated on this by stating that subjective well-being is “characterized by fluctuating and immediate emotional states, and involves particularly short-term emotional regulation” (p. 4). It has been found that life circumstances and intentional activities have a far more influential and persistent influence on well-being than previously believed (Lyubomirsk, Sheldon, & Schkade, 2005). In short, hedonism looks to minimize pain, and the focus is on pleasure and happiness as the goals of life (Lundqvist, 2011).

2.1.2 Eudaimonic Well-being Perspective

The eudaimonic perspective emerged due to criticism that well-being research was mostly atheoretical and lacking conceptual clarity (Ryff, 1989; Ryff & Keyes, 1995). The eudaimonic perspective can be traced back to Aristotle, where ‘the greatest good’ was a happiness consisting of pleasure and virtue (Ryan & Deci, 2001). Aristotle emphasized more than just feeling good, the greatest good was cultivating high degrees of virtue and realizing one’s potential (Bauer, McAdams, & Pals, 2008); this view of happiness was later termed eudaimonic well-being (Ryan & Deci, 2001). Eudaimonic well-being draws heavily on perceived thriving on existing challenges in life (Keyes et al., 2002), and is concerned with these challenges that people face and how to develop and grow to reach individual potential, which align with personal values (Ryan & Deci, 2001; Ryff et al., 2004).

The term eudaimonic well-being is synonymous with psychological well-being, and for the purpose of this thesis, only the term psychological well-being will be used. Psychological well-being is defined as “living well or actualizing one’s human potentials” (Deci & Ryan, 2008, p. 2). Under these conditions a person would feel intensely alive and true, living and acting as
who they really were, a concept termed personal expressiveness (Waterman, 1993). Furthermore, 
eudaimonia occurs when people are living holistically and their life activities are congruent with 
their deeply held values (Waterman, 1993). Ryff (1989) formulated a model of psychological 
well-being, which will be discussed below, to theoretically and operationally define 
psychological well-being through six distinct dimensions of human actualization (Ryan & Deci, 
2001). Psychological well-being is characterized by brief and stable behaviours and cognitive 
patterns directed towards the quality of the activity, values, and important personal activities for 
fulfilling personal growth and excellence in the long-term (Ferguson, Kowalski, Mack & 
Crocker, 2012; Huta & Ryan, 2010). Psychological well-being involves pleasure; however, there 
is an emphasis on meaningfulness and growth; it is a more enduring happiness (Bauer et al., 
2008).

2.2 Models of Psychological Well-being

Model of Well-Being in Sports will be outlined, as they inform my study. Ryff’s (1989) model 
conceptualizes psychological well-being and Lunqvist’s (2011) model adapts psychological 
well-being to the sport context.

2.2.1 Ryff’s (1989) Model of Psychological Well-Being

Ryff’s (1989) multidimensional model utilizes the concepts of positive function (e.g. self-
actualization, fully functioning, maturity, and individuation), and incorporated key aspects of 
each concept (Keyes et al., 2002). Ryff (1989) offered six dimensions to specify the content of 
eudaimonia, each of which are important facets for human growth and development (Deci & 
Ryan, 2008; Lundqvist, 2011). The six dimensions represent what it means to psychologically
flourish and reach one’s true potential (Ryan & Deci, 2002). In addition, each of these dimensions articulate different challenges that arise as individuals strive for psychological well-being (Keyes et al., 2002), and are vital for growth and development (Lundqvist, 2011). Ryff’s (1989) model includes assessing each of these six subscales to evaluate one’s well-being. Ryff’s (1989) six dimensions of psychological well-being include: *Self-acceptance:* positive evaluations of oneself and past life; *Autonomy:* sense of self-determination; *Environmental Mastery:* capacity to effectively manage life and the external world; *Positive Relations:* possession of quality interpersonal relations with others; *Purpose in Life:* belief that one’s life is meaningful; and *Personal Growth:* sense of continued growth and development in life (Ryff & Keyes, 1995). These six dimensions theoretically and operationally define psychological well-being and specify what fosters emotional and physical health (Ryff & Singer, 1998). One can demonstrate high or low degrees of functioning in these dimensions. (see Appendix A). Various studies have confirmed the validity of the six dimensions as correlated indicators of psychological well-being (e.g. Chen & Chan, 2004; Ryff & Singer, 2006; Van Diernendonck, 2004).

2.2.2 Lundqvist’s (2011) Integrated Model of Well-Being in Sports

Lundqvist’s (2011) model was devised to differentiate between global and sport-specific well-being, as well as summarize hedonic, psychological, and social well-being at the global and sport-specific level (see Appendix B). Global well-being refers to “contextual-free subjective evaluations of a person’s life” (Lundqvist, 2011, p. 121). For example, Ryff’s (1989) model of psychological well-being addresses and summarizes well-being at the global level. Sport-specific well-being is characterized by attending to context specific domains (Lundqvist, 2011). There is a relationship between the global and context-specific levels of well-being; however, there are separate factors with unique variance that correspond to different aspects of each level of well-
being (Lundqvist, 2011). Sole reliance on global well-being as an assessment measure results in an average level of well-being that could be misrepresentative of different aspects of one’s life (Schwartz & Strack, 1999). Supplementing global well-being with sport-specific well-being evaluations will likely provide a more accurate representation of one’s well-being (Daniels, 2000).

In Lundqvist’s (2011) model, Ryff’s six dimensions of psychological well-being have been adapted to the sport context; *self-acceptance as an athlete, positive relation to coach and teammates, autonomy in sport practice, sport environmental mastery, purpose in sport*, and *personal growth as an athlete*. It is important to take context into consideration as it has been recognized that one’s judgment of their current well-being is related to significant contextual domains in their life (Diener et al., 2003). Lundqvist (2011) subsequently argued that it is likely the context of elite sport that impacts athletes’ judgments of their well-being. Research to date has not provided sufficient knowledge to create a fixed model or theory of sport-specific well-being (Lundqvist, 2011). Currently not much is known about “which factors may constitute contextual sport-related well-being, or how well-being factors and levels relate to each other” (Lundqvist, 2011, p. 121).

### 2.3 Well-being in Sport

There is evidence to suggest athletes gain many psychological and physiological benefits from sport participation (Fraser-Thomas, Cote, & Deaken, 2005; Reinboth, Duda, & Ntoumanis, 2004). Study findings have suggested that physical activity is generally valuable for increasing well-being (Mack et al., 2011; Wendel-Vos, Schuit, Tijhuis, & Kromhout, 2004). Moreover, there is support that sport is associated with enhanced psychological well-being, and reduced
risks of cardiovascular disease and other illnesses (Biddle, Fox, Boutcher, & Faulkner, 2000; Hagger & Chatzisarantis, 2005). On the other hand, negative experiences in sport are not uncommon (Scanlan, Stein, & Ravizza, 1991; Theberge, 2008). Psychological challenges that may occur in elite sport are internal and external pressures, and coping with setbacks such as injuries or performance plateaus (Fletcher & Sarker, 2012; Hanton, Fletcher, & Coughlan, 2005; Mosewich, Kowalski, & Crocker, 2013). Furthermore, elite sport can bring about various forms of maladaptive states, for example injury, illness, burnout, and pain (Theberge, 2008). Put simply, it can be challenging for athletes to protect their well-being in highly demanding and performance-oriented contexts (Lunqvist & Sandin, 2014). Although there has been a substantial amount of research that has focused on psychological well-being, there is limited research that has focused on the psychological well-being of athletes (Lundqvist, 2011).

2.3.1 Well-Being, Self-Determination Theory, and Basic Psychological Needs Theory

Within sport there are several approaches to studying well-being, including using self-determination theory (SDT) and basic psychological needs theory (BPNT), coach climate, achievement goals theory, and a self-compassion approach. A dominant approach in past research in sport and exercise psychology has adopted a BPNT perspective to identify if satisfying basic needs can lead to athlete psychological well-being (Adie et al., 2008; Felton & Jowett, 2014; Gagne et al., 2003; Gunnel et al., 2013; Mack et al., 2011; Ryan & Deci, 2002). BPNT is a mini-theory of SDT. The concept of eudaimonia is embraced in SDT as a central aspect of well-being, and uses BPNT to specify what that means and how psychological well-being can be obtained (Ryan & Deci, 2011). The BPNT is comprised of three basic needs: autonomy, competence, and relatedness. Satisfaction of the three basic psychological needs is seen to directly enhance psychological and physical well-being (Ryan, Patrick, Deci & Williams,
The social environment also plays a large role, as it must supply nourishment for people to thrive and grow psychologically (Ryan & Deci, 2001). Thus, the greater the degree to which the social environment satisfies needs, the greater the promotion of well-being (Ryan & Deci, 2002). Fulfillment of basic needs is also necessary to attain and maintain well-being (Gagne, 2003). Furthermore, if any of these basic needs are obstructed or not fulfilled, well-being is damaged and ill-being is predicted (Deci & Ryan, 2000; Gagne, 2003); research indicated that lower levels of needs satisfaction are related to higher levels of ill-being in the form of depression (Hodge, Lonsdale, & Ng, 2008). However, fulfillment of basic needs is a better predictor of the presence of well-being rather than the absence of ill-being (Adie et al., 2008).

There is research support for the idea that each psychological need exerts a unique effect on well-being (Mack et al., 2011). The strongest predictor of psychological well-being may be the basic need of autonomy (Reinboth, Duda, & Ntoumanis, 2004), where autonomy may act as a buffer to the harmful effects of ill-being (Lightheart, Wilson, & Oster, 2010). Furthermore, Deci and Ryan (2000) report the more autonomous a person is the greater their persistence, performance, and well-being. It appears that satisfaction of basic needs are not stable and that they can fluctuate overtime in the exercise context (Wilson, Longley, Muon, Rodgers & Murray, 2006), and that daily fluctuations of basic needs satisfaction correspond to daily fluctuations in athletes’ ill-being and well-being (Barthomomew et al., 2011).

There is also a view that it is not just about satisfying each basic need, rather it is about having basic needs operate in a state of equilibrium (e.g. having each psychological need at the same level) (Mack et al., 2011). This has also been supported in the sport context (Anderson-Butcher & Amorose, 2008; Lightheart et al., 2010; Perreault, Gaudreau, Lapointe & Lacroix, 2007). In sport and exercise contexts greater fulfillment of each basic need is related to
heightened levels of positive affect and subjective vitality, promoting well-being (Bartholomew, Ntoumanis, Ryan & Thogersen-Ntoumani, 2011; Gunnel et al., 2011; Mack et al., 2011; Wilson et al., 2006).

Overall, research supports that basic psychological needs satisfaction in the physical activity context is positively associated with well-being (Gunnel et al., 2011; Mack et al., 2011; Wilson et al., 2006). Thus far, these studies are using measurement such as PANAS and SLS to study concepts that theoretically align with hedonic well-being, and SVS to study concepts that theoretically align with psychological well-being. Some of these studies are operating from a perspective that tries to fit both the hedonic and eudemonic well-being perspective. Subjective well-being has been found to be a fallible indicator of healthy living, as it covers only a limited scope of positive functioning (Ryff & Singer, 1998). These differing perspectives of well-being have led to different ways of examination regarding the causes, consequences, and dynamics of well-being (Ryan & Deci, 2001). Lundqvist (2011) argues that researchers need to explicitly state which perspective they are operating from and use established measurements that theoretically fit with the chosen perspective.

2.3.2 Well-Being and Needs Thwarting

Basic psychological needs and well-being have also been studied by examining needs thwarting, but to a lesser extent than needs satisfaction (Bartholomew et al., 2011; Deci & Ryan, 2000; Gunnel et al., 2013). Needs thwarting is the perception that need satisfaction is being actively obstructed, which can leave athletes feeling controlled, over-challenged, incompetent and rejected (Bartholomew et al., 2011). Needs thwarting was found to be a strong predictor of emotional and physical exhaustion, depression, negative affect, and burnout in a sample of elite
adolescent athletes (Bartholomew et al., 2011). Furthermore, needs thwarting is more likely to be related to ill-being due to the perceptions that others are actively obstructing needs satisfaction (Bartholomew et al., 2011). Gunnel et al. (2013) found that needs thwarting positively correlated with negative affect, more specifically changes in autonomy satisfaction and autonomy thwarting contributed to the prediction of ill-being. Despite these findings, there is a need for further research as other studies have reported that needs thwarting is not a sufficient predictor of ill-being (Gagne et al., 2003; Quested & Duda, 2011).

2.3.3 Well-Being and Coach Climate

Well-being has also been studied in the context of the social environment. The social environment is a key aspect of BPNT; within sport this has been defined as athletes’ perceptions of coach autonomy or control behaviours (Blanchard, Amiot, Perreault, Vallerand & Provencher, 2009; Bartholomew et al., 2011). Coaches play a vital role in creating an environment which influences athletes’ well-being (Blanchard et al., 2009; Bartholomew et al., 2011). The two most common types of coaching behaviours that have been studied in relation to well-being are autonomy supportive and controlling styles (Balaguer et al., 2012). Autonomy supportive coaches are likely to consider the athletes perspective, encourage combined decision-making, and assist athletes working towards personal goals, which contributed to the fulfillment of basic needs (Black & Deci, 2000; Mageau & Vallerand, 2003). Controlling coaches are likely to be coercive, controlling, and authoritative, which thwarts basic needs (Bartholomew et al., 2010). A positive relationship has been found between autonomy supportive coaches and fulfillment of all three basic needs (Adie et al., 2008; Balaguer et al., 2012; Felton & Jowett, 2012; Reinboth et al., 2004). On the other hand, controlling coaching styles negatively predicted basic needs satisfaction of autonomy and competence (Felton & Jowett, 2012), and heightened burnout risk.
among athletes (Quested & Duda, 2011). Competence needs satisfaction was the only significant mediator between the social environment and ill-being and well-being (Adie et al., 2008; Bartholomew et al., 2011; Blanchard et al., 2009; Felton & Jowett, 2012). In sum, research supports that autonomy supportive coaching styles predict needs satisfaction, and controlling coaching styles lead to needs thwarting (Adie et al., 2008; Felton & Jowett, 2012; Quested & Duda, 2011; Reinboth et al., 2004; Stebbings, Taylor, & Spray, 2015).

2.3.4 Well-Being and Achievement Goals

Well-being has also been studied in the context of achievement goals, which are cognitive representations used to guide, interpret, and explain cognitions, emotions, and behaviours (Nicholls, 1984). Achievement goals are categorized into mastery goals and ego goals (Nicholls, 1984); mastery goals focus on learning, and mastery of task in accordance with self-standards, where ego goals focus on outperforming others, and put emphasis on winning. Moreover, approach goals focus on avoiding a negative outcome (e.g. failure), and approach goals focus on a positive outcome (e.g. success) (Elliot & Church, 1997). Adie et al. (2008) found that mastery approach goals were positively related to well-being, and mastery avoidance goals were shown to positively predict ill-being.

Achievement goals and cognitive appraisals have been studied together when examining well-being. Cognitive appraisals of stressful events are assumed to impact well-being (Lazarus, 1999). There are three types of cognitive appraisals; challenge, an appraisal that objects in the way can be overcome, threat, an appraisal that harm is likely to occur, and harm/loss, an appraisal that psychological damage has already been done (Lazarus, 1999). Adie, Duda, and Ntoumanis (2010) found that challenge appraisal positively relate to well-being, where threat
appraisals negatively relate to well-being. In the sport context, mastery approach goals positively predicted challenge appraisals and positive affect, where mastery avoidance and ego approach goals positively predicted threat appraisals and negative affect (Adie et al., 2010). Coaching climate (mastery or ego) can also shape athletes’ well-being, where mastery goal coach climates positively predicted subjective vitality, and ego-goal coach climate are positive predictors of burnout (Lemyre, Hall, & Roberts, 2008; Ntoumanis, Taylor, & Thogersen-Ntoumani, 2012). Ryan and Deci (2001) also found mastery goal coach climates to predict heightened levels of subjective vitality, an indicator of psychological well-being.

2.3.5 Well-Being and Self-Compassion

Psychological well-being has also been studied in association with self-compassion (e.g. Allan, Goldwasser, & Leary, 2012; Bluth & Blanton, 2015; Ferguson, Kowalski, Mack, & Sabiston, 2014; Fraser-Thomas et al., 2005). There is theoretical and empirical support for a relationship between psychological well-being and self-compassion (Ferguson et al., 2014). Neff and Vonk (2009) state that self-compassion is theoretically viewed as a way to increase well-being, as acting self-compassionately elicits behaviours that promote or maintain well-being (Neff, 2003). Subjective well-being has also been found to be positively related to self-compassion in the form of increased positive affect, subjective happiness, and life satisfaction (Neff, Rude, & Kirkpatrick, 2007). As well, self-compassion has been negatively associated to a number of psychological health states that reflect ill-being (e.g. negative affect) (Mosewich et al., 2013; Neff et al., 2007). Self-compassion has also been related with a mastery goal orientation (Neff, Hsieh, & Dejitterat, 2005), and mastery approach goals have been linked to positive affect and well-being (Adie et al., 2010). Moreover, both self-compassion and psychological well-being fall under the sphere of positive psychology, where there is a focus on psychological
strengths, fulfillment, and growth (Ferguson et al., 2014). Thus, self-compassion may be a potential pathway to psychological flourishing.

**2.3.6 Well-Being and Qualitative Research**

Well-being is most accurately represented when examining both the global and contextual level of well-being, and this is especially true in sport (Thogersen-Ntoumani, Fox, & Ntoumanis, 2005). Lundqvist and Sandin (2014) examined the global and contextual levels of elite athletes’ psychological and subjective well-being. Using qualitative methodology, ten male and female elite orienteers participated in semi-structured interviews (using Lunqvist’s 2011) Integrated Model of Well-being in Sports to inform the study). Within the semi-structured interviews athletes were asked to speak about their perceptions of global and sport-specific subjective and psychological well-being, as well as their perception of each of Ryff’s (1989) dimensions of psychological well-being. The authors reported that global levels of well-being were more stable than sport-specific well-being; sport-specific well-being could fluctuate daily (Lundqvist & Sandin, 2014). It is vital to attend to sport and global well-being because sole reliance on global well-being could be misrepresentative of different aspects of one’s life (Schwartz & Strack, 1999). Supplementing global well-being with sport-specific well-being evaluations will likely provide a more accurate representation of one’s well-being (Daniels, 2000). While Lundqvist and Sandin (2014) found a difference between global and sport well-being, they identified a need for further qualitative research exploring context-specific well-being, as sport-specific subjective and psychological well-being are still not well understood.

While there has been research that has examined athlete well-being, there is a need for further research on this topic. To date, limited studies have explored athlete well-being in depth
and among these studies that have the focus has been on the construct of quality of life, which only encompasses one part of well-being (Lundqvist, 2011). There is a lack of qualitative studies that have explored athlete psychological well-being (Lundqvist, 2011). More research is needed as an understanding of the factors in the sport environment that may impact athlete psychological well-being are sparse (Lundqvist, 2011). An interpretive qualitative study makes it possible to see the social world from the perspective of the participant (Bryman & Bell, 2016a), and explore the subjective meanings, experiences, and specific details of each participant’s case (Flick, 2009). Thus, qualitative studies are needed to help gain an understanding of what makes up athlete psychological well-being (Lundqvist & Sandin, 2014).

2.4 Sport Injury

This section will cover past research related to psychosocial responses to sport, sport injury and athletic identity, and sport injury and stress related growth.

2.4.1 Sport Injury and Psychosocial Responses to Sport Injury

Participating in sport and exercise exposes athletes to considerable risk of injury (Bahr & Krosshaug, 2005). Sport injury is both a physical and psychological phenomenon (Bianco, Malo, & Orlick, 1999). It is important to understand the psychological side of injury, as there is a concern for athletes’ mental health and athletes’ mental state during injury recovery (Bianco et al., 1999). Sport injury is a stressful event because it poses threats to an athlete’s physical, emotional, and social well-being (Heil, 1993). The stress of injury may also overwhelm athletes’ resources and severely compromise coping ability (Heil, 1993), thus compromising well-being. Previous research suggests response to injury is affected by a combination of personal and situational factors such as psychological investment in sport (Brewer, 1994), coping skills
(Grove & Gorden, 1992), perceived injury severity (Smith, Scott, O’Fallon, & Young, 1990), and length of consequences and recovery progress (Wiese-Bjornstal & Smith, 1993). The most common emotional responses to sport injury are frustration, depression, anger, and anxiety (Brewer et al., 1995; Chan & Grossman, 1988; Johnston & Carroll, 1998; Tracy, 2003). Athletes with large time loss injuries suffer physically and emotionally, exhibiting a decrease in their quality of life (McGuine, Winterstein, Carr, Hatzel, & Scott, 2012; Valovich-McLeod, Bay, Parsons, Sauers, & Snyder, 2009). Athletes with serious injuries experience the most extreme emotional reaction to sport injury (McDonald & Hardy, 1990; Pearson & Jones, 1992).

Serious injury is very stressful because it is related to a number of consequences such as physical pain, threats to athletes’ identity, self and social esteem, goal interruption, feelings of loss and disappointment, and isolation from sport (Heil, 1993; Pargman, 1993; Smith et al., 1990). Moreover, athletes fear missing practice, losing fitness, missing out, and playing catch-up (Tracey, 2003). Athletes can have great psychological disturbance over career threat or loss (Bianco et al., 1999) because high-level athletes achieve a sense of meaning from sport and when sport is taken away there is a loss of meaning in one’s life (Thomas & Rintala, 1986). Athletes often struggle with self-criticism, maintaining a balanced perspective, self-blame, feelings of isolation, and incompetence (Mosewich, Crocker, & Kowalski, 2014), negative self-judgment, physical and mental brokenness, failure, and ‘why me’ (Sutherland et al., 2014). This raises issues about how potentially dysfunction cognitions, emotions, and behaviour affect well-being during injury recovery.

Much of the existing literature on sports injury has been rooted in the integrated model of psychological response to athletic injury and rehabilitation (Wiese-Bjornstal et al., 1998). This model of athletic injury and rehabilitation is grounded in Lazarus and Folkman’s (1984)
cognitive appraisal theory of stress and coping, and outlines sport injury as a stressful event (Wiese-Bjornstal & Smith, 1993). Stress is defined as a transactional process “between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and as endangering well-being” (Folkman et al., 1986, p.572). Cognitive appraisals are an individual’s assessment of a potential stressful situation and the evaluation of the extent of stress (Lazarus, 1991). There are two types of cognitive appraisals; primary appraisal, which consist of evaluating what is at stake, and secondary appraisals, which consist of evaluating what can be done (Lazarus & Folkman, 1984). Coping is defined as an individual’s ever-changing cognitive and behavioural efforts to manage the internal and external demands of the person-environment transaction (Lazarus, 1991). Appraisals of sport injury are mediated by certain situational (e.g. time in season, playing status, social support) and personal (e.g. severity of injury, personality, athletic identity) factors, which are then manifested emotionally (e.g. fear, anger), and behaviourally (e.g. adherence to rehabilitation program) (Wiese-Bjornstal et al., 1998). Wiese-Bjornstal et al. (1998) suggests interactions between cognitions, emotions, and behaviours are bidirectional, however cognitive appraisals typically affect emotions, emotions affect behaviours, and behaviours affects cognitive appraisals. Wiese-Bjornstal et al.’s (1998) model of sport injury is well used within the sport injury literature as “it reflects the current view of sport injury as a stressful event and accounts for the complex psychological processes associated with sport injury and rehabilitation” (Bianco, et al., 1999, p. 158). However, research suggests this model does not adequately address the temporal dimension of athletes’ adaptation to sport injury or capture the dynamic process of injury recovery (Johnston & Carroll, 1998).

Research has identified three distinct stages during the injury recovery process, which has been termed the stage approach (Johnston & Carroll, 1998). The three injury stages are known as
the reaction to injury stage, the reaction to rehabilitation stage, and the reaction to return to sport stage (Johnston & Carroll, 1998). The stage approach has been used to understand changes in cognition, emotion, and behaviour overtime (Quinn & Fallon, 1999). Johnston and Carroll (1998) stated that injury recovery contains a temporal dimension, and that athletes often report their story in chronological order. Athletes are known to experience a range of psychosocial challenges throughout the injury recovery process, such as decreased self-esteem, frustration, anger, and fear of re-injury (Tracey, 2003). Each injury phase is associated with specific psychosocial challenges (Kamphoff, Thomae, & Hamson-Utley, 2013).

Within the reaction to injury stage, depending on perceived injury severity, athletes often experience negative emotions such as shock, disbelief, frustration, fear and depression (Bianco et al., 1999; Johnston & Carroll, 1998; Udry et al., 1997). Overall, initial cognitive appraisals are negative (Kamphoff et al., 2013), which affect subsequent emotional responses (Clement et al., 2015). Clement et al. (2015) reported the most common behavioural response during this stage was to seek social support. Social support is defined as “an exchange of resources between at least two or more individuals perceived by the provider or the recipient to be intended to enhance the well-being of the recipient” (Shumaker & Brownell, 1984, p.13). Social support acts as a resource to cope during the injury process (Bianco, 2001). The perception of more social support has also been associated with higher levels of subjective well-being in a sample of injured elite collegiate student athletes (Lu & Hsu, 2013).

In the reaction to rehabilitation stage athletes may experience motivational challenges (Kamphoff et al., 2013), concerns about missed training and competition, and thwarted goals (Bianco et al., 1999; Johnston & Carroll, 1998). The most common emotional responses were
depression and frustration (Clement et al., 2015). Athletes also withdrew from teammates during this phase, which lead to experiences of isolation (Johnston & Carroll, 1998).

Lastly, the return to play stage has been acknowledged as a challenging transition for athletes (Bianco, 2001; Gould, Udry, Bridges, & Beck, 1997; Podlog, Lochbaum, & Stevens, 2010). Research has identified a number of these challenges such as pressures to return to sport (Taylor & Taylor, 1997), re-injury anxiety, self-confidence concerns (Bianco et al., 1999; Kamphoff et al., 2013), worries of not reaching pre-injury performance levels (Evans, Hardy, & Fleming, 2000), doubts about meeting others expectations (Podlog & Eklund, 2006), and fear of losing playing time (Tracey, 2003). Once athletes are ready to return to sport these challenges can have detrimental effects on athletes during this stage, which can manifest as increased performance anxiety (Gould et al., 1997), decreased confidence (Andersen, 2001), or declined performance (Bianco, 2001). The psychological responses to sport injury can trigger serious mental health issues such as depression, anxiety, eating disorders, and substance abuse (Putukian, 2016). Athletes may also experience positive excitement when returning to sport (Clement et al., 2015; Podlog & Eklund, 2006). Despite the negative responses and primary appraisal of sport injuries as threat or loss (Ford & Gorden, 1999; Gould et al., 1997), athletes have stated that there is a lot to be gained from the sport injury experience (Bianco et al., 1999; Ford & Gorden, 1999; Podlog & Eklund, 2006; Tracey 2003; Udry et al., 1997; Wiese-Bjornstal et al., 1998). Athletes have reported personal growth, working through challenges, building stamina (Bianco et al., 1999), mental toughness, appreciation of being healthy (Tracey, 2003), and sport performance enhancement when looking back on their sport injury experience (Udry, 1997; Wiese-Bjornstal et al., 1998). This is important, as the sport injury experience is not necessarily an entirely negative experience.
While there is empirical support for the stage approach to injury, the integrated model of sports injury suggests there are differences among athletes’ response to sport injury, where there is an interplay between factors such as personality, coping resources, and history of stressors (Wiese-Bjornstal et al., 1998). It has been established that sport injury is associated with emotional disturbance (Brewer & Petrie, 1995; Chan & Grossman, 1988; Pearson & Jones, 1992; Leddy, Lambert, & Ogles, 1994), however emotional reactions may be more varied and less sequential than hypothesized by the stage approach (Brewer, 2007). There is greatest fluctuation in athletes’ mood at onset of injury (Leddy et al., 1994), where responses to injury can range from mild disappointment to severe depression (Chan & Grossman, 1988; McDonald & Hardy, 1999; Quackenbush & Crossman, 1994). Furthermore injured athletes waver between emotional highs and lows throughout recovery (Wiese & Wiese, 1987). Clement et al. (2015) suggest the process of psychosocial responses seems to be reciprocal in nature (e.g. cognitions influencing emotions and behaviours and vice versa) and “influenced by distinct personal (e.g. severity of injury diagnosis) and situational (e.g. source of social support and timing of injury) factors” (p. 102). Research indicates that it is typical for athletes to experience fluctuations in cognitions, emotions, and behaviours during the injury recovery process (Clement et al., 2015). However research has identified a trend for negative emotions to decrease over the course of the injury recovery process (Leddy et al., 1994; Smith et al. 1990; Udry, 1995).

### 2.4.2 Sport Injury and Athletic Identity

Athletic identity is another factor that can influence the sport injury recovery process. Athletic identity is defined as “the degree to which an individual identifies with the athlete role” (Brewer, Van Raalte, & Linder, 1993, p.237). Potential health benefits of a strong athletic identity include the development of a sense of self (McPherson, 1980), a positive effect on
athletic performance (Danish, 1983), an increased commitment to sport goals (Horton & Mack, 2000), and greater likelihood to engage in exercise behaviour (Fox & Corbin, 1986). In contrast, potential negative factors associated with strong athletic identity include difficulties encountered when dealing with sport career transitions, such as being cut from a team, injury, and retirement (Pearson & Petipas, 1990). Thus, there are both positive and negative factors associated with strong athletic identity (Brewer et al., 1993).

Those with a strong athletic identity can be at increased risk for psychological adjustment following injury (Brewer, 1993; Brewer, Cornelius, Stephan & Van Raalte, 2010). Injury disrupts the individual’s self-identity, increasing psychological reactions such as anxiety, depression, fear, and loss of self-esteem (Brewer, 1993; Brewer et al., 2010). Individuals who organize their identity primarily in terms of their athletic role have little distinction between their athletic role and other parts of the self (Linville, 1987), impeding the development of a multidimensional self-concept (Horton & Mack, 2000). This may be especially true for student-athletes as the demands of competitive sport discourage them from exploring alternative identities (Petitpas & Champagne, 1988). Individuals with a one-dimensional athletic identity are more vulnerable to the manifestation of depression in response to sport injury (Green & Weinberg, 2001; Linville, 1987). A strong athletic identity may also prompt individuals to continue to participate in sport while injured, jeopardizing their health (Brewer, 1993). Thus, sport injury has been recognized as an event that threatens one’s involvement in sport, endangering one’s sense of self (Brewer, 1993).
2.4.3 Sport Injury and Stress Related Growth

Recently there has been a shift from examining the negative consequences of injury to exploring the potential positive experiences of sport injury, specifically growth following adversity (e.g. Crawford, Gayman, & Tracey, 2014; Kampan, Hefferon, Wilson, & Beale, 2015; Podlog & Eklund, 2006; Roy-Davis et al., 2017; Wadey, Podlog, Galli, & Mellalieu, 2016; Wadey, Clark, Podlog & McCullough, 2013; Wadey, Evans, Evans, & Mitchell, 2011). Stress-related growth (SRG) is the term used in sport injury literature, and is derived from the eudaimonic perspective of psychology (e.g. psychological well-being) (Joseph & Linley, 2005). It has been identified that stressful and traumatic events can serve as a trigger toward personal growth and positive change (Joseph & Linley, 2006). Broad themes of growth include enhanced relationships, and changed worldview and life philosophy (Joseph & Linley, 2006). Specifically, injury related experiences can produce positive changes that result in a higher level of functioning after experiencing the stress of injury (Roy-Davis et al., 2017). Positive changes identified in the sport literature include psychological (increased mental toughness), social (improved relationships), physical (increased strength), and behavioural (more emphatic and understanding) (Salim & Wadey, 2018). For SRG to begin there must be a significant disruption to one’s life and belief system (Calhoun & Tedeschi, 2006).

There are a number of theories and models that discuss growth after adversity. Two dominant models include the Functional Descriptive Model (FDM) (Tedeschi & Calhoun, 1995), and the Organismic Valuing Theory (OVT) (Joseph & Linley, 2005). These models address the importance of the environment, coping efforts, and cognitive processes to facilitate growth through adversity. The FDM and OVT postulate that traumatic events shatter one’s prior goals, beliefs, and ways of coping with emotional distress, where one works to make sense of what has
happened to deal with their emotional response. Individuals then need to disengage from previous goals and beliefs to decrease emotional distress, which allows for new worldviews to emerge, facilitating growth (Tedeschi & Calhoun, 2004).

In OVT there are three potential outcomes of processes of trauma related information. Trauma related information can be assimilated, which means one returns to their pre-trauma baseline putting them at risk for future retraumatization, (e.g. appraise and accept trauma information is congruent with existing beliefs) or trauma-related information can be accommodated, which means one changes their worldview (e.g. appraise and accept that trauma information is incongruent with existing beliefs). Accommodation can occur in a negative direction, leading to psychopathology and distress (e.g. the world is unsafe), or in a positive direction, leading to growth (e.g. life is to be lived to the full) (Joseph & Linley, 2005). OVT goes further and proposes that one has an innate ability to know what is essential for a fulfilling life, and when the basic psychological needs of autonomy, competence, and relatedness are satisfied, growth can be achieved (Joseph & Linley, 2005). This has been found in the sport context, where satisfaction of basic needs was positively correlated with SRG (Wadey, Podlog, Galli, & Mellalieu, 2016). This aligns with Ryan and Deci’s (2001) arguments suggesting satisfaction of basic needs leads to well-being indicators such as thriving and vitality.

Overall, trauma shatters one’s assumptive world resulting in a need to reconfigure previous beliefs, and growth can take place through a gradual rebuild of one’s assumptive world and positive accommodation (Joseph & Linley, 2006). It is important to recognize that growth is not merely the absence of distress, but rather rebuilding one’s self-structure and assumptions to operate at a higher level of functioning (e.g. psychological, social, physical, and behavioural). As well, adversity does not lead to growth for everyone; Joseph and Linley (2006) conclude, “the
struggle with adversity is one way through which we may discover new strengths within ourselves, revitalize our relationships, and enhance our life meaning” (p.1050).

Moreover Roy-Davis et al. (2017) proposed a sport specific growth model; the theory of sport injury-related growth (T-SIRG), which suggest that injured athletes who have access to and utilize certain internal and external resources are more likely to experience SIRG. That is, if athletes have certain individual qualities (e.g. optimistic, creative, proactive), access to recovery resources (e.g. gymnasium, rehabilitation equipment), previous experience with adversity, emotion and problem-focused coping styles, an understanding social support network, and access to triumph growth narratives. Having, embodying, and utilizing these resources during injury recovery helps athletes challenge negative thoughts, fostering positive emotions and facilitative responses, promoting SIRG (Roy-Davis et al., 2017). Additionally, Roy-Davis et al. (2017) proposed four mechanisms to nurture SIRG: metacognitions (control over one’s thoughts), positive reappraisal, positive emotions, and facilitative responses. With these, injury can be reappraised as a developmental opportunity, which increases one’s positive emotions (e.g. hopeful, grateful), promoting facilitative actions (e.g. engaging in opportunities, reflection), leading to dimensions of SIRG (e.g. psychological, social, physical, behavioural). Psychological and social changes included intelligence, social relationships, personal strength (e.g. resilience, mental toughness, and personal growth), body-self relationship (e.g. more compassionate, listening to body), self-acceptance, and purpose and appreciation of life. Physical changes included strength and conditions (e.g. strength, flexibility, and range of motion), and behavioural changes included pro-social behaviour (e.g. helping others in need), and health behaviours (Roy-Davis et al., 2017). Thus, SIRG is possible if athletes have access to and utilize these internal and external resources.
An abundance of research has been completed on growth and sport injury (e.g. Bianco et al., 1999; Connaughton, Wadey, Hanton, & Jones 2008; Ford & Gordon, 1999; Tracey, 2003; Udry et al., 1997, Williams & Andersen, 1998. Udry et al. (1997) explored SRG in athletes with season ending injuries and found there was three dimensions to SRG; personal growth, psychological based performance enhancement, and physical/technical development. Personal growth benefits included gaining perspective, personal development, developing non-sport self, and time management. Psychological based performance enhancement benefits included mental toughness, increased motivation, and realistic expectations. Lastly, physical/technical development benefits included increased physical health and sport technique. These findings were in line with other research that has found SRG to be associated with increased sporting performance, improved subjective well-being, and reduced risk of re-injury (Connaughton et al., 2008; Williams & Andersen, 1998). In addition, SRG has been related to changes in self, relationships, and life philosophy, as well as perceiving new opportunities and a greater appreciation of life (Calhoun & Tedeschi, 2006). Furthermore, other benefits following injury include increased mental toughness, renewed perspective of sport, and amplified motivation (Bianco et al., 1999; Ford & Gordon, 1999; Tracey, 2003). Thus, injury can be an opportunity for personal growth and development.

The common theme in the growth following injury literature is that most athletes perceive SRG following injury (Salim, Wadey, & Diss 2015), however this is not true for all injured athletes. Udry et al. (1997) identified that while some injured athlete’s perceive growth, others do not, which begs the question as to why this happens. One avenue that may offer insight is Wiesse-Bjornstal et al.’s (1988) Integrated Model of Psychological Response to Sport Injury and Rehabilitation. This model posits that personal and situational factors influence how athletes
think, feel, and act through a process of appraisal, which affects how they respond and rehabilitate from sport injury. Salim et al. (2015) identified that hardiness is one individual factor that is related to SRG. Another avenue may be social support. OVT suggests that social support can help one overcome the challenges of positive accommodation (Joseph & Linley, 2005). Social support networks may also be an important area to target as an environment that fosters safety for injured athletes to disclose their emotions that may help athletes positively reframe their injury and optimize the experience of SRG (Salim et al., 2015). Salim et al. (2015) identified that injured athletes who disclose their emotions are more likely to experience SIRG. Others have also found that social support contributes to SRG (e.g. Burke & Sabiston, 2010; McDonough et al., 2011; 2014). It may be that satisfaction of social support is key, as it is associated with SRG (Linley & Joseph, 2004). A combination of personal and situational factors along with social support can increase athletes’ perceptions of growth following sport injury (Roy-Davis et al., 2017). Clearly, more research is warranted into SRG (Wadey, Evans, Evans, & Mitchell, 2011).

Sport Injury Conclusion

While numerous studies have examined sport injury and the injury recovery process, further research is warranted, as many existing studies have focused on rehabilitation related outcome variables (e.g. rehabilitation behaviours, treatment adherence, and motivation) (Lu & Hsu, 2013). Evans and Hardy (1995) stated sport injury research would benefit from qualitative methods, as injury is a complex phenomenon. A qualitative approach provides the means to explore the subjective meanings and experiences of injured athletes, and gain insight into the appraisals, emotions, and behaviours experienced during the injury recovery process (Johnston & Carroll, 1998). One of the goals of this thesis was to develop a better understanding of the facets
of sport-specific well-being and global well-being, and how they play a role in one another. Exploring the responses to and personal impact and the meaning of sport injury for the athlete has not received sufficient examination (Anderson, White, & McKay, 2004). Sport injury can endanger athletes’ sport experiences and their mental health (Lu & Hsu, 2013), or result in stress related growth (Roy-Davis et al., 2017).

Further research should focus on the experiences and meaning of injury for each athlete (Mainwaring, 1999). The cognitive and emotional reaction of sport injury could influence athletes’ sport psychological well-being and global psychological well-being (Drawer & Fuller, 2001; Hagger & Chatzisarantis, 2005; Wiese-Bjornstal, 2010). Sport injury may cause psychological well-being distress, which can lead to varied negative and positive outcomes. Little research to date has explored the role of sport psychological well-being and global psychological well-being during the injury recovery process with athletes. Specifically research in women athletes, as they are a population that is at greater risk to the negative psychological consequences of injury (Gould & Whitley, 2009; Pulliam, 2010). Physical and psychological recoveries do not always occur concurrently, nor are they always complete when athletes return to play (Ford & Gordon, 1998; Walker, Thatcher, & Lavallee, 2007). Findings could aid professionals to understand sport psychological well-being and its role in global psychological well-being, and to better support vulnerable injured athletes during recovery. Thus, extensive in-depth investigation is needed to understand the complexities of the psychological side of the sport injury experience and the role of sport psychological well-being and global psychological well-being.
Chapter 3: Methods

3.1 Paradigmatic Standpoint

An interpretivist constructionist paradigm was adopted to guide the exploration of seriously injured women athletes’ perceptions and experiences of sport injury and psychological well-being. Within this paradigm, it is the belief that there is no social reality independent of us that can be accessed (Smith & Sparkes, 2009a). Operating from a relativist ontology, I acknowledged that realities are subjective, multiple, created, mind-dependent, and change over time (Smith & Sparkes, 2009a). From a subjectivist and constructionist epistemology I worked to understand the participants’ subjective experiences and the socially constructed contexts that shape their realities (Smith & Sparkes, 2009a). Moreover, I recognized that interview knowledge is socially constructed, and acknowledged the co-creation of data (Smith & Sparkes, 2016). Thus, interviews are co-constructed between the participant and I in a specific social, cultural, and historical context that changes over time (Hunter, 2010).

The existing literature and theoretical frameworks on sport injury and psychological well-being drove the research questions. Data was analyzed abductively, including both inductive and deductive thematic analysis (Sparkes & Smith, 2014). Themes were developed deductively based on existing theoretical frameworks in mind (e.g. Ryff’s 1989 Model of Psychological Well-Being); however, more emphasis was put on developing themes inductively by focusing on the participants experience with sport injury and psychological well-being (data-driven) (Braun & Clarke, 2016). At the latent level of analysis, I attended to “the implicit ideas or concept[s] that underpin what’s explicitly expressed” (Braun, Clarke, & Weate, 2016, p. 192). Thus, I interpreted the data beyond its surface level semantic meaning to generate themes that were
informed by theory and representative of participants’ raw experiences of sport injury and psychological well-being.

3.2 Interpretive Qualitative Interview Based Study

An interpretive qualitative interview based study was used, which provided the means to make it possible to see the social world from the perspective of the participants (Bryman & Bell, 2016a). Qualitative research is described as “modes of systematic enquiry concerned with understanding human beings and the nature of their transactions with themselves and with their surrounding” (Benoliel, 1985, p. 3). The goal of utilizing this approach was to draw attention to the subjective meanings and experiences and specific details of each participant’s case (Flick, 2009). Since psychological well-being is dynamic and complex (Lundqvist & Sandin, 2014), it was valuable to study psychological well-being as a part of the sport injury experience rather than in isolation. This helped shed light on psychological well-beings complexity in reality (Flick, 2009). Qualitative methods can reveal subtleties and complexities of the subject being studied (Anderson, 2010) and can provide a variety of detailed perspectives, and subjective and social meanings (Flick, 2009) attached to sport injury and psychological well-being. It was vital to learn from participants and study their knowledge and practices (Flick, 2009), especially injured women varsity athletes as they experience higher levels of stress (Misra & McKeen, 2000) and poorer psychological adjustment to injury (Pulliam, 2010), leaving them vulnerable to compromised well-being (Gould & Whitley, 2009). New information could help better support athletes through injury recovery and protect their psychological well-being. An interpretive qualitative interview based study allowed the opportunity to explore the six dimensions of psychological well-being, while taking into account the social context.
In this study, in-depth semi-structured interviews were used as a method to explore detailed accounts of participants’ experiences with psychological well-being during the sport injury recovery process. Specifically, semi-structured interviews were used with a pre-planned interview guide to ask participants relatively focused but open questions surrounding sport injury and psychological well-being (Braun et al., 2016). The flexibility of interviews also allowed the opportunity for interviewees to take the interviewer down avenues they had not considered (Smith & Sparkes, 2016). Interviews can provide detailed and complex insight into peoples’ experiences, perceptions, meanings, and values (Smith & Sparkes, 2016). Furthermore, interviews were used as they can reveal a great deal about an individual’s experience, including their emotions, feelings, sense of health, and motivations as they change over time (Smith & Sparks, 2009b), and can capture peoples’ voices and “generate insights into the context in which people live” (Smith & Sparkes, 2016, p. 108). Thus, interviews were a way to develop a concrete understanding of the meanings individuals attach to their experiences of psychological well-being during the injury recovery process. The interviews helped capture participants’ voices and illuminated an understanding of the complex experiences of sport injury and psychological well-being. This is important as injured athletes are at risk for adverse psychological outcomes as a result of experiencing serious injury.

Drawing from an interpretivist constructionist paradigm, attention was placed on the social, cultural, and historical backgrounds of participants (Flick, 2009; Hunter, 2010). As well, significance was placed on how one perceived psychological well-being to differ over different contexts (e.g. sport and non-sport contexts). It is important to draw attention to context as one’s judgment of their well-being is related to personally significant contextual domains (e.g. sport) (Diener et al., 2003). During interviews, I become immersed in the data and social context,
which allowed me to gain a better understanding the process (Carr, 1994), becoming a part of the production of knowledge (Flick, 2009).

In summary, this interpretive qualitative interview based study was used to emphasize the participants’ subjective realities (Flick, 2009), provide detailed accounts of participants’ experiences (Smith & Sparkes, 2016), and help understand meanings attached to psychological well-being during injury recovery. It also provided the opportunity to hear each athlete’s experience with serious injury and perceptions of psychological well-being.

3.3 Participants

Criterion based sampling involves choosing cases that meet pre-set criteria (Bryman, 2015a). The criteria for this sample were women varsity athletes who had a current serious injury. There was a need to study athletes that are currently injured and are progressing through the injury recovery process as this is a gap in the literature (Brewer, 1994; Podlog et al., 2010; Udry, 1997) and most studies to date have been retrospective in nature. This study adopted the definition of serious injury used by the National Athletic Injury Reporting System, in that a serious injury is classified as a time loss of 21 days or more from participation in sport and exercise (Flint, 1988; Williams & Andersen, 2007). In this study, during injury recovery injured athletes were able to participate in recovery exercises but unable to train fully. This definition is consistent with other sport injury research (e.g. Bianco 2001; Udry, 1997).

This study was also restricted to varsity athletes because this group faces unique demands that can potentially contribute to greater levels of stress (Dubuc-Charbonneau, 2016; Gould & Whitley, 2009; Kimball & Freysinger, 2003), increasing athletes’ risk of injury and poor recovery (Smith, 1990; Wiese-Bjornstal, 2010; Walker et al., 2007). The unique demands faced
by varsity-student athletes are the additional stressors they encounter in their dual role as athlete and student, leaving them vulnerable to compromised health and well-being (Gould & Whitley, 2009). I specifically focused on women because they are more likely to experience higher levels of academic stress than males (Campbell, Svenson, & Jarvis, 1992; Misra & McKean, 2000). Additionally, women have been found to display poorer psychological adjustment to sport injury, reporting higher levels of negative affect (Pulliam, 2010) and post-injury depression (Appaneal et al., 2009). Thus, women varsity athletes who are experiencing sport injury were the distinct population of interest.

Participants ranged in age from 18-23 years old, with an average age of 19.7 years (see Table 3.2.1). All participants identified as women varsity athletes with a current serious injury. Participants represented 9 different sports, 7 team sports and 5 individual sports. As well, the participants varied in number of years experiences in varsity sport, where participants ranged from 1-4 years in varsity sport, with an average of 2.4 years. Participants were all varsity athletes but differed in highest level of sport played, with 6 national athletes, 2 provincial athletes, and 4 varsity athletes. Participants experienced a variety of injuries (see Table 3.2.2), which included shin splints and stress fractures, knee injuries, and dislocated shoulder. At time of interviews, participants ranged from 2 months to 31 months out of play due to injury recovery, for a median of 7.5 months and a mean of 6 months out of play. Athletes expected to be out of play for 2-31 months (ongoing chronic injury) with an average expected time out of sport of 9.4 months. Of the 12 participants, 7 were completely out of play and were only engaging in physiotherapy exercises, 2 were approaching return to play, and 3 had chronic injuries and were forced to take time off now and again (more than 21 days at a time). Participants who were approaching returning to play and who had chronic injuries identified themselves as currently injured. Thus,
all participants in the sample identified themselves as currently injured and had missed at least 21 days of sport.

**Table 3.3.1: Participant Demographics**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Participant (n=12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>18-19</td>
<td>7</td>
</tr>
<tr>
<td>20-23</td>
<td>5</td>
</tr>
<tr>
<td>Number of Years as Varsity Athlete</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Highest Level Played</td>
<td></td>
</tr>
<tr>
<td>Varsity</td>
<td>4</td>
</tr>
<tr>
<td>Provincial</td>
<td>2</td>
</tr>
<tr>
<td>National</td>
<td>6</td>
</tr>
<tr>
<td>Sport Type</td>
<td></td>
</tr>
<tr>
<td>Individual</td>
<td>5</td>
</tr>
<tr>
<td>Team</td>
<td>7</td>
</tr>
<tr>
<td>Months Out of Play at Interview</td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>4</td>
</tr>
<tr>
<td>4-5</td>
<td>1</td>
</tr>
<tr>
<td>6-7</td>
<td>3</td>
</tr>
<tr>
<td>8-9</td>
<td>2</td>
</tr>
<tr>
<td>10-11</td>
<td>1</td>
</tr>
<tr>
<td>12+</td>
<td>1</td>
</tr>
<tr>
<td>Months Expected Out of Sport</td>
<td></td>
</tr>
<tr>
<td>3-5</td>
<td>4</td>
</tr>
<tr>
<td>6-8</td>
<td>1</td>
</tr>
<tr>
<td>9-12</td>
<td>5</td>
</tr>
<tr>
<td>12+</td>
<td>2</td>
</tr>
</tbody>
</table>
Table 3.3.2 – Participant Injury Type

<table>
<thead>
<tr>
<th>Injury Type</th>
<th>Participant (n = 12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress Fractures</td>
<td>1</td>
</tr>
<tr>
<td>Shoulder Injury (dislocation + torn muscle)</td>
<td>1</td>
</tr>
<tr>
<td>Hip Injury (torn muscle)</td>
<td>1</td>
</tr>
<tr>
<td>Knee Injury</td>
<td>5</td>
</tr>
<tr>
<td>ACL + Meniscus Tear</td>
<td>2</td>
</tr>
<tr>
<td>ACL Tear</td>
<td>2</td>
</tr>
<tr>
<td>Meniscus Strain</td>
<td>1</td>
</tr>
<tr>
<td>Back Injury</td>
<td>4</td>
</tr>
<tr>
<td>Disc Irritation + Trapped Nerve</td>
<td>1</td>
</tr>
<tr>
<td>Pinched Nerve</td>
<td>1</td>
</tr>
<tr>
<td>Slipped Disc</td>
<td>1</td>
</tr>
<tr>
<td>Tendonitis + Bursitis</td>
<td>1</td>
</tr>
</tbody>
</table>

3.4 Procedures

Ethical approval was obtained from the University of British Columbia’s Behavioural Research Ethics Board on February 2, 2018. Recruitment for this study included purposive and snowball sampling methods, as participants were selected based on specific criteria (Bryman,
2015a) and then encouraged to forward information about the project to friends and teammates who also met the criteria. Initial recruitment started February 8, 2018 by posting 80 recruitment posters (see Appendix C) around campus, including varsity training centers and venues, and physiotherapy and athletic therapy clinics. On February 14, 2018 I then emailed all woman’s varsity team coaches asking for their assistance in recruiting. I included an outline of my study, a letter of introduction (outlining the research study) (see Appendix D) and initial contact (see Appendix E), and a recruitment poster, and asked if they would forward my email out to their team. Using coaches as gatekeepers proved very valuable as I received responses from almost all the coaches. I believe my insider status as a UBC varsity athlete alumni helped me during recruitment by having a connection with UBC athletics and with UBC varsity coaches. Out of the 12 participants, five contacted me after seeing the poster, five contacted me after receiving an email from their coach, and two contacted me after hearing about the study from a friend.

Participant recruitment and interviews took place simultaneously, as qualitative research is an iterative process, where researchers are sampling, collecting data, and analyzing data concurrently (Sandelowski, 1995). Data collection started with the first interview on February 16, 2018 and ended with the twelfth interview on April 5, 2018. I worked to have transcription of each interview completed approximately two days after it was scheduled, however I became somewhat backlogged and completed interview transcription on April 22, 2018.

Potential participants contacted me via text and email. When potential participants expressed interest via text I asked if there was a time that I could call them to discuss their interest in my study. I called the athlete and discussed their eligibility, outlined what participation in the study required, and answered their questions. As well, I informed the athlete about their ethical rights (e.g. confidentiality, freedom to withdraw). If the athlete wanted to
proceed with the study, I asked what days and times worked for the participant, and if meeting on campus would work for them to complete an interview. Once a date and time frame was established I told them I would text them the location of the interview. I also emphasized that if they changed their mind about participating in the study they were free to do so. If the potential participant contacted me via email I confirmed their eligibility for the study, and asked them for dates and times that they were available to meet for an interview. I also provided my phone number in case they wanted to contact me. All participants were texted or emailed (depending on their preferred mode of contact) the day before their interview asking if they were still able to attend and as a friendly reminder of when and where their interview would take place. All interviews took place in person on campus at UBC in private study rooms in campus libraries. Prior to starting interviews athletes provided informed consent (see Appendix F) and filled out a demographic questionnaire (see Appendix G). The demographic questionnaire helped classify participant information such as injury type, time out of sport, highest level played, and years in varsity sport. Confidentiality was emphasized and participants were made aware that their sport type would not be revealed at any point and would be stripped from the interview transcripts. Participants were also asked if they had any questions about the process. I asked each participant if they had completed a research interview before, and proceeded to explain what it would consist of, emphasizing that they did not have to answer questions they did not feel comfortable with or did not want to answer, they could stop the interview at anytime, and they could ask me questions at anytime. As well I reiterated that participation was voluntary and that they were free to withdraw without penalty at anytime. After completion of the interview each participant was given a ten-dollar stipend as a token of appreciation.
Each participant completed one semi-structured qualitative interview. The interviews ranged from 58 minutes to 106 minutes in length, with an average of 76 minutes (see Table 3.2.3). There was a combined total of 15 hours and 39 minutes of interview time, which yielded a total of 321 single spaced pages of transcripts. Interviews were audio recorded with an iPhone 5s and an iPad on an app titled voice recorder. Each participant was assigned a study ID to maintain anonymity and each interview was transcribed verbatim. After approximately seven interviews I started to notice similarities in codes and patterns between interviews. I continued to interview a total of 12 participants. After completing 12 interviews I determined that I had the data to answer my research questions and that nothing new found was adding to current findings.

Table 3.4.1 – Interview Information

<table>
<thead>
<tr>
<th>Name</th>
<th>Interview Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anne</td>
<td>58:28</td>
</tr>
<tr>
<td>Kate</td>
<td>67:19</td>
</tr>
<tr>
<td>Ava</td>
<td>76:37</td>
</tr>
<tr>
<td>Beth</td>
<td>78:46</td>
</tr>
<tr>
<td>Logan</td>
<td>67:00</td>
</tr>
<tr>
<td>Abby</td>
<td>81:46</td>
</tr>
<tr>
<td>Tess</td>
<td>76:39</td>
</tr>
<tr>
<td>Lexi</td>
<td>73:43</td>
</tr>
<tr>
<td>Evan</td>
<td>78:31</td>
</tr>
<tr>
<td>Sadey</td>
<td>106:23</td>
</tr>
<tr>
<td>Jane</td>
<td>60:48</td>
</tr>
<tr>
<td>Jodi</td>
<td>100:00</td>
</tr>
<tr>
<td></td>
<td>Average: 76 minutes</td>
</tr>
</tbody>
</table>

Sample size in qualitative studies is also based on a number of factors such as study purpose, design, and population, analytical approach and resources (Morse, 2000), and homogeneity of the sample (Guest, Bunce, & Johnson, 2006). While there are no strict guidelines for sample size in thematic analysis, it has been suggested that a minimum of six participant interviews must be conducted (Braun et al., 2016). Purposive and snowball sampling methods
allowed me to recruit a relatively homogenous group of participants that were relevant to my research question (Patton, 2002). Based on my paradigmatic underpinnings, I do not believe in data saturation. Each individual’s experience is unique, meaning that data saturation can never be truly reached, as there will always be another unique experience (Wray, Markovic, & Manderson, 2007). The focus is less on sample size and more on the meanings derived from the sample (Bowen, 2008). Participants were continually sampled until new information found did not substantially add to the current findings and when research questions could be answered. After approximately 7 interviews I began to notice patterns and similarities in codes and potential themes across interviews. This is in line with existing research suggesting that broader themes can start to be formulated after six interviews (Guest et al., 2006). I continually sampled until 12 seriously injured women athletes were selected for this study and were interviewed once. The aim was for the sample to be small enough to manage material but large enough to provide a new and textured understanding of experience (Sandelowski, 1995). The purpose was to gain a detailed account, where “the greater the depth and richness of each data item (e.g., an interview) the fewer individual items you will need” (Braun et al., 2016, p. 195). I found that a sample of 12 participants provided enough detailed data to answer the research questions and capture themes across cases, where new information did not change or significantly add to the current findings.

The interview guide (see Appendix H) included relatively focused but open-ended questions that were used to encourage participants to elaborate on their experiences; as well a list of probes that were used throughout the interview helped ensure a detailed account. Probes and follow-up questions allowed the opportunity to elaborate and clarify responses. The interview focused on how athletes perceived their injury and their perceptions of how injury plays a role in relation to psychological well-being. Topics covered in the interview centered around sport
injury and injury recovery (which included cognitions, emotions, and coping behaviours in response to sport injury), psychological well-being (which included perceptions, experiences, and understanding of psychological well-being), and the athlete’s perception of global and sport-specific psychological well-being and the role that injury played in one’s experience. During last part of the interview I discussed Ryff’s (1989) six dimensions of psychological well-being and asked participants what these dimensions meant to them in the sport context and if injury had influenced the dimensions in any way.

A reflexive journal, an audit trail, and field notes were kept and regularly updated throughout the study (e.g. before/after each interview, at the point of making research decisions, and when analyzing data). This will be discussed in more detail in the subsequent section.

3.5 Data Analysis

A thematic analysis (Clarke & Braun, 2016) was used to explore seriously injured athletes’ experiences with psychological well-being during the injury recovery process. This was a useful approach for this study as thematic analysis can be used to “identify patterns within and across data in relation to participants’ lived experiences, views and perspectives, and behaviour and practices” (Clarke & Braun, 2017, p. 297). It is a flexible approach that can provide a rich, detailed, and complex account of data (Braun & Clarke, 2006). Since research examining psychological well-being during the injury recovery process has been sparse, a thematic analysis is also considered an exceptionally useful method when examining under-researched areas (Braun & Clarke, 2006).

This method allows for a wide range of analytic approaches and it is not tied to any specific theoretical framework (Braun & Clarke, 2006). This study adopted a “big Q” approach
to thematic analysis, as this aligns with the proposed interpretive constructionist paradigm, and Clarke and Braun’s (2017) guidelines to thematic analysis (Braun et al., 2016). Moreover, thematic analysis can be used to analyse data both inductively (data-driven) and deductively (literature-driven) (Clarke & Braun, 2017). I acknowledge my understanding of the current theories in the literature, and do not believe that I was able to entirely separate myself from this knowledge to engage in a true inductive approach. I utilized an abductive approach to systematically work through the data and highlighted and underline phrases that summarized the latent and semantic meanings. At the latent level, attention can be drawn to “the implicit ideas or concept[s] that underpin what’s explicitly expressed” (Braun et al., 2016, p. 192). For this study, the thematic analysis was driven by the presented research questions and the interpretivist constructionist paradigm.

As mentioned, a reflexive journal, an audit trail, and field notes were kept and regularly updated throughout the study. Reflexivity can enhance the quality of the research by allowing the researcher to examine ways they could assist or hinder the co-construction of meanings (Lietz, Langer, & Furman, 2006), and can help with data analysis (Smith & Sparkes, 2016). An audit trail provided a transparent description of steps taken during the research process, reflecting how the study unfolded (Carcary, 2009).

In my research journal and field notes I critically reflected on my biases, assumptions, observations, experiences, and emotions. As the researcher, I needed to be reflective as I am both an insider and an outsider in this research process. I acknowledge that I can be seen as an insider because I have been a student-athlete who has had experience with a serious knee injury. On the other hand I can also be seen as an outsider as I have been removed from varsity sport for four years. Critically reflecting on how my insider/outsider status affects the research process and my
relationships with participants was key. Within my field notes I recalled as much detail about the interviews as possible (e.g. relationship with the participant, elicited emotions, reactions from participant, mood and context of the interview and how this influenced the interview). An example from my field notes will be provided below in the reflexivity section.

Although Clarke and Braun (2016) offer a six-stage approach to thematic analysis, analysis is not a linear process and movement back and forth between stages is needed (Braun & Clarke, 2006). High quality thematic analysis involves a recursive and reflexive process (Braun et al., 2016). The first phase of thematic analysis is to familiarize oneself with the data (Clarke & Braun, 2016). I transcribed the interviews verbatim using ExpressScribe transcription software, which is a strategy to start to familiarize oneself with the data (Smith & Sparkes, 2016). Subsequently, I read each interview transcript to become more familiar with the data. I then reread each interview transcript and actively searched for potential meanings and patterns while making reflective notes. Data familiarization helped me start to make sense of what was being said in the interviews. This process is outlined in this excerpt of my audit trail and reflexive journal:

“I was a bit hesitant on starting the coding process – I think because I was fearful that I wouldn’t do it properly or that what I would do wouldn’t be good enough. I finally decided that I just needed to start somewhere, recognizing that this was a process of moving forward and backwards and that I could go back to where I started at anytime during analysis. I read and reread through the first two interviews and started initially coding the first interview, as well as writing analytical notes in the margin, indicating things for me to think about in the future, and asking myself questions. I proceeded to the second interview the following day and replicated the process, but added a little more detail to my codes. I feel like I did a ‘better’ job on the second interview as I took a step beyond just looking at the words on the page. Furthermore I found it very helpful to draw out some of the data to make sense of what was being said.” - May 9, 2018
Phase two involved generating initial codes, which are “the most basic segment, or element, of raw data or information that can be assessed in a meaningful way regarding the phenomenon” (Boyatzis, 1998, p. 63). Coding was systematic and rigorous, as coding is a foundation for theme development (Braun et al., 2016). Coding was both theory-driven (deductive) and data-driven (inductive) to align with the abductive approach to analysing data. I decided to manually code the data on printed paper transcripts as I felt this would be most practical. I started by working through one interview at a time where I made simple semantic codes that focused on the explicit meaning of what the participant had said. As well, I made further analytical notes in the margins to try and continue to work through and understand what was being revealed in the interviews. These notes would often be speculation, potential underpinning meanings, commonalities between interviews, questions I had, or things for me to look into. Here is an extract from my audit trail outlining the difficulties and fears I experienced around making analysis decisions:

“I want to make sure that I keep context while coding, and I fear that fragmenting the data will lead to losing context (I think it’s important to understand the injury and the time point in recovery when looking at the description of PWB). To combat this, I will create case files for each participant outlining injury type, phase of recovery, definition of PWB, and overall functioning. As well, for each interview transcript I will outline the ‘main’ ideas of my sense of the interview” – May 9, 2018

As I progressed through the interviews, I felt like I had a better understanding of the process and I started to code semantically and latently. Attention was also given to what was unsaid in the interviews, as “sometimes sensitive topics reveal themselves in not what is said, but in what cannot be said, or cannot be expressed coherently” (Squire, Andrews, & Tamboukou, 2013, p. 20). Furthermore I paid attention to how things were said, as it is just as important as what is explicitly stated (Smith & Sparkes, 2009a). For example during transcription and in my
field notes I noted silences, vulnerable moments, realizations, and other non-verbal cues that I picked up. These were taken into account when making initial codes. As I continued coding the interviews, I moved back and forth between interviews, making notes on previous interviews as well as the interview I was currently coding. I noticed that by interview three I started to code less, and coding became more focused in relation to my research questions.

After reviewing my transcripts from the first round of coding I noticed that I ‘over-coded’ and that the transcripts were really messy with notes. I then decided to print off a new copy of each transcript and worked through each transcript again looking back on my first round of coding. The goal of this second round of coding was to read and attend to my notes, simplify, and refine my codes. This process helped me scale down my initial codes and identify codes that were related to my research question, and helped me delve deeper into what was being said. I also created case files for each participant, which outlined their basic demographic information as well as themes I picked up from their interview. This is another extract from my audit trail and reflective journal:

“I ended up printing out new sets of all my transcripts. I worked through each transcript one by one to complete a second round of coding. The process: I had the old transcript (from the first round coding) beside my new transcript (freshly printed and untouched) → I looked at the old transcript and worked to clarify and simplify the codes, where I wrote the new code in the new transcript. I also highlighted particularly important passages in each new transcript to make them easy to identify. I finally felt more comfortable working through the data, I actually saw myself as an active agent in the analysis process.

Furthermore, I made a case file for each participant. Within this case file I wrote what year of varsity sport the participant was is, whether or not they played for a national team, their injury, how long they were out of sport, and how long they expected to be out of sport. As well I wrote a bit of a story for each participant, what were the main things that came up in their story. Lastly, I drew out a diagram for PWB, Sport PWB, and Overall PWB. I completed this process for each transcript (12 total). In addition, I kept a piece of paper where I jotted down important thoughts that came to mind when working through the interviews → i.e. potential themes, potential connections, deeper level
thoughts about what might be going on below the surface. I am feeling good about how this is progressing.” – June 28, 2018

After the second round of coding was complete, I still felt uneasy about how to proceed. I had all of the codes written in my interviews but I did not know how to move forward with analysis. Here is an extract from my audit trail outlining thoughts around decisions being made and the messiness of the process:

“I was very hesitant about how to proceed with the analysis. Should I use NVIVO? Should I complete this by hand? Since my biggest fear was losing the context while doing analysis and I thought that it was slightly more possible for this to happen if I used NVIVO. I had a meeting with [colleague] on June 27th and we chatted about the options of how to proceed. After hearing what [colleague] had to say I decided to create a word document for each transcript, within the word document I would write out all the codes from that interview as well as pull out all the data extracts that matched the code. I would complete this process for each transcript. After completing this I would create a master list of codes with a definition for each code.” – July 3, 2018

I finally felt like I was at the point where I was ready to see all of the codes in front of me, and after consulting with colleagues I had a better idea about how to move forward. I decided to create a word document for each transcript, and within the word document I wrote out all the codes from that interview as well as pulled out all the data extracts that matched that code. I completed this process for each transcript (12 documents total). An example of a code from the interview and matching data extracts:

**Code: Self-Acceptance of Injury**

“Like honestly I felt my world had ended, but with time when I like reflect there is no reason to feel like that” p.2

“IT’s a long journey, so I don’t know, you kind of just have to go with it and accepting the fact that it’s happened to me” p.2

**Code: No Purpose**

“I had huge amounts of time, I just didn’t know what to do...and it was like all I had really done was sports...I just really didn’t know what to do with myself” p.5
“And then being injured it was...like I wanted the best for my team, but I was still thinking about myself...I had to sit there and wasn’t allowed to participate um (P) was definitely like really difficult...yeah it was just like I can only step up on the stair so many time, where it won’t actually help me anymore or get better, so then I just felt I had nothing to do and not really a purpose” p.11

 “[Injury] just like has stopped certain aspects...it’s taken away that experience of [purpose in sport]” p.18

There were roughly 45-50 codes for each interview. I then reduced the seven documents and created a master list of codes with a definition for each code (1 document total). After coding was complete, there were a total of 220 codes across 12 transcripts. I then printed out my list of codes and worked to consolidate duplicate and similar codes. I further amalgamated codes into like categories and came to a total of 120 codes. The following is from my audit trail and reflexive journal:

“I collapsed the 220 codes to 120 codes. I actually did it! What did this process look like? I printed off the 16 sheets of paper with the codes and definitions. I then laid out all the sheets of paper on the table so that I was able to see all of the codes. Then I started looking over all the codes for any duplicated (i.e. social support and support network). When duplicates were found I made a note (i.e. Social support [support network]), indicating that these were essentially the same. I looked at the definition of the codes that were essentially the same and added to the definition to better fit the consolidated codes. I did this for the entire list of codes.

Then to further collapse I looked for similarities between codes → i.e. Growth was the higher-level code and the sub codes were sport opportunities for development and growth (obsessed with sport, competition to develop, sport provides opportunities for growth, develop life skills, personal success, new experiences for growth, experiences), adversity for growth, sport injury growth (failure is my favourite thing, growth from failure), experience for development (opportunities for growth), growth from failure (failure is my favourite thing). I did this for other higher-level codes such as sport culture, injury as a learning experience, and emotional responses to sport injury. My next step is going to be printing out the new list of codes (120) and cut out each code, and then work to cluster like codes. The idea is that I can further consolidate and start to develop themes around the like codes.

I could start to see the process unfolding before my eyes, no wait - I was actually making all of this happen. Before I was fearful of the flexibility in this approach, but now it’s starting to become my best friend” – July 17, 2018
Phase three included searching for themes, which are broader “patterns of meaning, underpinned by a central organizing concept – a shared core idea” (Clarke & Braun, 2017, p. 297). It is important to note that themes do not emerge from the data; rather analysis is an active process where themes are generated or developed (Braun et al., 2016). The process of theme development included organizing codes to identify candidate themes and subthemes (Braun et al., 2016). I had my list of 120 codes printed out, where I cut each code out on a strip of paper so that I could begin clustering like codes and moving things around to where I saw fit. Once codes were arranged in like clusters I reviewed each cluster and moved codes again. I then started to develop themes for each cluster. Themes are used to organize and draw relationships between codes and coded data (Braun et al., 2016). I used post-it notes to write out overarching themes and sub-themes (see Figure 3.2.4). These themes were generated based on my perceptions of broad patterns of meaning across the codes. I developed seven preliminary overarching themes: (1) I only want social support from those that understand, (2) emotional responses to sport injury, (3) sport culture, (4) my life is chaos and out of control, (5) maybe I can: adaptation from the disruption of sport injury (6) the terrible twos: fear and anxiety, and (7) sport injury growth. I created a thematic map (see Appendix I) to visually clarify “the relationship between codes, between themes, and between different levels of themes” (Braun & Clarke, 2006, p. 89). The following excerpt from my audit trail and reflexive journal captures the feelings around theme development:

“The process of visually laying the data out on the table to work with it really helped me see the data as a whole. Once codes were placed in like categories, I felt like theme development happened rather easily for me. I think this was because I had a very good understanding of what was in the data and the story that I perceived to unfold. I had generated seven themes, but I could begin to see how themes were related and how some maybe could combine to form one theme. After reflecting and going back and forth between writing up definitions for each theme and subtheme, I saw that some themes fit
better as subthemes. The process was iterative, where it helped to go back and forth between stages to gain addition insights in refining developed themes” – August 3, 2018

Below is an image to help visualize my process:

Figure 3.5.1: Theme Development

Phase four required reviewing and refining themes (Clarke & Braun, 2016). An existing theme may be discarded if there is not enough data to support it, themes may be collapsed into one theme, or themes could be separated into two different themes, or sub-themes may be formed (Braun & Clarke, 2006). I initially started with seven themes, and after starting to write and review themes I decided to merge ‘emotional responses to sport injury’ into ‘my life is chaos and out of control’. As well, I decided to combine ‘sport culture’, ‘I only want social support from those that understand’, and ‘the terrible twos: fear and anxiety’ into one theme titled
‘pressures shaping response to sport injury. I felt as though merging these themes helped better capture a coherent story of the data. This assessment of merging and refining themes took place over two levels; reviewing coded data extracts and reviewing themes in relation to the data set (Clarke & Braun, 2016). Level one involved reviewing data within themes to ensure that data extracts fit together and formed a coherent pattern. Level two involved assessing that themes were clear and distinct and actively reflected the meaningfulness of the data set. Furthermore the entire data set was re-read to capture and code any missed data and to ratify that the developed themes were accurate representations of the data.

Phase five entailed defining and naming themes (Clarke & Braun, 2016). This phase began by further defining and refining each theme and the data within the themes (Braun & Clarke, 2016). A detailed analysis was written-up for each theme, identifying a story that the theme captured and how this fit with the overall story of the data set. In addition, definitions were written for each subtheme to make sure each subtheme was unique enough, and placed under the correct theme. The goal was to build depth and detail through the analytic narrative (Braun et al., 2016). I felt as though I could clearly define what the themes were and what they were not by the end of this stage (Braun & Clarke, 2006). Lastly, clear and concise names were given to each theme that accurately reflected the meaning and story of each theme.

Finally, phase six involved producing the report (Clarke & Braun, 2016). The report should “provid[e] a concise, coherent, logical, non-repetitive and interesting account of the story the data tell – within and across themes” (Braun & Clarke, 2006, p. 93). I spent sufficient time to ensure that my report provided adequate detail to capture and bring to life the complex story of the data in a coherent and concise manner. Persuasive data extracts were selected to compliment the analytic commentary, and to capture the essence of the argument being made (Braun &
Clarke, 2006). Extracts and justification were intertwined to capture the story of the data, and the analytical narrative went beyond description to provide my interpretation of participants’ experiences. I worked to provide ample justification and evidence for each theme, generating an argument in relation to the proposed research questions.

3.6 Ethical Considerations

This study strived to encompass robust ethical integrity. Importance was placed on procedural ethics, as well as the three core ethical principles (Bryman & Bell, 2016b; Palmer, 2016). Respect for the person was addressed by collecting free informed and ongoing consent throughout the duration of the study. Participants received a detailed informed consent at the onset of the study; as well they were reminded and continually asked for consent. Concern for the welfare of the participants was addressed by stressing the importance of privacy and confidentiality. Participant information and data were stored in a secure manner. Due to the small sample size and data that resulted in detailed descriptions of the participants’ experiences, pseudonyms were used to provide participants with anonymity. In addition, overt research was conducted where all participants were informed in full about the proposed study (Bryman & Bell, 2016b). The principle of justice was upheld by having a properly designed and well thought out study (Bryman & Bell, 2016b). Ethics was considered as a process, as this is especially relevant in qualitative research where people and contexts continually shift (Haverkamp, 2005). Relational ethics was also of importance, as there was a need for me to be sensitive to the power interactions and balances between the participants and myself (Palmer, 2016). This study’s method naturally transforms participants into co-researchers, which can help diminish the power differential between participant and researcher (Haverkamp, 2005). In addition I used a virtue ethics perspective, where it was important to reflect on my personal moral compass and ethical
intuitions (Haverkamp, 2005; Lahman, Mendoza, Rodriguez, & Schwarts, 2011). It is important to note that different models of ethics can be complimentary rather than contradictory (Haverkamp, 2005; Kitchener, 2000).

3.7 Reflexivity

Reflexivity refers to being reflective of the implications of methods used, biases, and decisions for knowledge, as well as sensitivity to researcher’s cultural, political, and social context (Bryman, 2015b). Reflexivity means to “bend back upon oneself” and to be aware of the impact one has on the research process (Smith & Sparkes, p.20). In short, it is the acknowledgment of the role of the researcher as part of the construction of knowledge (Bryman, 2015b). Qualitative research is understood as a subjective process where the researcher brings their “own histories, values, assumptions, perspectives, politics, and mannerisms into the research – and we cannot leave those at the door” (Braun & Clarke, 2013, p.36). Interpretation is required when representing an individual’s experience, which is influenced by our assumptions, values, and commitments (Braun & Clarke, 2013). Thus, reflexivity is crucial at all phases of the research process (Bradbury-Jones, 2007).

Furthermore, reflexivity can enhance the rigor and ethics of the study, as reflexivity means constantly monitoring tension between involvement and detachments of the researcher and participant (Gemignani, 2011). To maintain reflexivity this study integrated these strategies: keeping field notes and creating an audit trail and reflexive journal of the researchers reasoning, judgment, and emotional reactions (Bradbury-Jones, 2007; Frisina, 2006; Padgett, 2008). Keeping a research journal to reflect on the process and practice of research was useful to producing robust qualitative research (Braun & Clarke, 2013). To produce robust qualitative
research, attention was drawn to the reflective journal and field notes during the data analysis phase. Reflective writing is a source of interpretive and self-understanding, where details are provided about how conclusions were reached (Bazeley, 2009), and can be incorporated into data analysis (Morrow, 2005). Within my field notes, audit trail, and reflexive journal I openly described about how I have shaped the research process. Reflection was a continuous process throughout the research study. Reflection helped me identify and keep track of my thoughts, feelings, and emotions, as well as shed light on unconscious preconceptions and changing preconceptions as a result of the emerging study (Sparkes & Smith, 2014). I attempted to bring to light my biases, motivations, values, and assumptions, and to be transparent about how they played a role in the construction of data (Sparkes & Smith, 2013). In my reflexive journal I highlighted my thoughts, feelings, and reflection, as well as the progress and process of the research. In the remainder of this section I will outline the reflective process of the researcher.

To start the reflexive process, while choosing a topic of interest and designing my study I thought about why I selected this topic and how my experiences and social placement could impact this research. I grew up playing multiple sports, where I always had one sport on the go and continually wanted to try new sports. I eventually chose to specialize in ice hockey, and it became impossible to simultaneously play other sports. In my grade twelve year I was selected to play on a junior hockey team were we traveled throughout North America playing against other high caliber teams. I progressed to play at the university level in the Canadian Interuniversity Sport League, where I played varsity ice hockey at UBC for four years. In my second year of varsity sport I sustained a serious knee injury that ended up taking me out of sport for most of that season. After experiencing the injury my sport career was never the same. There was always lingering pain in my right knee, which was debilitating. I never secured a consistent spot in the
line up again. I adopted certain coping strategies, such as trying to push through the injury, and remaining positive, as well as being overly hard on myself when I never got back to my pre-injury state. I have a very vivid understanding of my experience with injury. I understand the setback, the emotion toll, and chaos that injury causes. Injury had a major impact on my sport career that took time to accept. It was easier to accept because there were limited opportunities for me to continue high-level competitive sport after university. I started to shift my attention to school and academics and started to become invested in sport psychology, through the pursuit of further education.

When I began to think about what to study for my Master’s Thesis, I knew I wanted to look at the experience of sport injury. I started to read the literature, and identified that I wanted to study athletes that were currently seriously injured, as studies on this were limited, and this is a particularly vulnerable time for athletes. I wanted to employ a qualitative study and took a graduate course in qualitative methods in preparation to write a thesis proposal. I started to critically reflect that I interpreted the sport injury experience as being primarily negative without really giving much thought to the positives of sport injury. Reflecting upon it now, there were many positives that arose from my injury experience. Due to my focus on the negative side of sport injury, I originally wanted to look at self-compassion as a resource to cope during sport injury. After more exploration of the literature, I realized that I wanted to really focus on athletes’ mental health, embracing the idea of studying psychological well-being during sport injury. Furthermore, there were very limited studies that had focused on psychological well-being in the sport context, and studies that focused on injured athletes were sparse.

I acknowledge that my position as a graduate student in sport and exercise psychology has provided me with a detailed understanding of the literature, and the theoretical frameworks
surrounding psychological well-being and sport injury. Although I had formulated my own understanding of the sport injury experience and my own definition of sport psychological well-being, I was curious how others perceive and experience these. I realize that my background as a varsity athlete, my experience with sport injury, and my interest in psychological well-being has shaped my research topic, research questions, and the entire research process. I have been cognizant and aware not to project my experience onto participants during the interview process by not asking leading questions and by trying to stand in the shoes of the participant when analysing the data. However, operating from an interpretivist constructionist paradigm I am aware that the data is co-constructed between the participant and myself.

Throughout the research process, I made regular entries into my reflexive journal to ensure reflection was a continuous process. As the research project was emerging and parts were changing I kept up to date on my reflection. I critically reflected on my biases, assumptions, observations, experiences, and emotions. Journal entries were primarily made after interviews where I recalled as much detail about the interviews as possible. For example these could include my perception of my relationship with the participant and their responses, my elicited emotions, the mood and context of the interview and how this influenced the interview, as well as ideas about interpretations of the data, questions I had, and my interviewing skills. During interviews I felt I really understood what participants were saying about their experiences and that their experiences closely aligned with mine. I had to err on the side of caution, by continuing to ask questions about their experience and not jumping to a conclusion just because I felt like I understood. The following is an example of an entry I made directly after an interview:

“*She seemed a little shy and timid to me at first and not totally comfortable in the environment. I wondered if she was thinking “why did I sign up for this, why am I here”. [Participant] opened up more about her experiences with depression during injury. I*
think she opened up a little more because she seemed to be more comfortable with me as
time went on. At first she looked very uncomfortable in the chair, rolling up and rolling
down her sleeves, moving, and shifting eye contact. This greatly subsided as the interview
progressed. Still, I was left wishing that I heard a little more about the dark side of
injury. I just felt too guilty to ask the participant about something that maybe would make
her feel too vulnerable.

I felt a little bit of a connection with [participant] as she spoke about the difficulties of
returning to sport, and facing the struggle of trying to gain coach acceptance, as well as
player acceptance. I felt like she was talking about some of my experiences in varsity
sport. I was nodding and agreeing with [participant]. I really felt I understood what
[participant] was talking about. I immediately caught myself thinking about our
similarities and how I was agreeing with her. I started making a conscious effort to
remain neutral and asked her to describe certain experiences a little more, such as “can
you tell me about the experience of struggling to get back into the line up”.

After the interview I asked [participant] if she had any questions for me, and she said
that she didn’t know what to ask me, so I continued on to give her the stipend and
thanked her. She asked me if I was doing my Masters, and then a few other questions
from there. I told her that I used to play varsity sport and she asked if I had sustained an
injury during that time. This kind of surprised me because so far she is the only athlete
that has asked me about my experience with injury. I was open with her and told her that
I had. She was intrigued because she wanted to know if that’s why I picked this topic to
study. I wonder how telling participants that I had sustained a serious injury during
varsity sport would have impacted the process. Would they have felt that I could
understand them better?” – March 7, 2018

Journal entries provided the opportunity for me to put my thoughts on paper and force
myself to think about my role in the research process and the construction of data. A reflexive
journal “can be a tool to reflect on, deal with, and learn from the emotional aspects of this
process” (Bruan & Clarke, 2013, p.71). Throughout the research process I kept journal entries as
well as referred back to previous journal entries. This gave me the opportunity to think about
how I was impacting the research and it provided transparency into my thoughts, actions, as well
as the messiness of qualitative research and how the process unfolded. I believe that my previous
experiences as a varsity athlete aided the research process as it enabled me to quickly build
rapport, trust, and an understanding with my participants. In summary, keeping a reflexive
journal helped me cultivate an understanding of how I fit into and was intertwined with the participants in the process of this research.

3.8 Credibility

Researchers have suggested approaches to gauge the quality of qualitative research (e.g. Lincoln & Guba, 1985, Tracy, 2010, Yardley, 2000). Various criteria from these approaches were selected and combined and informed by a relativist approach. As per the relativist approach, these criteria were not fixed rather they were open-ended and could change depending on how the research unfolded (Smith & McGannon, 2017). The quality of the proposed research was addressed through: worthiness of topic, sensitivity to context, commitment and rigour, transparency and coherence, and significant contribution.

The first approach to assessing the quality of this research project was worthiness of topic, which refers to the relevance, timing, significance, and interestingness of the research topic (Tracy, 2010). Sport injury and psychological well-being have gained increased attention in the literature in the last decade. There have been limited studies that examine sport injury and psychological well-being together, at an in-depth personal level (qualitatively), or at time of injury. There are a number of gaps identified in the literature; mainly a methodological gap and a topical gap, understanding the in-depth experiences and perceptions of psychological well-being during the sport injury recovery process (Brewer, 1994; Heil, 1993; Lundqvist & Sandin, 2014; Podlog et al., 2010; Udry, 1997), and understanding the global and specific level of psychological well-being at time of injury (Lundqvist 2011; Shambrook, 2006). Addressing these gaps helped gain insight into these complex experiences. The findings presented in chapter
5 demonstrate the worthiness of this topic by addressing the gaps in the literature and expanding the knowledge on sport injury and psychological well-being.

Sensitivity to context refers to the researcher’s constant awareness and attentiveness of situational and social factors that may affect the research participants (Yardley, 2000). As participants were interviewed during the injury recovery process it was imperative to understand how injury might affect participants and to recognize if they are experiencing distress. My knowledge of the existing literature on psychosocial responses to sport injury facilitated a greater awareness of potential stressful responses that the participant may have been experiencing. It was important for me to be aware of the potential difficulty for participants to discuss experiences associated with the psychosocial challenges of sport injury and/or ill-being. A majority of the participants revealed their struggles with depression and anxiety during their recovery from sport injury. As a graduate student who has completed numerous courses in counselling psychology and currently working toward a certification with the British Columbia Registered Clinical Counselling Association, I feel competent to recognize when a participant is in distress and needs referral to professional services. It was pointed out to all participants that there was contact information for UBC counselling services provided on their consent form. As well, participants were reminded that they could contact me at any point for any reason. Appropriate action was set if the participant was in distress and needed professional help. No participants expressed distress.

The third broad strategy is commitment and rigour, which involves the researcher being dedicated and devoted to best practices, and the study using sufficient, abundant, and appropriate theoretical constructs, sample, and data collection and analysis procedures (Yardley, 2000; Tracy, 2010). This was attended to by carefully adhering to the procedure of this study, appropriately analyzing data, keeping an audit trail and a reflexive journal, and taking field
notes. Two pilot interviews were conducted as a practice to make sure questions and probes are appropriately reflecting the studied topic. After the pilot interviews some changes were made to the structure of questions. As well, there was sufficient time allotted to the data analysis phase in order to carry out a thorough examination. A critical friend was utilized to review preliminary findings, and offer opinions and insights. Using a critical friend to enhance rigour was chosen not as a means to validate my interpretation as the truth, but rather as means to critically reflect on the notion of multiple truths, give feedback, encourage reflexivity, and to have a discussion around the research process (Smith & McGannon, 2017). The role of a critical friend is to “encourage reflection upon, and exploration of, multiple and alternative explanations and interpretations as these emerged in relation to the data and writing” (Smith & McGannon, 2017, p. 13). As a first time qualitative researcher, having a critical friend present to ask questions and to challenge me helped me reflect on my approach and helped me when moving forward.

Transparency and coherence refers to clearly outlining each stage of the research process so that readers can understand how the document came together (Tracy, 2010). This was established through keeping an audit trail where a thorough description of each step of the research process with outlined. My audit trail included recording important dates and times such as the details of participant recruitment (how and when I was contacted), when and where interviews took place, and the details of data analysis, including what worked for me, what did not, and why and how I made the decision that I did. My reflexive journal, highlighting my thoughts, feelings, emotions, biases, and assumptions also helped make the research process and data analysis open and transparent (Ortlipp, 2008). I regularly updated my research journal from the commencement of the research process until the end. Subsequently, coherence was attended
to by clearly outlining how theoretical underpinnings, paradigmatic standpoint, research questions, method, and analysis fit together.

Lastly, significant contributions refer to the ways in which the research will contribute to the field of study (Tracy, 2010). This research is contributing methodologically as there have been very few qualitative studies to examine psychological well-being in the athletic population (Lundqvist, 2011; Lundqvist & Sandin, 2014). As well, there were substantive contributions as this research moved past what has been historically explored, as sport injury and psychological well-being have not been studied together with currently injured athletes. An in-depth understanding of the perceptions and experiences of seriously injured women athletes’ psychological well-being yielded novel findings. There was also a theoretical contribution from this study providing information on how existing psychological well-being theory could be applied and developed in a new context (Lundqvist, 2011; Tracy, 2010). Lastly, the study can contribute practical significance as it could raise awareness and further our understand of injured athletes’ experiences of psychological well-being and how athletes could be better supported by professionals (e.g. sport psychologists, mental health workers, coaches, coaching staff). There is also the potential to create sport injury awareness programs for varsity athletes with a sport injury to help education and support athletes during injury recovery. This research is timely and relevant for the field of sport and exercise psychology as there is a rise in awareness and care for the mental health of athletes.
Chapter 4: Findings

Four themes were identified to describe how the twelve seriously injured participants perceived and experienced psychological well-being during the injury recovery process. The four themes included: (1) My Life is Chaos and Out of Control (2) Pressures Shaping Response to Injury (3) Maybe I Can: Adaptation From the Disruption of Sport Injury (4) Sport Injury Growth. All themes and subthemes are listed in Table 4.1 and are presented in the subsequent sections.

Table 4.1: Themes and Subthemes

<table>
<thead>
<tr>
<th>Themes</th>
<th>Subthemes</th>
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<tbody>
<tr>
<td>My Life is Chaos and Out of Control</td>
<td>A. Emotional Responses to Sport Injury</td>
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<tr>
<td></td>
<td>B. Identity Crisis and Loss</td>
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<tr>
<td></td>
<td>C. Overwhelmed</td>
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<tr>
<td></td>
<td>D. Stagnant</td>
</tr>
<tr>
<td>Pressures Shaping Response to Injury</td>
<td>A. Sport Culture</td>
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4.1 My Life is Chaos and Out of Control

This theme focuses on the chaos experienced after injury has happened. Four subthemes were developed to capture this time: (1) emotional responses to sport injury, which discusses depression, self-pity, loneliness, exclusion, and more time for self; (2) identity crisis and loss, which discusses how participants experienced a lack of purpose and questioned who they were, as well as participants perceived a loss of ability, control, and motivation; (3) overwhelmed, which discusses how injury takes over and creates a disequilibrium where much of the future is an unknown, and there are multiple stressors; and (4) stagnant, which discusses how participants expressed they feel like they are putting in the effort but are unable to progress, and the emotional ups and downs that accompany this.

4.1.1 Emotional Responses to Sport Injury

Although participants each identified emotional responses to sport injury, it became clear that the onset of sport injury elicited a primarily negative emotional response. Participants discussed depression, anxiety, denial, grief, frustration, shock, doubt, envy, guilt, self-pity, isolation, and increased time for self-care. Beth discussed her emotional response to sport injury, where she felt frustrated, isolated, and depressed. Similarity, Tess talked about being stuck in the initial response to sport injury, as well as her experience with depression:

“I think I got to a point like a week later where like I think I just barely bumped it or something and it hurt just a little bit and I broke down finally, about like being upset and fed up...I would say understanding yourself has been a big thing for me, um ‘cause I went so long struggling with what like ended up being depression or anxiety, without really like accepting it and like looking at like the bigger picture...there was long period where I just didn’t even really think about it...I went and saw one of the psychologists at UBC...to kind of deal with what was going on, but more so I was kind of in denial about anything really happening to me”
Tess also brought up being in denial about her injury, and the resistance to accept that it had happened. Likewise, Sadey discussed the initial denial, as well as the feelings of ‘why me’:

“Felt like I was on a roller coaster and I got really high and then it just all went down. Um yeah and I just tried not to think about it...a lot... that was definitely probably my lowest point, and I was like very envious of the players that got to play and that...like kinda that the world had chosen to give me the injury...I just felt like “why me” like why did this happen...especially since this wasn’t a freak accident that it was like nothing significant happened, so why did it happen to me...then I thought like I just had surgery, I just did this all and I’m going to have to do it again”

Depression, anxiety, frustration, denial, and grief played a role in feeling less motivated to push through this difficult time. Abby explained that day-to-day tasks became a struggle, which made her start to doubt herself and question if it was worth fighting through injury. Abby perceived this time as a disruption of her well-being, throwing her into a cycle of negative emotions. Other participants, such as Lexi, also talked about how their psychological well-being was disrupted during the initial response to sport injury:

“When I first got [injured] like I was crushed just cause I knew my season was over, and even if I got back, I wasn’t going to be the same...it was like really tough cause I had a couple offers from the States and the minute I stopped, they called me and they took them away...[Injury] like shot [sport psychological well-being] to the ground...at first like it just made me want to quit the sport so it, definitely was not psychologically well in sport specially because I wanted to quit and so (P) I would say that injury makes, like it hinders your psychological well-being so much until you’re at the point where you can see the finish line”

Lexi observed her psychological well-being to significantly drop, where she felt worthless when her scholarship offers were retracted. This was a time of chaos, where one had trouble identifying a clear path to recovery. Jane also described the negative emotions surrounding injury and how this played a role in her psychological well-being:

“I was kind of in shock, like basically everything I do revolves around training and my team and getting better, so it was kinda like I don’t know, it wasn’t the best hearing
someone tell you that you can’t do what you want to do...like self-esteem goes down too, because like obviously my body composition changed...so like physically I was feel gross about myself and yeah just (P) sad...sometimes when I think I’m better it gets worse and then it goes back to getting better, so it’s kind of like a back and forth and it’s really frustrating cause I don’t know when it’s going to stop..., cause like now I would say I’m not like...sport psychologically well right now, because I’ve been so disconnected, so I think it will take more for me to get back to psychologically well”

Jane, as well as a few other participants, discussed dissatisfaction with their body image and composition. She perceived this, along with not having a clear path, as damaging to her psychological well-being. Jane also identified that it will take her longer to get back to ‘good’ psychological well-being, as injury was perceived as a major disruption and challenge to overcome. Ava talked about injury as a traumatic event, leaving her feeling shocked, scared, and anxious:

“I remember when it first happened I kept thinking about it, like I would picture myself outside of my body, watch it happen over and over again...it was definitely scary at first, like I would equate it to a nightmare, because it was like traumatic...especially like when I was alone, I kept thinking about it, like if I wasn’t distracted by someone else it was just always on my mind and then I would just be like down and not in a good mood cause I was thinking about it, and yeah it kinda just affects everything else”

Injury was described as overwhelming, where it was the center of attention at all times.

While participants spoke about the negative emotional responses to sport injury and the challenges that accompanied them, some also spoke about their positive emotional responses to sport injury when prompted. The dominant positive emotional response was relief. Logan explained:

“I think also just kind of, I’ve taken more time for myself...I’m relieved that I know now that all these things are wrong with my body, and I’m relieved that I’ll give my body some time to rest, just because of my really long season last year, I think that kind of broke down my body...I just think I need more rest, that’s kind of a good thing as well”
Similarly Abby spoke about how injury provided a chance for her to have time to recover and rest her body. Although she was frustrated about being out of sport and felt guilty about feeling relief, she was ultimately relieved that she had an excuse to rest her body and heal her nagging injuries. Participants may feel a sense of relief when sustaining a serious injury as it could be an opportunity for one to take time to heal nagging injuries that they would otherwise be forced to play through. While injury was identified as a unique experience majority of the participants also discussed a deeper experience of identity crisis and loss.

4.1.2 Identity Crisis and Loss

While participants experienced a range of emotional responses to injury, they also spoke of a deeper experience of athletic identity crisis during injury. Ava and Sadey who were recovering from lower body injuries, and Logan from an upper body injury, discussed the impact of injury on their athletic identity. Ava stated:

“Honestly, I felt like my world had ended...[sport’s] such a big part of my life...and I felt like it was taken away, I was defined by that, and I was like what am I going to do now.”

Ava discussed the importance of her athletic identity and how there was a disruption to her identity when she experienced injury. Sadey expanded on how this disruption to athletic identity played a role on her well-being, where she stated that sport was a major part of her life, and when sport was taken away it drastically affected her overall psychological well-being. While participants discussed their athletic identities, Logan outlined the emotional confusion surrounding loss of athletic identity:

“There have been multiple times when I would go to my coach and I would start getting really emotional, start like tearing up, ’cause I didn’t know what was happening, and I feel like [sport] takes so much of my happiness that when I can’t do it that kind of, a big
part of my life got taken away from me...I feel like I’ll kind of be lost without doing something in [sport]”

Ava, Sadey, and Logan all discussed the importance of sport as a part of their identity, and the difficulties in navigating the disruption to their identity after experiencing injury. Not only did participants perceive a disruption to their athletic identity, they experienced a sense of loss and a decrease in their psychological well-being. It seems as though meaning and purpose are related to psychological well-being. Furthermore, participants highlighted the athletic identity crisis in response to sport injury. Abby described her emotional difficulty during injury:

“I felt like I had no purpose when I was injured, I just was like well I’m not playing so I shouldn’t be here, I don’t really want to see my friends ‘cause that’s all we’re going to talk about and I just don’t even know where to go from here. ‘Cause if I’m not playing, what am I doing, as much as it’s great to have that purpose it’s like I almost put too much of my whole self-purpose on that, so it was like when I was injured, it was wow I actually don’t have any purpose...well now I need to find a bigger purpose of why I’m here....but if my larger purpose is just to play [sport] here, I think I have some issues you know, I think I need to rethink that. So I think finding a purpose outside of sport is also really important and injury kind of taught me that”

Abby had to negotiate the pressures inherent in elite level sport, where one must buy in and devote their life to sport, breaking free from the single athletic identity and finding herself outside of sport. This led Abby to positively analyze her identity.

Sadey also identified having nothing to do and not having a purpose after experiencing injury, which could be related to a loss of identity and tied to fluctuations in one’s sport psychological well-being. At the elite level athletes’ goals, identity, and purpose revolve around sport, and when that is disrupted the athlete may be vulnerable to decreases in sport psychological well-being. While participants spoke about their difficulties with athletic identity, many experienced feelings of loss, such as loss of control, motivation, and ability. Sadey reported her experience:
“Disappointment, uh, just like (P) out of my control like I was frustrated because it wasn’t like I did something wrong besides twisting my knee, or it wasn’t anyone else’s fault because there was no one around me, it was just chance or whatever, um and that I was at the peak of my ability, I was the fittest I have ever been and I was like making so much ground in skill cause I just like played on these teams and that’s what I was going to do for the rest of the summer and then it was just all put on a stop”

Sadey discussed her frustration with how she sustained the injury, as it did not happen in a way that fit in with the sport culture narrative. Perhaps it is more difficult for athletes to accept injuries that do not align with sacrifice.

Participants also spoke about the feeling of loss surrounding injury, from loss of ability, motivation, and control. Sadey identified her loss of ability with the injury, and how progression toward her goals were put to a stop. Similarly, Lexi spoke about her experience with loss:

“I didn’t want to lose everything… I worked pretty hard in high school to get to that point, um so that was always my end goal, make a university team, and then I, everything got taken away and I was like I don’t know what to do…I just thought it was over, I thought my whole sport was over”

Lexi perceived her injury to threaten her career in sport. She had worked hard to reach certain goals, but injury impeded progression. Anne became emotional when speaking about her experience with working toward regaining her ability. She stated that once you become injured it is harder to build your ability back up because you become isolated and removed from the sport environment. Most participants spoke about working their way up to peak ability, the difficulties in losing their abilities due to injury, and the concerns of regaining their ability.

In addition to speaking about loss and ability, Ava also brought up the notion of injury taking one’s control away. She discussed:

“Especially because I felt like I was at my fittest when I tore it, it’s kind of upsetting, all that hard work I did, like I’m back to zero…I feel like I had worked myself all the way up
from like first year and like now I’ve gone down, and those people are going to go up, so
now I have to regain like me, or regain my coaches trust that I’m strong and ready to go
again, which is kind of annoying...like my other teammates are going to be like up here
and then when I’m ready I’m gonna be still not at that level, so I don’t know...[injury’s]
definitely taken control away from me, cause it kinda, yeah, it’s taken control over me”

Lack of control could play a role in decreasing one’s motivation, as well as putting one’s well-
being in jeopardy. Kate expanded on the frustration surrounding loss of control:

“[Injury] narrowed the things that are in your control...it just narrows the things that
you do have control over, and it can feel like at times you’re kind of fighting your body”

Kate separated the self from the body identifying that she is fighting her own body, and her body
is letting her down. Athletes use their body as a vehicle for success and when their body is
injured athletes experience a sense of loss. Similarly Jodi stated:

“Like you got to depend on your body and if your body is injured, like you’re not in
control, you can’t control, you can’t go out and workout...and perform because your
body just can’t do it. I think that’s actually probably the hardest thing, is not having
control of injury, injury is not being able to have control”

Furthermore, Logan brought up the uncertainties of not having a diagnosis and how that adds to
the feeling of lack of control.

“So I think I’ve had no control over anything with the injury...I don’t even know what’s
the issue at times. And I can control how I feel, but not how things end up you know”

While participants experienced athletic identity crisis and loss, they also identified feeling
overwhelmed from the demands of injury.
4.1.3 Overwhelmed

During this time of chaos, participants experienced disequilibrium where they felt overwhelmed by the demands of injury. They identified the struggles of dealing with an unknown experience, confusion, not being able to see an end to injury, and the multiple demands of injury. Beth described her experience:

“I try to be optimistic, I have some optimism, but I don’t have the same (P) drive, and motivation, and certainty, I had certainty before all that, I could continue to get better and I could visualize the rest of the season and now it’s just kind of a cloud... [injury] takes away that comfort...so injury really throws you off balance and changes your expectations...and so that big unknown that injury throws onto you it really – yeah kinda upsets that psychological well-being”

Beth brought to light the struggles of not having a clear path, and the emotions that accompany that. As well, she perceived injury to throw her off balance into a state of disequilibrium, which disrupts her psychological well-being.

Participants discussed this overwhelming period as a time where they felt they could not handle all the unforeseen demands. Tess spoke about the difficulty in maintaining teammate relationships:

“Um like I could tell like myself getting down, cause that’s when everybody became really close friends, and then from then on the season like I was pretty, pretty down and I think then that’s when the depression problem started becoming more of a thing, ‘cause not only was I trying to deal through an injury, I was trying to not just maintain relationships but like get them to the standard that everybody else had, but being really limited on my ability to do it as well as manage school...just a combination of everything... when I get the most anxious, depressed, or stressed is definitely when there is just too much going on and I feel like I can’t handle it”
Tess continued to talk about the challenges of trying to regain control of her life and continue pushing forward by reengaging in various life domains. As well she discussed the frustration around physical limitations and minimal improvement:

“About a week or two after surgery – was probably my lowest, it really started building up to be like I can’t do this anymore…um but when I got to the point where I was like I need to start incorporating everything else again, I can’t only be this injured person and do this and nothing else, then things started getting more overwhelming and frustrating, realizing my limitations and having this picture of oh my goodness I’m not even going able to run for half a year and things like that were kind of frustrating, knowing that every little bit of progress I had was just so tiny you could hardly even notice it”

Many participants spoke about their struggles with balancing the multiple demands of life when experiencing injury. Abby discussed these challenges coupled with the physical pain she was in:

“It’s been hard to balance school and team and physio and everything, put with the physical pain…and that put a lot of stress on other aspects, and I just slept a lot. So just a lot of things were put on the backburner and my [injury] kind of took the lead on everything…a lot of physical pain, so getting through the day was just a challenge…I couldn’t work for a while…if I don’t get a certain average I won’t get my scholarship, so that kind of all just started circling and it was just like a big ball of stress”

Pain was also highlighted as a constant reminder of injury. Jodi described that she went through psychological waves of ups and downs, and that she was ‘sick and tired’ of feeling awful all the time. Similar to Abby, Jodi acknowledged that the tipping point to experiencing a psychological down was an accumulation of everything.

An overload of stress was identified as the tipping point when participants perceived they could no longer handle their situation, throwing them into an overwhelmed state where they were trying to operate in disequilibrium. During this time participants observed changes in their psychological well-being. Lexi described:
“High stress is really hindering on psychological well-being...just having one thing out of balance is – ruins everything...like if one thing went down it all went down, and um nothing was in balance anymore so when I was out of sport then I wasn’t exercising and I wasn’t relieving my stress that way and I was upset about sport and then everything came out...like my whole life was out of balance”

Disequilibrium may play a vital role in disrupting one’s psychological well-being. It appeared as though injury overwhelms athletes, with the predominately negative emotional responses, identity crises, and feelings of loss, where during this time injured athletes may be more susceptible to damaged psychological well-being. Evan spoke about the fluctuation of sport psychological well-being during recovery:

“I think I go through highs and lows with [sport psychological well-being], some days or some weeks my hips are really sore and I’m like uhhh I don’t want to do this anymore, why am I doing this and then they get better and then they get worse...it’s usually when school’s really stressful, I’m having a hard time balancing”

Psychological well-being appeared to be cyclical in nature, where participants often experienced ups and downs. The stress of injury combined with other life demands may put athletes’ psychological well-being at increased risk. Most participants felt that injury thwarted their goals and left them feeling stagnant.

4.1.4 Stagnant

While participants felt out of control during this time, some participants did make an effort to try and progress their recovery through physiotherapy, exercises, and doctor’s appointments. Participants experienced many physical and mental difficulties during this time, identifying that recovery was an emotional roller coaster, where they were putting in hard work, yet there was no progression in their injury status. Sadey discussed feeling stagnant:
“When I’m injured like I can just sit on the side and think about how I’m like losing ground in my skill set or like, just like watching like I can see everyone else getting better, while like I’m stagnant… but most people have gotten better, or like stuff like that, and then, that’s definitely kind of difficult as well, cause I can see like other people healed, but it’s like I’m just still waiting cause I just have to, like there is nothing I can do but physio and wait for my [injury] to heal”

Feelings of helplessness encapsulated Sadey’s experience. Similarly Anne conveyed her experience of feeling like she was at a standstill, or getting worse, because she was unable to train or do anything to advance her in her sport. Anne outlined the difficulty associated with being stagnant, where athletic goals can no longer be achieved, positioning her in a worse place to meet her goals. Likewise, Beth identified the hard work she was putting in trying to progress, however she was physically unable to move forward:

“Frustration that it’s not moving as quickly as I want it to…I’m doing everything I can to make it get better and when you’re doing that and it’s still not getting better, it gets really restraining…I keep setting deadlines for myself that I expect that I’ll be able to be back in my sport by and then I can’t, and so I set another one (L) and then I can’t, and that’s really frustrating…it’s like you are physically unable to make yourself get better…so when you think you’re not where you want to be, it’s harder to be like, I don’t know, when you’re at you’re prime and you’re putting all that training in and you know that you can get results, but when you’re putting it in and it’s not getting you any results it just kind of feels futile, so then you kind of get stuck in a why do I even bother, I could just be at home eating snacks”

Beth’s struggles led to a loss of motivation, where the continued to push to advance but the lack of progression left her feeling stuck. Beth continued:

“When I’m not psychologically well, I can’t be successful in anything. That’s when you’re, it’s a very stuck feeling, when I’m psychologically feeling well I’m able to push myself to explore new avenues and figure out what I’m doing in my life”

Beth perceived that she was not able to progress because she was not psychologically well. Identity crisis, lack of purpose, thwarted goals, and a sense of loss could play a role in the decrease of psychological well-being.
Other participants also talked about the role of not achieving goals and how that can take away from one’s psychological well-being. Specifically, feeling as though current goals are no longer realistic. Evan explained:

“I think I was in a better place than I am now...I’ve put too much pressure on myself to do better...I feel like I want to be in certain places that are just maybe a little bit out of reach to me, and I’m trying to get there, but I feel like it might not happen and that’s going to be a big let-down...definitely the pressure of not achieving a goal, takes away from well-being”

Likewise, Lexi talked about how goals play a role in building and hindering psychological well-being:

“Achieving goals... just noticing yourself improving I know is a huge thing...if you’re doing your own things to improve yourself your psychological well-being is gonna get better...regressing from your goal them um, that’s going to hinder your well-being”

While participants made efforts to progress through their injury they realized that the ‘all effort no gain’ left them feeling stuck and stagnant, where there goals were thwarted jeopardizing their well-being.

While all participants experienced a serious injury, it is clear that the onset of sport injury elicited a generally negative emotional response. Participants expressed an array of negative emotional responses to sport injury. As well participants struggled with identity crisis and feelings of loss after sustaining an injury. These feelings disrupted participants’ state of psychological functioning, leading participants to feel excessively overwhelmed by the chaos of sport injury. Participants were exasperated by the feelings of being stagnant and stuck in an injured body that was not healing as fast as they wanted. Moreover, participants’ reactions and responses to sport injury seemed to be shaped by a few dominating factors, such as sport culture, fear, and social support.
4.2 Pressures Shaping Response to Sport Injury

This theme focuses on how external pressures such as sport culture and social support, and internal pressures such as fear and anxiety, play a role in shaping one’s response to sport injury. Three subthemes were developed: (1) *sport culture*, which discusses pushing through injury, normalizing injury, injury as a sign of weakness, and the conflict of buying into sport culture; (2) *the terrible twos: fear and anxiety*, which discusses injury anxiety, return to sport stress, and fear of re-injury; and (3) *I only want social support from those that understand*, which discusses accepting and rejecting support, being a burden on others, and having a lack of adequate support during injury recovery.

4.2.1 Sport Culture

Sport culture was referred to and played a large role in shaping how participants responded to injury. Throughout their experiences in sport, athletes learned that they were expected by teammates, coaches and supporters to push through pain and injury. Athletes identified that they needed to suck it up and push through their injury, displaying motivation, resilience, and sacrifice. Logan described her experience:

“I feel like I have a pretty high pain tolerance, even in [sport] workouts your body take a really big toll, and I thought okay I can push through it, if I’m told it’s fine to push through I can deal with the pain...like sitting it would be uncomfortable and sleeping would be uncomfortable, I just wanted to focus on getting better, but I kept pushing myself ‘cause I wanted to compete, I felt pressure to compete ‘cause I’m one of the top [sport] on the team and [coaches] wanted me to compete for me to get points for them right, at nationals, and I felt this pressure”

Ava felt pressure from her coaches to compete because she was a top athlete, which meant sacrificing her body to win for her team. Resilience was outlined as an important aspect of pushing through injury, as one could use it as a coping method to build mental stamina, to
increase their mental toughness, to push through when they could see an end, and working harder to control emotions. Furthermore, athletes identified that sacrifice was just part of sport.

Central to the participants’ attitude was that injury was an inherent part of sport. Participants identified that sport was physically demanding and that it breaks down the body. In addition, participants stated that sport injury is inevitable, and to normalize sport injury further they downplayed injury severity and normalized pain in sport. Lexi stated:

“I was running one race and my [body part] had been really hurting me for like two weeks maybe and so, but I didn’t think anything of it…I just thought like whatever, I’m sore, which is normal”

Similarly, Tess spoke about pushing through and normalizing pain:

“Just kind of the pain…but I’ve kinda got more accustomed to like this is okay like you just have to suck it up through the discomfort and nothing’s going to happen but before I was a lot more hesitant and scared of just feeling pain anymore”

Injury and pain were seen as an inherent part of sport, and participants downplayed injury severity and pain. Jodi explains:

“Like I have friends who aren’t in [sport] and they’re like you’re absolutely insane but to me it’s just something you have to do to be able to accomplish what you have to accomplish…if you think about it and like the pain that I was in, it was no it’s got to be done, it’s got to be done for the team it has to be done if you want to do it”

Jodi implied that sacrificing the body was essential to being an elite athlete.

Participants not only viewed injury as an inherent part of sport, they also viewed injury as a weakness. They perceived injury made them emotional and broken, making them feel worthless, weak, and useless. While participants tried to combat these perceptions by pushing
through their injury, they also tried to hide their injury and questioned whom to tell about their injury. Tess explained:

“So kinda like took me back to the oh you’re trying a bunch of new things again like it’s stressful cause you feel like you can do it, but you’re just not quite there yet...obviously at practice I would not really show anything but I could tell that when I got home I would be frustrated with it and kind of worried about the next day, like will I be able to play tomorrow”

Even though Tess expressed internal worry about her injury she did not want to reveal this to her team. She continued:

“But again I stayed pretty internal about it, like I don’t think I showed how I was feeling, especially not to my team...but other than a close knit group of friends, I didn’t really show that weakness”

Tess compared her injury to weakness, inferring she is not playing the role of the strong resilient athlete. Similarly, Jane discussed her experience with feeling weak:

“Like physical I’m definitely not in the best shape right now, like I’m not as strong as I was...I just feel like weak and useless basically while everyone else is like getting stronger and like working harder which is like good for the team, but then for myself it’s like hard to see everyone getting better”

Jane saw herself as falling out of the role of the elite athlete, suggesting that injury has made her weak and useless. Furthermore, Jodi questioned who to tell about the injury as she feared it would be seen as a weakness:

“I wouldn’t, like really didn’t tell my coach that much information, mostly because I want to compete and also because it’s just like you don’t want to come across being weak, um or like people in my [sport], how would they feel if I were to be like oh yeah my [injury] is really bad, so they would probably think oh you’re not going to [sport] well, so that doesn’t do anything so I wouldn’t tell”
Jodi feared that others would perceive her as weak if she revealed the severity of her injury. Participants held reservations about disclosing their injury, as injury breaks down the athletic body and is seen as a sign of weakness.

Participants also felt guilty for not being able to help their team and feared that they would start to use injury as an excuse for their failure. Lastly, some participants also viewed their injury as a ‘silly injury’ because they were hurt without contact, or in practice. This could be related to the fact that injury is only acceptable and normalized in sport when injury is a result of sacrifice.

While participants experienced the clear messages about appropriate responses to injury from sport culture, they displayed an internal conflict with how to respond. Participants were keeping their feelings internal and trying to push through it, only to realize that they could not use their normal response of pushing through to deal with their injury. They identified that they reached the point in which they were physically unable to push through. Kate described:

“I think that [injury] definitely challenges [sport psychological well-being] a lot because it just like puts more uncertainty into things and you have to become like a lot more like adaptable, like it used to be that you could push through discomfort and training or like mild pain and training but like you can’t push through big injuries. You have to just like take them as they are, you can’t be like mentally tough enough to make them go away”

Kate illuminated the tensions of negotiating her response to sport injury, knowing when to push through and knowing when it is not possible. Participants also struggled with the idea of returning to sport versus focusing on getting better, which meant they had to give up pushing though their injury. After trying to push through injury, Logan talked about how she would deal with injury next time:
“So if I got injured again I would be like okay, I have to like stop right away, don’t push through anything, I kind of learnt that way, and learnt okay I got really depressed, but that took away from so much of my life that now I’m thinking okay I’m injured it sucks, but it is what it is and what can I do now to put myself in a position to be better like sooner... ‘cause I felt for so much time, I would kind of be focusing on getting back to [sport], but I kind of wasn’t focused on getting better”

Evan reevaluated her situation and questioned if continuing in sport was worth sacrificing her body:

“I just feel like it’s time maybe to move onto something else in my life, and focus on something else cause they don’t have professional [sport] leagues, so why am I pushing my body through this if I don’t need to”

Participants experienced a resistance to accept their injury and resisted letting go of sport, which ignited feelings of denial and guilt. Furthermore some participants identified their injuries as ‘silly injuries’, which further added to the conflict because their injuries were not a result of contact or sacrifice for their team. While participants resisted letting go of the sport culture, they realized that they could no longer hold onto it if they wanted to heal. At this point in recovery, participants expressed a great deal of fear.

4.2.2 The Terrible Twos: Fear and Anxiety

Participants identified that fear and anxiety played a large role in their response to sport injury. Participants experience injury fear and anxiety, where there was worry about the ‘what ifs’ about injury, as well as questioning their future in sport, their future health concerns, and whether they could withstand another injury recovery. Logan described:

“I’m a very big over thinker, like I worry about so much and this with this it kind of, I started to worry a lot and it started to get, I started to get pretty upset and it, like pretty depressed because I didn’t know what’s happening...I just worry about everything...I was worried, cause I didn’t want to have this prolonged [injury] for the rest of my life...I just worry about everything, so I would worry about like, will this affect my future in
[sport], will this affect my technique, will I be where I was before...and all those thoughts start to go through my head, cause I’ve never had a serious injury before, so it’s like a very new experience for me...so I’m just worried that things won’t work out as well anymore... I let the what ifs kind of get the better of me”

Logan experienced great anxiety during her injury recovery, likely due to this being a new territory to navigate, as she had never had a serious injury before. She perceived the demands of this situation to exceed her coping resources, creating stress and anxiety. Increased anxiety during this time could also be due to a strong athletic identity and purpose tied to sport, where injury impedes thus causing chaos. In addition, Logan spoke about how anxiety started to take over getting the better of her, while at the same time she started to experience a decrease in her psychological well-being. The internal pressure of fear and anxiety played a role in shaping participants’ responses to sport injury. Sadey also discussed the internal pressure of fear and anxiety around her thwarted goals:

“Then I became super concerned when I would get surgery...I thought like would that change where I would go to university or whether I would be able to even try out for the team...and before I saw my goals being achieved, or like they were, they felt a lot closer, or more attainable, and it didn’t...like I just didn’t have the worry I have now”

The lack of progression, strong athletic identity, and anxiety could play a role in hindering one’s psychological wellbeing.

Furthermore, many participants discussed not knowing if they would be able to withstand another injury recovery. Ava explained her experience:

“Because I know the time is still far away for me to play but I’m scared if it would happen again, I don’t know if I could do this all over again honestly (P), I think yeah, now that I’ve seen what it is, and how tough it is for me... you’re going to get injured again and that’s something that I have to get over somehow and yeah...it’s all in your head so that’s the biggest thing to overcome, is you being ready so...my other teammates are going to be up here and then when I’m ready I’m gonna be still not at that level, so I don’t know”
Ava discussed the mental barrier in overcoming injury. She acknowledged that injury is inherent in sport and that she will likely experience another injury in her career. However she hesitated about having the psychological strength to overcome another injury. This may be because she was still in a period of chaos, where she has yet to see a way out of injury.

Participants also expressed anxieties over future health concerns. While Evan recognized that her sport career will soon be over, she started to question how injury would impact her outside of sport:

“I’m hoping to get a job within that field, and it’s very like intense labour, so I want to be able to be in good health to do jobs like that. To be able to [work] for a couple hours and not be in pain. So I think working with the cortisol shots and being on a waitlist for surgery is a good idea for now as like a tentative plan to make sure I’m okay for the rest of my life”

Participants also expressed return to sport stresses where they felt pressure to prove themselves and meet pre-injury ability, fears of keeping up with teammates, and receiving the short end of the stick when trying to reintegrate with the team. In addition, many participants experienced fear of re-injury, where they were living in fear because they were worried that the injury would happen again, whether it is during injury recovery, upon return to sport, or further down the road in their sporting career. Kate talked about her fear of re-injury:

“The re-injury rate is so high, like even just among my teammates, once you’ve done it once, so many of them do it again...just ‘cause it’s so common, and I have one of those [medical protective equipment], but my friend...she tore hers in grade 12 and then her first year and then in her second year...so she did two of them in her [medical protective equipment], so I know it can happen, and like ughh... you can’t control it...I can tell sometimes I’m not pushing myself quite as hard as I would have before...even though I know by now that I should be able to do it just fine”
The mental barrier of overcoming the fear of re-injury was prominent among participants. Participants felt out of control, and this coupled with the inherent nature of injuries in sport left participant feeling hopeless and fearful. Ava discussed her fears:

“And the whole thing about when you go back to play you have to be really confident, that’s a big thing because if you’re scared you’re going to get injured again and that’s something that I have to get over somehow and yeah…it’s all in your head so that’s the biggest thing to overcome, is you being ready so... Just being kind of paranoid, like is everything okay... is it really okay, did I tweak something”

Ava’s fear is further magnified due to how she sustained her injury. Many participants discussed how they sustained a ‘silly injury’. Ava explained:

“Because it wasn’t like contact it was just myself doing a simple thing that you do whatever, a thousand times, and this happens, so I think that will always be in the back of my mind in regard to sport...injury wasn’t a worry, but now there is a worry”

Sustaining a ‘silly injury’ reminded participants that injury could happen at anytime while doing anything. Some participants were nearing the end of their injury recovery and were slowly starting to re-integrate into practice. Tess reflected on her experience:

“I was definitely more timid...I could be in my head and be like stopping myself...holding back because I would be scared, I had a lot of more like a fear factor...I was saying there’s all this that I have to prove, but at the same time I’m also trying to prove it to myself... I don’t really know yet, so that is kind of blurring my image of what I am in terms of my role and what I’m able to do or cannot do, I’m not really sure either”

The uncertainty of returning to sport was a major fear. Participants expressed that there was a lot of unknowns, accompanied by increased anxiety. Likewise, Jane articulated her return to sport fears:

“If it’s going to happen again, and if it did happen again, I think I would be in a really bad place because like if I have to do nothing for like another six weeks...then I don’t know what would happen...I’m basically always afraid, like no matter what I do, I’m at
Participants perceived their anxiety to put them in state of decreased psychological well-being. This could be due to increased fear and stress, along with thwarted goals, identity crises, and lack of purpose creating chaos in one’s life. One way to mitigate the negative psychological challenges of injury may be through social support.

4.2.3 I Only Want Social Support From Those That Understand

Participants identified that access to external resources were vital during sport injury, such as physiotherapists, doctors, medical equipment, and social support. As well, participants found comfort in knowing that they had support networks. They identified optimal environments as those where there were supportive people who helped and pushed them, leading to self-growth and success. As well, participants perceived positive relationships as those that were two-way reciprocal relationships.

Participants identified that the most important aspect of social support was that it came from people that understood, for example people who had experience with sport injury. The quality of social support was contingent on understanding and ability to relate, resulting in participants rejecting social support from those who did not understand. Ava explained:

“Like you don’t really understand until it happens to you, but yeah I know they’re trying to be supportive but I’m like you really don’t know...I think at the time of my injury, cause I didn’t really want to deal with anything. I wanted to keep to myself but I wanted to see my friends, it was just, like I felt like there was like a dark cloud over me all the time (P) and with that I felt like no one understood...everyone is very positive so maybe more positive, but with that, I feel like I’m really critical, and I’m kinda like it’s fake, it’s only cause I’m injured, if I wasn’t injured it wouldn’t be like this, so that’s how I kind of think about it”
Ava perceived support during this time to be fake support, where she believed they only received surface level support because they were injured. Likewise, Jodi stated:

“You get that mentality that nobody understands and um and people probably do, but it’s just like they don’t, you think like you don’t because you don’t have this right now...um...yeah definitely felt alone”

Jodi spoke of feeling alone during injury recovery in the sense that no one truly understood her experience. Logan shared similar feelings:

“Like I feel alone in the sense that they don’t know exactly what I’m feeling, but I feel like I also have a really good support system and they always being there for me”

Logan felt alone yet had a good support system, further highlighting the yearning for social support from people with similar experiences.

Not having support from those that understood caused participants to retreat from the sport environment. Kate explained:

“So I honestly just completely avoided it for like a month...like everyone was going to ask me how I was doing and then like every time I had to be like well it sucks... it was just hard to say over and over again”

Retreating from the sport environment left participants feeling alone and isolated with no one to talk to. Abby withdrew from sport and her teammates:

“I never really experienced an injury that – like this bad before, and it was just kind of too hard to be around, cause all my friends are on the team, so it was just kind of too hard to be around, and like talk about it...I kinda didn’t really see my friends very often, just didn’t really care to, I kinda just wanted to be left alone”

It is important to note that participants withdrew from their closest friends in many cases, leaving participants alone and isolated with no support. This may leave athletes more vulnerable to
decreased psychological well-being at this time and social support may be a way to combat these feelings. Sport injury was identified as a unique experience that not everyone can understand. Hesitations over whom to disclose their injury to could be due to interplay of factors such as understanding and genuine support and sport culture.

Though participants accepted social support from those who they felt understood their injury, they perceived themselves to be a burden on their support givers. They felt as they were exploiting their resources, where they were consuming and relying on support givers but not contributing to the relationships. Participants responded to these perceptions in two ways, they either justified their resources using because they were injured, or they withdrew and stopped reaching out to their support networks. Logan described her experience:

“"I have a really good support system...just kind of every single day I’ll be so panicked like it’s when I’m feeling good it’s when I’m feeling bad and I constantly irritate them, and I felt kind of bad being so annoying, I felt like I was annoying even with my coaches, I’m like they’re going to be so annoyed. So I kind of stripped it back a bit, like oh no one knows what I’m experiencing so I’ll do it alone”"

Logan discussed withdrawing from her support network and justifying it because they do not really understand her experience.

In addition Beth identified her experience of guilt for not contributing to her relationships. She no longer perceived herself to identify with the strong and successful athlete. Beth stated:

“"I almost feel like a bit of a burden on them, because I’m not getting the results that they want, or in terms of my main coach, this is my first year on scholarship and he’s investing this money into me as an athlete and I’m not giving him what he’s paying for. And I know that they don’t necessarily look at it that way, but you can’t help but think that you’re a burden on them, it’s just difficult...I’m not playing the role of successful athlete, I’m playing the role of resource using, injured athlete”"
Beth blamed herself for not being able to contribute to her team and struggled with falling off the path of the prevailing athlete. Logan and Beth perceived themselves to be a resource-using burden on other people, bringing up feelings of shame and guilt.

Participants’ psychosocial responses to sport injury were shaped by sport culture, fear, and social support. Participants received pressures from sport culture, which shaped and normalized specific responses to sport injury. Fear of re-injury and injury anxiety were dominant concerns for participants as this was an unfamiliar and challenging experience to navigate. Furthermore, the benefits of social support were contingent on support coming from people with similar experiences. If the proper support is offered, social support could be a way to mitigate the challenges of injury. After the initial phase of injury, participants began to grapple with accepting the injury.

4.4 Maybe I Can: Adaptation from the Disruption of Sport Injury

This theme focuses on adapting to sport injury. Participants perceived adaptation as a process of expanding the self outside of sport, accepting one’s sport injury, rebalancing to create a homeostasis, and actively engaging in a process of reflecting on one’s feelings. Furthermore participants perceived their sport psychological well-being and global psychological well-being as very similar entities that played a large role in one another. Five subthemes were identified: (1) *riding the waves: resistance and acceptance*, which discusses the road of denial to acceptance of sport injury; (2) *expansion of self*; which discusses athletes searching and finding meaning outside of sport; (3) *(re)balance*, which discusses participants becoming comfortable with their new normal and gaining control over their life to have it flow in harmony; (4) *awareness*, which discusses experiences of needing to play an active role evaluating and
recognizing how one is feeling mentally; and (5) sport and global psychological well-being collide, which discusses participants perceptions of sport psychological well-being and global psychological well-being as very similar entities that played a large role in one another, the fluctuation of psychological well-being, and global psychological well-being as the backbone to sport psychological well-being.

4.4.1 Riding the Waves: Resistance and Acceptance

At injury onset, participants displayed denial and grief, where they resisted accepting and dealing with their injury. Participants perceived that this resistance was due to their strong athletic identity and the difficulty in accepting a broken body when one relies on it for performance in sport. Once participants passed initial feeling of resistance, they then begin considering acceptance. Beth described the resistance:

“Self-acceptance affects my confidence, and I feel like not being able to [sport] just questioning will I be where I was before, will I be worse, that kind of says, really got to me, and it’s hard for me to accept the state that I’m in currently, cause I’m not quite sure how it’s going to impact the rest of my [sport] career”

Participants eventually reached a state of acceptance. They acknowledged that they could not change their injury so they needed to work on acceptance. While this still displayed some resistance, participants eventually started to acknowledge and accept the self for the way it was: accepting the injured self. Ava captured the process:

“Like honestly I felt like my world had ended, but with time when I reflect there is no reason to feel like that... it’s a long journey, so I don’t know, you kind of just have to go with it and accepting the fact that it’s happened to me”

Many participants expressed the need to reach a level of acceptance. Kate identified the importance of acceptance:
“Being able to accept that like that’s part of who you are, I’ve dealt with it for a year, like that’s what you’re known for, you’re injured right and being able to just accept that and do what you can is huge”

Even though most athletes reached a state of self-acceptance of themselves and their injury, they experienced waves of psychological ups and downs during injury recovery. Participants dealt with these waves by acknowledging that they were part of the natural cycle and accepted them as they were. Abby explained:

“Kind of learned not to put so much stress on myself...now it’s kind of like you know what, it is what it is and there is nothing I can change about it at the moment, so I might as well do everything I can to be in the moment and actually just do what I can...at the beginning it was definitely more negative, in the sense that I was feeling pretty useless, and didn’t know what to do, but now it’s been more of a positive shift in the sense that I’m like okay I can accept that I have an injury, and I can accept that I don’t have full strength in this side of my [body part] and that’s just the way it is, but that doesn’t mean it’s going to be like this forever, and I can still work hard in other aspects of training to get better”

Abby reached a level of acceptance where she could then start focusing on the things she could do to actively work toward her goals. Some participants also engaged in self-kindness, where they specifically identified that they were not being as hard on themselves during this difficult time.

Sadie shared her thoughts stating that psychological well-being fluctuated but if you accept your injury you can re-establish your psychological well-being homeostasis. Participants emphasized the need to reach a level of acceptance in order to continue with the healing process. Once participants reached a level of acceptance, they engaged in expanding the self and finding meaning outside of sport.
Almost all participants perceived they had no purpose after experiencing sport injury. This is likely tied to their strong athletic identity, and their life purpose being rooted in sport. Once the participants realized the importance in having meaning in life, they started to reflect on their purpose and look for meaning outside of sport. Most participants identified expanding the self as a way to cope with sport injury. Expansion of the self included distraction to cope, where one found others areas of life to divert their attention to forget about injury. Participants had more time due to their lack of involvement in sport, so they were able to start to explore other areas of interest. Sadey described:

“Especially the first time, because sport was such a big part of my life. Um... it just was this major thing, it did majorly affect my overall well-being, I think in the beginning, and then once I’d say school started, and I had other things to fill my time, it was easier like I could focus on something else, I had adjusted more I would say... [injury] made me find the non-sport side of myself, (P) and also I guess resilience, determination... I got to do stuff outside of sport, which I really hadn’t done before...so yeah definitely being more patient but yeah also yeah, I don’t know, finding myself outside of sport I guess”

Similarly Beth identified the importance of sport in her life and how distraction helped as a strategy in the process of coping with her injury:

“I’m someone that’s kind of— [sport] is a big part of me, but they’re not the only part of me and they’re not where all my focus is...there are other things that I can distract myself with...I’m graduating soon, there’s a lot to look forward to, so um I think I’m still able to buoy myself with other things in my life and try and replace that sport”

Participants also spoke about realizing that their entire purpose and happiness were tied to sport. They started to recognize that expanding the self to find purpose in life was an important task, where injury provided the opportunity to recognize this and expand the self beyond sport. Logan explained:
“I've kind of realized 'kay I need time for myself, what will make me happy...so kind of focusing energy on something else... 'cause I think so much of this injury I was just kind of thinking um (LP) I was thinking of like this sucks, I want to get back to [sport] and I didn’t really focus on anything else, but I think I have to focus my energy on getting better, like doing well in school versus just focusing on [sport]. If [sport] is taken from me, what else do I have, that kind of thing”

Participants began to reflect on what they wanted out of life aside from sport. Ava stated:

“Just like I not only thought about [sport], I thought about my life, and what I want out of it, school, friends...I’m going to set new goals and try and hit them”

Expanding the self appeared to be the beginning of the adaptation, where one actively worked to change their purpose, establishing a new meaning, and updating their goals and values. It seems that purpose is an ever-changing aspect, where purpose changes as a person grows. However, injury was identified as the reason for navigating one’s purpose. It appeared as though once participants could renegotiate their purpose they could rebalance their psychological well-being. For example, their sport psychological well-being was negatively affected; however, they combated this by using distraction coping, and started to search for meaning in a new area of their life, and this helped re-balance their psychological well-being domains (e.g. sport, school, work, family). Abby articulated her experience:

“Then when the injury happened [sport psychological well-being) got really bad, but now it’s more so almost better in the sense that I just don’t have that stress of not seeing an end to what I’m doing, like I have a break, I can focus on other things, I can focus on school and working and other things, and it’s I don’t know it’s almost better in a sense... just finding things outside of sport that I enjoy to do has been kind of helpful...I also need to find other things that are going to balance [sport] out...it’s just like every aspect of my life was revolved around [sport] whereas now it’s like okay well I’m going to actually watch a movie with a friend because that’s nice and it doesn’t involve [sport] at all”

Participants stated that because of injury they were better able to learn how to balance life domains and not let injury take over. Injury also helped participants separate themselves from sport, expand their purpose and focus on recovery.
4.4.3 (Re)balance

Once participants were able to adapt to the sport injury, they redefined their purpose, and re-established their psychological well-being balance. Participants perceived that they could maintain this psychological well-being balance because injury was starting to become a familiar experience to them. They felt as though injury recovery was less unknown and they understood the process. Sadey described:

"Like you can just be happy, but that doesn’t mean you’ll do well or like happiness doesn’t give you all the other aspects of being engaged or dedicated, and motivated...I think [psychological well-being] might fluctuate, but once you can like re-establish your homeostasis, like once you’ve adjusted and made the changes...I guess depending on how accepting you are of it, I feel like I came to terms with my injury the second time a lot faster than the first time...probably like accepting I know where I am as an athlete...I guess like being injured, like accepting that as an athlete"

This could be partly due to the fact that they had a diagnosis, they had an estimated return to sport date, or they had experienced a serious injury before. Participants stated that to have psychological well-being one must be comfortable and relaxed. Sport injury disrupts one’s comfort and jeopardized one’s psychological well-being. Lexi identified:

"Like right now I’ve taken [injury] – at the beginning I took it as this ruined everything, and now I’m taking it as okay so I can’t [sport] but I’ll cross train and I’ll put more effort into school, I’ll put more effort into relationships, I’ll put more effort into different things, so it’s like I got this taken away but I can give this to something else"

At this point in time it was important that participants reassessed their situation. Logan spoke about goal disengagement:

"[Injury] kind of made me (P) somewhat change my goals...so it kind of changed my purpose – is to currently get better versus it would be to [sport specific goals]...see what’s realistic for me at this point in time"
Once participants readjusted their goals they could then work to move forward with rebalancing.

Participants identified that they expanded the self to find purpose outside of sport, in which they could then start to rebalance. Jane explained:

“Now that I’m like kind of basically out of it, it’s more like based on school because that’s what I’m focusing on now...so I think I’m better at dealing with bad things that come my way...I think I have a different balance now”

Rebalance was perceived as happiness, equilibrium, and flow. As well, balance was comprehended as managing life domains, life domains working in harmony, and controlling ones emotions. Abby described:

“There is a lot of different aspects that go into our everyday life and kind of managing those so that they fit well enough together instead of forcing them to fit together or you know jagged edges pushing up against each other, it’s like managing the environment we’re in so we can have the best amount of success for whatever we’re trying to achieve...I think that we need to manage all the different aspects rather than just focusing on one...you need to learn how to manage every part of your life and figure out a way how it fits best in the puzzle....mentally feeling healthy in all aspects of your life, and not necessarily being happy all the time...mentally prepared to take on the day, and there are still going to be challenged and struggles...healthy enough mentally that I can take on the stresses that come my way...so that to me is like psychological well-being”

Similarly, Lexi articulated the importance in finding balance:

“I would say, just like balancing everything, so being able to balance (P) exercise, sleeping, relationships with like family, friends, whatever, um school (P) and knowing how to prioritize at the same time, like balancing but with a priority”

In order to establish and maintain balance, participants needed to be constantly aware of how they were feeling and their perception of their balanced state. Evan explained:

“I think it comes from within, you know what your limits are and what makes you happy and what makes you unhappy, um finding a balance between things, I think you can focus too much on one thing, I do it as well, like school, school, school, but you need to find that balance”
It appeared that balance and purpose were closely tied together. When one was in balance, they also felt like their purpose was aligned. Beth stated:

“Being able to do everything that you want to do in your life and be happy and enjoy what you’re doing...feeling like you’re doing what you’re supposed – meant to be doing in life, feeling like you’re successful...being present is huuuuuge...and enjoying your life and looking forward to what’s next”

It may be especially important to help athletes re-balance after the disruption of sport injury. This would include a process of helping the athlete reach acceptance, expanding the self, and goal disengagement and re-engagement.

Furthermore it is important to stress that balance and purpose are always changing and it is a process of becoming cognizant of this and learning how to re-balance oneself. Jodi captured the waves of change and the ebb and flow of psychological well-being:

“I think [overall psychological well-being] changes with what you’re doing in life, your goals in life...but I think it changes with your environment, with what you’re doing, your purpose, if you have one, finding your purpose in life, I think everybody has a purpose. Yeah I think it’s always changing...I think of like too like seasons, um so you have winter, summer, fall, spring, or like if you look at like a flower, it’s not always blooming, look at yourself like a flower, you’re not always blooming, it loses its pedals, it has its dark time, or it might die off and grow back, it’s the same thing for PWB or just living in general...you’re not gonna be happy the entire time, you’re going to have your lows and stuff, but try and be on an even playing field for most of it I’d say”

It is imperative to understand that having psychological well-being does not mean that one will be in a state of happiness all the time. After participants were able to re-balance they perceived persevering through the injury experience as worth it. This is in contrast to their original views of questioning, doubting, asking what is the point, and having a lack of motivation during the injury recovery process. Participants went through the process of resistance, acceptance, and re-balance to persevere through recovery because they were working to get back to sport where they had a
strong identity and purpose. To stay in balance it was essential that participants had strong self-awareness.

4.4.4 Awareness

All participants agreed that awareness was key to being on top of one’s psychological well-being. Self-awareness involved reflecting on how one was feeling and trying to understand why. Beth explained:

“I think by practicing awareness of how you’re feeling and checking in with yourself and if you’re feeling unwell psychologically, trying to assess what it is that’s causing this…so checking in with yourself regularly…and making the active choice to fix…so if you’re feeling psychologically unwell, trying to assess what it is that’s causing that, and then making the effort”

Furthermore, one needs to be self-aware and self-reflective in order to develop their psychological well-being. They perceived that they needed to be active agents to work on their mental well-being. This involved checking in with yourself to gain an understanding of how you are feeling mentally. Injury also helped some participants realize the importance of their mental health. Abby shared her experience:

“So I feel better about my – because I’m actually consciously working on it…it’s just felt more accomplished because I’m actually consciously aware of it…I didn’t really feel like I need to work on my psychological well-being, but after injury I’ve actually had to work on it and it’s been more like wow this is actually a part of my everyday life and I need to take it kind of seriously”

Similarly, Ava identified injury’s important role in helping her find a quiet space to start reflecting on her psychological well-being:

“Think about [sport psychological well-being] or just being aware that it’s there…having it as like a topic of conversation…I think just being in tune with yourself and kind of connecting with yourself if that makes sense…like taking a break and thinking about
Participants perceived awareness to play a vital role in maintaining their sport psychological well-being, Tess described:

“Like having a better understanding of myself through being able to control my emotions better than I was before has helped, especially with my mental health”

Simply making mental health and psychological well-being a topic for conversation was an important aspect of awareness. Jodi stated:

“Staying in tune with yourself, with your mind, conversations like this”

In addition, participants stated that they needed to be aware of what was in and out of their control. Beth explained:

“I think that [overall well-being] can fluctuate very quickly...but I think long term in your life, there are definitely going to be parts where you’re lower and you’re fluctuating at this low level, and there’s times where you’re higher and you’re kind of fluctuating at the high level. But I just try and maintain a generally positive psychological well-being and understand that life has ups and downs”

Awareness helped participants check in with themselves to make sure they were operating in a state of equilibrium. With this awareness, participants knew what they had control over and could work on, versus what was out of their control and had to be let go.
4.4.5 Sport and Global Psychological Well-Being Collide

Participants’ strong athletic identity was not only tied to their sport psychological well-being but also to their global psychological well-being. Global well-being was disrupted due to sport injury because participants’ identity and purpose was significantly tied to sport. Participants identified that there was major fluctuation in their psychological well-beings, due to various external stressors or life disruptions. Participants perceived their psychological well-beings to be connected, where both sport and global psychological well-being were disrupted as a result of injury. Beth described the connection and injury’s role:

“I think they are really connected...I think that psychological well-being in all aspects of your life are connected, if I’m feeling good in my sport and I feel like that’s driving me and that’s enough to make me feel more excited in other aspects of my life...if I think about the injury, that’s taken me from, like I was up here and it’s taken me down in maybe my sport psychological well-being, but maybe the rest of my psychological well-being has gone down a little but not as much...you know they all add up to how you’re feeling all together, and so if I’m currently a little bit drained in my sport section but I’m looking at new jobs and I’m talking to a professor about increasing my research stuff, that’s building up here and so overall I’m still at the same level, but it’s just different parts of my life are contributing to that...if I haven’t dealt with the things that are bringing me down psychologically outside of my sport I can’t succeed in my sport and feel like I’m doing well psychologically in that sport”

Sport injury disrupted participants’ sport psychological well-being as well as their global psychological well-being, which then involved acceptance and a rebalance of psychological well-beings to return to homeostasis. In addition, Lexi talked about the waves of psychological well-being:

“It comes in waves for me...so high stress for a while... it was too much for me to handle and I was so low for me it’s like, I just sleep all the time, I don’t want to workout, so I don’t really do all my workouts to my full potential, like if I’m on the bike I make it an easier workout, I’ll just make it easy for myself because I think I can’t handle it and I don’t think I can do it, so when I don’t think, I don’t want to, and I can’t...so down for me is like everything – cause when my stress level went up, everything else went down, it just
it affected everything, cause it’s all...everything’s linked and if one thing starts going everything goes”

Likely due to Lexi’s strong athletic identity, once sport psychological well-being was negatively impacted, so was her overall psychological well-being. Similarly Abby elaborated on the connection between sport and global psychological well-being:

“I think the sport psychological well-being is one piece of the overall. So I don’t think one is more important that the other but I think they both play a role in each other and the sport psychological well-being fits as a puzzle piece into the overall well-being... probably my sport PWB influences my overall well-being more, just because again I tie so much of my identity to sport, so when I’m not doing well in [sport] I find that I’m often not doing well in other aspects of my life, um but again since the injury I’ve kind of learned to not let that happen as much, and so just being like okay well just because [sport] is not going well doesn’t mean I can’t put my effort into school or like refocus my energy into something else”

Furthermore participants stated that sport and life experiences built up one’s global psychological well-being, where experiences are opportunities for growth and development and can strengthen one’s global and sport psychological well-being. The more life experiences one had, the more stable they perceived their psychological well-being to be. Jane explained:

“It depends where you are in your life, like again that experience, that kind of thing, maybe the older you are or the more life experience you have, like you know how to get back to your psychological well-being better. Things might not take you away from that as easily. I guess it’s just part of life, so then you learn how to deal with things better and then stay psychologically well”

Participants’ sport and life experiences provided a platform for them to learn more and grow personally. This resulted in participants perceiving their sport and global psychological well-being to be stronger after having the opportunity to grow and develop from sport and life experiences. Participants identified that having a stronger sport and global psychological well-
being meant that when faced with adversity they could return to a healthy sport and global psychological well-being quicker.

Lastly, despite the fact that a disruption in sport psychological well-being also disrupted global psychological well-being, some participants perceived their global psychological well-being to be the foundation of their psychological well-being. Participants described global psychological well-being to be the backbone of your life, where global psychological well-being acts as a support for sport psychological well-being. Even though both psychological well-beings are disrupted as a result of injury, a strong and stable global psychological well-being might be especially important to buffer life challenges and protect one’s psychological well-beings. Ava articulated the importance of needing a stable global well-being prior to developing a stable sport psychological well-being:

“To a large extent because that’s my basis, and that’s kind of your roots, like who you are as a person, cause sport takes so much out of you and it’s a demanding thing so um you already have to have that stable well-being before you even get into the sport world, cause there’s so many things that you have to deal with that are hard...you would have a higher sport PWB as [overall PWB] being the foundation already setting you up to be successful in the sports realm”

Likewise Kate shared her thoughts on global and sport psychological well-being:

“I think that if you don’t have a good overall well-being then your sport one is going to suffer”

Meaning, a strong global psychological well-being can buffer the harmful effects of challenges in sport, protecting one’s sport psychological well-being. Jodi described:

“If you’re an athlete you’re an athlete – if you have great psychological well-being in a sport, I don’t think you’re – you can’t without having it great in your life too... I don’t know anybody who has it just in life, in terms of athlete. You know, if you can master
your life you can master your sport, yeah. But if you can master your sport doesn’t mean you’ve mastered your life, in terms of mind”

This suggests that it might be important to target one’s global psychological well-being, building a strong foundation so one can then build a strong sport psychological well-being, and fall back on their global psychological well-being if need be.

Participants moved through a series of phases as they journeyed toward adapting from the disruption of sport injury. Participants were able to accept, expand the self, rebalance, and develop self-awareness to monitor their balance state. Furthermore sport and global psychological well-being played a large role in each other, both affected due to sport injury. However it appeared as though overall psychological well-being was the backbone to sport psychological well-being. While sport injury was initially appraised as a negative event, after adaptation the participants perceived many positives from sport injury.

4.5 Sport Injury Growth

This theme focuses on the development of psychological well-being as a result of adverse sport experiences, and the psychological growth following the experience of sport injury. Three subthemes were developed: (1) injury as a learning experience, which discusses learning to cope with adversity, better relating to others with injuries, developing a strong purpose, being more prepared for subsequent injuries, and learning how to separate the self from sport; (2) resilience and triumph, which discusses pushing through injury to become mentally stronger; and (3) greater appreciation, which discusses an increased gratitude for sport and health after experiencing injury.
4.5.1 Injury as a Learning Experience

Participants spoke about injury as learning experience. Participants experienced learning in the sense of learning how to cope adaptively with injury, such as recognizing and dealing with their emotions. Furthermore, participants learned patience through understanding that they were not always able to push through injury and had to accept the fact that they were injured and unable to participate in sport. Beth described her experience:

“Yeah not necessarily in a negative way though. I think being injured is shitty and it definitely affects your growth in the specific realm of trying to be faster and be fitter, but there’s also a lot of learning involved in coping with having a harder time getting to your goals, I mean it’s a bit of a wall in my way, but I’m learning new ways to stay active, new ways to try and boost my own psychological well-being. I mean it’s, it’s difficult, but it’s also given me the opportunity to learn new ways”

Beth identified that having an adverse experience provided the opportunity to learn new ways of coping. As well, she discussed how she is an active agent in learning how to manage and improve her psychological well-being. Jodi also discussed how sport injury could be viewed as a positive experience and how it is natural for psychological well-being to fluctuate:

“There’s like honestly benefits, not benefits, but pluses in having an injury too and learning to adapt with it, and like going back I wouldn’t ever not want it back, because I’ve learned so much from it too. And being able to cope with it and understanding other people on our team that are experiencing injuries too, before I’d be like oh that’s really unfortunate but now I can actually be like yeah okay I understand what’s going on there um but no it’s been uh, I definitely had moments, I mean everyone does, but of being super down about it and then other moments of no this is going to make me stronger”

Jodi brought up being able to relate to others with injuries better after experiencing an injury herself. As stated above, many participants expressed the vital need to have support from people who have experienced similar situations.
Participants also spoke about the importance of having a strong purpose. Tess explained how her purpose played a role in nurturing self-growth:

“But purpose I would say for sure, like that’s kind of me, that’s like the days where I’m lying in bed, I don’t want to get out of bed, like I feel like depressed and why am I here, and all these self-doubts but then if I kind of think of the bigger picture and what I want to get out of it, that little bit of purpose is helping, like helps me motivate myself, um which kind of ties into the personal growth, if I’m like just being able to identify these things about myself, like what it is that I want, um and what not, and just like seeing the strength that I’ve got having faced all of these issues in the last year, like being able to see what I have been able to do it, it’s motivating to think that I’m like able to do this”

It might be important to target working with athletes to develop a clear purpose, as this could help motivate athletes during difficult times and help lead to personal growth. Furthermore, Tess talked about what she has learned during sport injury recovery:

“I would say recognizing my emotions a little better, cause it was the first time that I decided to seek help, and realized that this is what I was doing, like wasn’t functional… I think a lot of it was mental toughness too, realizing my body and what I needed to do to push myself emotionally as well… I also learned from what I was doing that was unhealthy, and ways that I would probably want to do it again if it happened…like identifying the things that I did wrong and understanding the impacts that they had, I think that if it were to happen again I would have a better idea of the importance it is to get on top of that and address what’s going on internally with myself a lot sooner”

While some participants feared a subsequent injury and did not know if they could cope with it again, many participants spoke about how they would be better prepared for the next time they experienced injury. It may be that as participants were further along in the injury recovery process they learned coping skills and reappraised their ability to deal with a subsequent injury. Serious sport injury was a new experience for many participants, and as they were able to become familiar with the injury experience they started to learn what to expect and how to better deal with injury in the future. Logan stated:
“Right now I think I’m in a very big learning period for this, so say I were to get injured again, I think I would be better at starting off in a better position... just going through it now, I know what to expect in the future, and I think I know how to deal with it a lot better in the future... I’ve definitely grown more as an athlete, in the sense like all athletes experience injury, but like it just makes them stronger in the future. I now know how to tackle injuries in the future now, and I know to be, how to tackle it from the get go versus waiting like a month and oh now I’ll try and make it better”

A few participants had experience with previous serious injuries, Sadey explained:

“I think I handled this injury a lot better than my last one... I’m used to it now it’s just become, my reality”

Familiarization of injury recovery helped participants develop a better understanding of the process, become more comfortable combating injury, and better prepared them for future injuries, as participants agreed that injuries are inherent in sport.

Moreover, participants also perceived that experiencing injury helped them better balance their sport and non-sport self. As participants went through an expansion of self, they identified sport injury as an opportunity to learn how to not let sport consume one’s life and separate it to be only one aspect of one’s life. Sadey shared her experience:

“[Injury] made me find the non-sport side of myself, um (P) and also like I guess resilience, determination... I’ve realized like now my education is super important to me... and I think sport is still super important to me but I can separate myself a little better, so that’s why it was not my everything, but it was a huge aspect of my life and then it was just gone, for my participation in it I guess, so that was I would say the lowest”

Sadey identified being at her lowest point when sport was taken away from her and how finding purpose outside of sport helped her cope with the disruption of sport injury. As well, injury acted as a catalyst for her to find purpose outside of sport and start to learn how to separate herself from sport. It may be essential to work with athletes to develop a purpose outside of sport to help initiate a smoother sport recovery. Similarly, Abby articulated her thoughts:
“I feel like I’ve personally grown in sport a lot in the last 6 months… I’m not so focused on you know performing well right now, I’m actually accepting myself for the athlete that I am… I think it was hard in the beginning, but I definitely think it kind of helped me learn other coping mechanisms and let it not consume so much of my life and let it just be one aspect of my life instead of the entire aspect”

Participants’ experiences facing the adversity of sport injury resulted in growth. They identified sport injury as a experience where they learned new ways of coping, could better relate to others with injuries, developed a strong purpose, were more prepared for subsequent injuries, and learned how to balance sport and other life dimensions (e.g. school, family, work). Additionally, participants identified stories of resilience and triumph as they overcame sport injury.

4.5.2 Resilience and Triumph

Moreover, many participants spoke about resilience (based on adversity and positive adaptation), where injury helped develop mental stamina, coping ability, mental toughness, the ability to push through, and increased mental control. Participants perceived this resilience helped them challenge themselves to push past the uncomfortable. Evan described:

“I think [injury has] made me tougher, just keep fighting through whatever it is, it might not happen tomorrow or the next day, but you just gotta get through it… I’d say it’s positive, it’s a weird thing to say but yeah”

Resilience seemed to be a dynamic process involving a number of coping strategies (e.g. mental stamina, mental toughness, mental control) to deal with adversity. Eventually, though reappraisal participants were able to see injury as a positive experience, where they were able to positively adapt and grow mentally stronger as an athlete. Abby identified:
“It’s more in the sense that overall I feel like a stronger athlete in all aspects and I feel like I can cope with those stressors better…growth in like coping mechanisms and how we deal with things”

Injury was perceived as a learning experience in which participants could expand their coping abilities making them feel more resilient. Lexi talked about her experience of learning from injury, how it taught her to listen to her body and given her hope to fight through recovery:

“So now, I would say yes. It did teach me a lot it taught me how to get through these things I didn’t think I could get through…like it was really hard at the time, when I was like there are no positives to this, nothing, like nothing good can come out of this…it’s kind of teaching me to persevere through things (P) like just keep trying…I can only gain stuff by trying to fight through it…I think [injury’s] taught me more about having control in sport, cause it’s taught me to know my own limits and to know when I need to stop and when I need to keep going…it’s taught me to listen to my own body more”

Additionally, strength was identified as a key aspect of resilience and triumph. As well, adversity also motivated some participants. Tess explained:

“What kind of motivated me to go more is I can tell that I’m getting stronger as a person having faced all this adversity and still be committed to keep on going, and pushing and not giving up so I think I kind of feed off that fact that I haven’t given up and it kind of makes it feel like it’s more worth something…like if I were to say [sport psychological well-being], it’s not quite where it was going into my injury last year, but in terms of [overall psychological well-being] when I incorporate just like my ability to just like cope with things and be more aware and understanding of myself, I think I’m a lot better now having gone through all the negatives…mental toughness and being able to motivate yourself and push yourself…but I I feel like I have personally grown through the experience of having faced that adversity and continuing to push myself through it”

Influences of sport culture, such as pushing through pain and injury may be seen as positive due to the normative ideologies of athletes sacrificing their body for sport. Tess exclaimed thriving off of pushing through adversity, and growing stronger as an athlete.

One participant explicitly identified sport injury as a failure, where failure and injury were perceived to make one mentally stronger and more resilient in the face of challenges.
Failure was identified as a positive experience because it provided an opportunity to learn and bounce back, emerging stronger. As well, participants spoke about how resilience played a role in building psychological well-being. Jodi explained her experience:

“Um but yeah failure is my favourite thing, because of resilience, because you can bounce back, um and you just learn from it. The amount I’ve learned from winning a race or coming dead last, I’ve learned more from coming in dead last than winning a race...I mean like I said like failure, when failure, when all my failures have attributed to having better, better, psychological well-being, all of them, like the more you fail, the more you bounce back, the more resilience you have, uh and if you never fail, then when you do fail then you crash, you fall, you become like your lowest of lowest, whereas now, if you fail so often, you fail, to somebody else like oh my gosh my life’s over, to me it’s like this is just another Tuesday...yeah fail more, fail more because then you get used to it and you’re okay and you can keep bouncing back and at the end of the day you’re a very strong person, that can take massive challenges and accomplish them”

In a way Jodi spoke about normalizing failure so when failure does happen it is not such a shock to the system. She also associated injury with failure, which may stem from sport culture influence identifying injury as weak. This also could be in part due to Jodi not sustaining her injury as a result of sacrificing her body, as an injury from sacrifice may be perceived as more acceptable and less of a failure. Jodi continued to talk about how failure led to personal growth:

“Yeah absolutely, in all senses of it, it’s like your personal growth in sport, knowing that you’ve been able to overcome an injury, you can go into something else and be like I did that, so I can overcome that you know, so it’s like those failures, constantly failing, like oh I this, fine I can do that and then if you have a big one it becomes a little questionable, but you can still be like I will prevail and have resilience”

Once participants were far enough into injury recovery many associated their injury narrative to be that of resilience and triumph. Moreover, participants viewed injury as an eye opening experience where they came to have a greater appreciation of things previously taken for granted.
4.5.3 Greater Appreciation

Lastly participants expressed a greater appreciation of sport and health after experiencing injury. Participants reflected on being able to put things into perspective and expressed gratitude and gratefulness. After experiencing the injury and being able to rebalance, participants were able to perceive the positives in an initially appraised negative event.

Many participants spoke about how it was difficult to see teammates complaining in their sport environment. Participants reported feeling annoyed, frustrated, and envious, and often stated that they would give anything to be in their teammate’s position. Ava talked about how this experience helped her gain a greater appreciation of being healthy and being able to participate in her sport:

“So many times I think, I remember telling my friends, I know every sport you’re like I don’t want to practice today, I’m tired. Everyone loves their sport but there’s those days and to take advantage of this because like once you can’t play it’s really eye opening... well now, the idea of me having to work myself up again, I feel I’ve taken it for granted a lot, so now I will have more in regard to my purpose, a greater purpose I want to say, because I’ve realized how much the sport really means to me...how important – how big of a part of it is in my life, so I kind of appreciate it more, or I’ve come to my realization”

Ava talked about having a greater purpose after experiencing sport injury. This may be due to injury involuntarily removing her from sport causing a realization of how much identity, purpose, and well-being are tied to sport. Perhaps this awareness led to a greater appreciation, subsequently playing a role in self growth and a stronger or clearer purpose.

Moreover, participants perceived that injury recovery was worth it because their identity, growth, and purpose was tied to sport, and therefore to the experience of injury and injury recovery. While participants acknowledged that injury recovery was challenging and disrupting, initially causing a state of chaos, once acceptance was reached and recovery was near complete
participants were able to reflect that the challenges of injury recovery were worth it. Logan reflected:

“I worked really hard to get back to where I am, I was happy, that kinda made everything kinda worth it, so that will be the same with things [this time], just knowing that I sat out for two months, I want to work hard to get back, and it kind of makes everything seem kind of worth it in the end I think”

Likewise, Lexi talked about how rewarding it was being able to participate in sport:

“So it’s more like I just realized the pros and cons to [injury] and how hard it is when you’re not [sport], but how rewarding it is when you are”

Furthermore, participants talked about recognizing and celebrating small achievements in their recovery. Kate explained how achievements were tied to personal growth and purpose:

“Personal growth in sport I think is tied a lot to a sense of achievement from the little things, if you have purpose and you know you wanna achieve something even if it’s only like running today, I think that if you take that as a success not as like something that’s expected then you, then you can really help build yourself into a positive place”

Abby reflected on how important it was to re-evaluate goals and to commend oneself for accomplishments, no matter how small:

“So I think shifting my expectations so that I can mentally achieve smaller goals, so that I feel, okay I’m still accomplishing something, although it’s maybe not as great as I was doing before, getting out of bed today was an accomplishment and you know...more so after the injury, it’s been more day to day achievements that have been more satisfying”

Re-evaluating goals were perceived to help one enter a more positive space. Participants also identified that progressing through injury helped build their psychological well-being. Jodi explained what psychological well-being meant to her:
“So for me psychological well-being is having that life fulfillment, being happy, just being able to crack a smile during the day...being happy with yourself and where you are and being thankful and gratitude is just huge...it's just like psychological well-being...it's literally the backbone of your life”

Perspective shifted over the course of injury recovery, where participants stared to view sport injury an opportunity to learn and grow. This adverse experience played a role in cultivating a greater understanding and appreciation, self-growth, and strengthening one’s sport psychological well-being. Participants saw sport injury as a learning experience, a way to develop resilience and a vital element of gaining a greater appreciation of sport and health. Participants identified that an adverse event can lead to significant personal growth, and eye opening opportunities.
Chapter 5: Discussion

The purpose of this study was to explore seriously injured women athletes’ perceptions of psychological well-being during sport injury recovery. This was explored through semi-structured interviews (12 interviews total) with twelve currently seriously injured women athletes. Key findings included sport injury as a dynamic and stressful event that disrupted psychological well-being, external and internal pressures shaped responses to sport injury, adaptation and rebalance of psychological well-being, and growth following adversity. Findings of this present study align with previous research identifying sport injury as a stressful event with psychological ramifications (e.g. Bianco et al., 1999; Eklund & Bianco, 2004; Tracy, 2003; Udry, 1997), as well as growth following adversity (e.g. Crawford, Gayman, & Tracyer, 2014; Kampan, Hefferon, Wilson, & Beale, 2015; Roy-Davis, Wadey, & Evans, 2017; Sabiston, McDonough, & Crocker, 2007; Wadey, Podlog, Galli, & Mellalieu, 2016; Wadey, Clark, Podlog & McCullough, 2013; Wadey, Evans, Evans, & Mitchell, 2011). This research supports the viewpoint that attention should be placed on the psychological affects of injury (Brewer, 2007) and that psychological growth following sport injury is a possibility (Roy-Davis et al., 2017). In the remainder of this chapter I will address the ramifications of key findings of participants’ experiences and perceptions of psychological well-being during sport injury recovery. The subsequent sections of this chapter will discuss the significance of these findings to current literature and theoretical constructs, as well as how these findings fit the broader context of sport injury. This will be followed by a discussion of practical implications, strengths and limitations, suggestions for future research, and concluding remarks.

To provide context for this chapter, I will briefly summarize the central findings from this study. In this study, four central themes were identified. The first two themes focused on the
initial appraisal of sport injury as a negative and psychologically damaging event. The first theme focused on how sport injury disrupted participants’ lives, creating chaos and a sense of lack of control, which disturbed psychological well-being. Participants perceived their sport injury to create an identity crisis and a sense of loss, as well left them feeling overwhelmed in response to the demands of sport injury and stagnant in pursuit of their athletic goals. The second theme focused on external and internal pressures that shaped participants responses to sport injury. Sport culture was a dominant pressure, which included participants pushing through, and normalizing pain and injury, ultimately shaping their perceptions of their injury as a weakness. As well participants’ internal fears and anxiety around injury perpetuate their negative emotional appraisals of injury. In addition, social support was perceived as valuable only if it came from someone with similar experiences. The third and fourth themes focus on the reappraisal of sport injury as a challenge and an opportunity for growth and development. The third theme focused on adapting to the demands of sport injury. Participants eventually reached a state of hopefulness where they perceived they could begin to adapt to sport injury. This included a process of resisting than accepting, expanding the self, rebalancing, and gaining awareness. At the crux of adaptation was rebalancing one’s self to enter a state of equilibrium, harmonizing one’s psychological well-being. In addition, participants perceived sport psychological well-being and global psychological well-being to collide, where both played a large role in respect to one another. However, it was suggested that global psychological well-being is the foundation, or backbone of one’s well-being. The fourth theme focused on how the adverse event of sport injury was an opportunity for growth. Participants were able to reappraise their sport injury experience, identifying personal growth from sport injury. Sport injury growth included sport injury as a learning experience, resilience and triumph, and having a greater appreciation.
Findings suggest that sport injury is challenging and can initially hinder one’s psychological well-being, however once one can rebalance to establish a new state of psychological well-being, sport injury is perceived as a positive event leading to sport injury growth.

### 5.1 The Chaos of Sport Injury

Sport injury is a stressful experience (e.g. Bianco et al., 1999; Eklund & Bianco, 2004; Tracy, 2003), where injury can result in devastation as it is a substantial disruption to both physiological and psychological well-being (Marini & Stebnicki, 2012). In support of past research, it was found in the current study that initial response to sport injury was very stressful and chaotic, eliciting an array of different negative emotions from participants. Negative emotions included denial, grief, frustration, shock, envy, guilt, self-pity, and isolation. Injury may be initially stressful due to the abrupt and unexpected cessation of sport. As well, injury threatens goal progressions (Heil, 1993; Roy-Davies et al., 2017), athletes’ self-concept, belief system, social functioning, values, commitments, and emotional equilibrium (Ptitpas & Danish, 1995).

In this study participants revealed that sport injury was a unique experience. Unique responses are related to Wiese-Bjornstal et al.’s (1998) integrated model of psychological response to sport injury and rehabilitation in that pre- and post- injury variables can affect how an athlete responds to sport injury. Personal (e.g. injury severity, personality, motivation, athletic identity, and coping strategies) and situational (e.g. social support, rehabilitation environment, timing) variables influence the way athletes think, feel, and act throughout recovery (Wiese-Bjornstal et al., 1998). There is also a cognitive appraisal component to injury response, where how an individual appraises an injury determines how the individual will react emotionally (e.g.
anger, depression, acceptance) (Lazarus & Folkman, 1984). Cognitive appraisals are coupled with personal and situational factors, creating a unique response to sport injury. At this point, participants appraised injury as a threat.

One personal factor that affects how an athlete responds to sport injury is athletic identity (Wiese-Bjornstal et al., 1998). Participants spoke about the importance of sport in their life and the strong ties of sport in their identity. Following the disruption of sport injury, many participants experienced an identity crisis, which produced negative emotional reactions such as depression, anxiety, shock, denial, fear, self-pity, isolation, doubt, and frustration. This aligns with previous research that has found those with strong athletic identity are more likely to experience negative emotional reactions (Alfermann, Stambulova, & Zemaityte, 2004; Johnston & Carroll, 1998; Lally, 2007), negative emotional adjustment (Kuettel, Boyle, & Schmid, 2017; Willard & Lavallee, 2016), and emotional and psychological distress following cassation of sport (Webb, Nasco, Riley, & Headrick, 1998). The main theme is that athletes with a strong and elusive athletic identity are more vulnerable to emotional difficulties following injury (e.g. Brewer et al., 2010; Deutsh, 1985; Eldridge, 1983; Heyman, 1986; Little, 1969; Ogilvie, 1989; Pearson & Pepitpas, 1990), where injury disrupts the self-identity of the individual (Brewer et al., 1993). This is supported in the current study, where participants spoke about the difficulty of losing sport and the ramifications it had on their self-identity, throwing them into a period of chaos.

Furthermore, those with a unidimensional identity are more vulnerable to dysphoria following a stressful event (Brewer, Van Raalte, & Petitpas, 2000), and negative outcomes on their well-being (Brewer, 1993; Miller & Kerr, 2002). The current study discussed the strong athletic identity of these elite women athletes, leading to increased disruption and chaos and
emotional difficulties such as depression following injury. Those high in athletic identity are more vulnerable to depression after sport injury (Brewer et al., 1993). This has important implications as athletic identity is associated with psychological well-being (Brewer et al., 1993), where this study suggests that injured athletes with strong athletic identity may be vulnerable to decreases in psychological well-being.

In addition, participants expressed feelings of loss accompanying sport injury. Participants’ experiences of loss can be closely tied to a grief response. While there is no agreed upon definition of grief, it is typically a situation of significance where there is perceived loss (Rodgers & Cowles, 1991). Grief is a time of mental suffering and reduced psychological resistance to stress (Evans & Hardy, 1995). The more an individual is emotionally invested in the lost item or aspect of self (e.g. sport and athlete identity), the more likely they will experience threat and loss, which can result in a grief response (Evans & Hardy, 1995). This is likely why participants in this study appraised injury as a threat, and reported feelings of loss. Participants’ sense of loss was mainly tied to their loss of identity. This aligns with past research indicating that the most common form of loss experienced by injured athletes is loss of identity (Brewer, 1994). Kubler-Ross’ (1969) five-stage model of the grief process has been compared to the impact of sport injuries. The stages of the grief response are consistent with athletes’ attitude changes over the injury recovery process (Gordon & Lindgren, 1990; McDonald & Hardy, 1990). Specifically, athletes’ responses to injury included denial, followed by anger, depression, and finally acceptance (Gordon & Lindgren, 1990). This is also seen in the current study where participants initially denied their injury, sending them into a period of chaos where they experienced anger, frustration, depression, and anxiety. Once athletes were able to reappraise their injury they started on a path to acceptance. Findings from this study generally support
Kubler-Ross’ (1960) five-stage model of the grief process. In line with past research, participants oscillated through highs and lows, but there was a typical progression from a more negative to more positive state (e.g. McDonald & Hardy, 1990; Pederson, 1986; Rodgers & Cowles, 1991; Worden, 1991).

Moreover, participants also expressed feelings of loss of control as a part of dealing with the disruption and sudden disengagement from sport injury. Tracey (2003) identified that loss of control can be experienced in the early phase of injury recovery (Tracey, 2011). However, social support can buffer the feelings of loss of control (Tracey, 2011). In addition, loss can alter the way in which people define themselves (Harvey, 1996). Participants reported that losing control of their ability and body was difficult because they relied on their body to perform in sport. This may have contributed to participants experiencing an identity crisis, where participants felt that they could no longer identify as an athlete. The role of the body may be central to the disruption of one’s sport psychological well-being. Injury prevents the body from carrying out physical functions needed to maintain an embodied identity as an athlete (Sparkes, 1996).

During this time participants were left feeling overwhelmed by the chaos of sport injury. Sport injury produces unique cognitive, emotional, and behaviour reactions. Furthermore, participants identified that they had difficultly dealing with the stress of sport injury, where they perceived the demands of sport injury to exceed their personal resources. Previous research has identified that sport injury may overwhelm athletes’ resources and compromise coping ability (e.g. Bianco et al., 1999; Gould et al., 1997; Heil, 1993). In addition, participants identified that sport injury not only affected the sport domain, but also seeped into other areas of the participants’ lives creating stress in multiple domains. It has been identified that injury can impair athletes’ functioning in a wide range of life domains (Ford & Gordon, 1999). In this
stage, athletes experienced predominately negative emotions, leaving them feeling stagnant in pursuit of their goals and on their road to recovery.

5.2 Pressures Influencing Response to Sport Injury

In sport, athletes are socialized to accept the risks, pain, and injuries of sport (Nixon, 1993). Participants in this study identified that it was typical to push through pain and injury in sport. They reported that pushing through pain and injury displayed motivation, commitment, resilience, and sacrifice, which was glorified. Acceptance of risk, pain, and injury, results in pain and injury to be a normal part of sport and creates a “culture of risk” (Curry, 1991). The culture of risk can cause guilt, shame, depression, and frustration among those who complain about pain and injury (Nixon, 1993). According to the sport ethic, a real athlete does not give into pressure, pain, or fear (Hughes & Coakley, 1991). Pain is denied and emotions are suppressed (Young & White, 1995). In this study, participants identified that sport was physically demanding and breaks down the body often resulting in injury, and that this was okay because it was just a part of sport.

In the current study, participants reported trying to push through their injuries as long as possible and questioned to whom they should reveal their injury. Participants often opted to keep their injury a secret to try and maintain a strong athlete image. Athletes are exposed to messages that they must play as long as possible with pain and injuries, subsequently sacrificing their bodies (Nixon, 1993). Athletes often receive pressures from coaches and other players to play hurt (Sabo, 1986). Thus, athletes often cope with their injuries privately (Young, & White, 1995). Overconforming to these norms, termed positive deviance, results in salient athletic identities causing athletes to put themselves at increased risk (Hughes & Coakley, 1991).
Similarly, those with strong athletic identities may be more likely to buy into the sport culture where they jeopardize their health by engaging in excessive training and participating in sport while injured (Brewer et al., 1993). It has been shown that athletes may conceal their injury if the cost of disclosure outweighs the benefits, or if the athlete feels shame (Kotarba, 1983). Furthermore, participants in the current study were embarrassed about their injuries if they perceived them to be silly injuries, and not a result of sacrifice. They often talked about their injured body part as separate from the self and as a weakness. This is consistent with depersonalizing pain and blaming the body for betrayal (Young & White, 1995).

Participants in the current study expressed the internal conflict of navigating when to push through and when to stop and accept injury, ultimately disrupting their psychological well-being. Athletes who choose to ignore the sport culture put themselves at risk of stigma, as athletes who endure pain, sacrifice for the team, and ignore physical consequences are glorified (Nixon, 1993). Consequently, athletes push through pain and injury to negotiate the stigma of not having a healthy athletic body (Messner, 1990). Participants realized the physical and emotional consequences of pushing through injury and started to reconsider what was best for their sport future and psychological well-being, only after trying to conceal and push through injury. When athletes are socialized to accept this culture of risk, it exposes them to the physical, social, economic, and emotional debilitating consequences of serious sport injuries (Nixon, 1993). More debilitating may be the inability for athletes to escape accepting the culture of risk (Nixon, 1993). Thus, conformity to sport norms takes precedence over athlete well-being (Maguire, 2002). Findings from the current study suggest that sport culture influences athletes’ cognitive appraisals and coping, which can subsequently put athletes’ psychological well-being at risk.
The present findings suggest that sport culture plays a role in how athletes view and respond to sport injury. Previous research has found that athletes suppress emotions due to sport culture and need to be mentally tough, or risk being negatively viewed by self and others (Salim, Wadey, & Diss, 2015). As seen in the current study, there is resistance to express emotions due to fears of not complying with the typical response of pushing through, normalizing pain and injury, as well as not having a support network that understand. This is important because nondisclosure of emotions is likely to have negative effects on physical and psychological recovery from injury (Salim & Wadey, 2018). Emotional disclosure facilitates heightened self-awareness and optimism, and sport injury related growth (Salim & Wadey, 2018).

Injured athletes’ beliefs about injury and emotional disclosure need to be challenged in order for change to occur. Culture, beliefs, norms, and values in sport shape athletes perceptions and responses to injury, some of which can have ill effects and delay recovery. Participants in this study expressed great resistance to rebel and not abide to sport culture, because they feared they would be perceived as weak and useless due to their injury. In addition, they felt pressure from coaches and teammates to respond to injury in a certain way. They believed they could combat negative perceptions by buying into the sport culture by silencing, normalizing, and pushing through their injury. When participants were able to counter the sport culture, they realized they needed to stop these behaviours and start focusing on recovery and restoring their body back to healthy functioning. Sport culture governs athletes’ stories, silencing some (e.g. emphasis on health and recovery) and amplifying others (e.g. pushing through and sacrificing) (Roy-Davis et al., 2017).

Predominant among participants was psychological concern. These included fear of re-injury, return to sport stress, injury anxiety, jeopardized future in sport, future health concerns,
and initial fear around the lack of ability to withstand another injury. Fear played a large role in the chaos of sport injury and disrupted their sport psychological well-being and global psychological well-being. Participants experienced many what ifs and concerns around fear of re-injury, ruminating over all the potential negative consequences. According to Vlaeyan, Kole-Snijders, Rotteveel, Kuesink and Heuts (1995) catastrophizing is a predictor of fear of re-injury. Individuals that catastrophize focus more on the negative aspects of injury, which is linked to avoidance behaviours and negative consequences such as depression (Vlaeyen et al., 1995). This may be especially true when one experiences a traumatic injury (Turk & Holzman, 1986). Fear of re-injury leads to avoidance behaviour, and confrontation of the fear may be one way to decrease the fear of re-injury over time (Vlaeyan et al., 1995). Fear of re-injury has been associated with the term kinesiophobia, which is “an irrational and debilitating fear of physical movement resulting from a feeling of vulnerability to painful injury or re-injury” (Kori, Muller, & Todd, 1990, p.37). Fear of re-injury, negative affect, and catastrophizing have a negative effect on athletes’ return to sport (Trip, Stanish, Ebel-Lam, Brewer & Birchard, 2007). It is important to work with athletes to reduce their fears surrounding injury to help them return to sport quicker and protect their sport psychological well-being.

Moreover, participants expressed fear, worry, and anxiety about the consequences of injury for their future in sport. Research has identified a number of these challenges such as pressures to return to sport (Taylor & Taylor, 1997), re-injury anxiety, self-confidence concerns (Bianco et al., 1999; Kamphoff et al., 2013), worries of not reaching pre-injury performance levels (Evans, Hardy, & Fleming, 2000), doubts about meeting others expectations (Podlog & Eklund, 2006), and fear of losing playing time (Tracey, 2003). In addition to these, participants also perceived a lack of confidence in their injured body part. Along with fears of re-injury,
participants experienced return to sport stress which included fears of keeping up to teammates, returning to pre-injury ability, losing a spot on the team, and having to reprove worthiness to coaches and teammates. It has been found that athletes feel excessive pressure to prove themselves to their coaches upon return to play (Bianco, 2001). It may be especially important to work with injured athletes about overcoming fear. Confronting fear of re-injury can result in a smoother transition back to sport and greater likelihood of returning to pre-injury level (Kvist, Ek, Sporrstedt, & Good, 2005). A number of strategies can be used to decrease fear of re-injury, including peer modeling, relaxation, guided imagery, and decreasing negative affect, which can target increasing confidence (Tripp et al., 2007).

Social support is an important aspect in sport injury recovery, playing a role in the way athletes cope with injury (e.g. Bianco, 2001; Johnston & Carroll, 1998; Handeard et al., 2006; Gould et al., 1997; Podlog & Ekland, 2006; Tracy, 2003; Udry, 1997). Social support can help with emotional adjustment from stress (e.g. Gottleib, 1983; Pearson, 1986; Pilisuk & Froland, 1978), is associated with more positive psychological responses to sport injury (Reese, Mitchell, Evans, & Hardy, 2010), and can contribute to stress-related growth (SRG) (McDonough, Sabiston, & Wrosch, 2014). However social support may only be beneficial if it is genuine and comes from those who understand the injury experience.

Social support also acts as a coping resource to help with emotional adjustment from stress (e.g. Gottleib, 1983; Pearson, 1986; Pilisuk & Froland, 1978). In sport, injury creates an emotional disruption and social support may alter the stress appraisal (Cohen & Wills, 1985). The buffering hypothesis of social support posits that social support is related to one’s well-being for those experiencing stress, where social support can help redefine the threat posed by a stressor, increase perceptions of available resources to cope, and leave an individual feeling more
in control (Cohen & Wills, 1985). Social support helps to facilitate coping by increasing resources such as advice, information, and material services (Pearson, 1986). Participants in this study identified the important role that physiotherapists played in providing informational and tangible support, which helped athletes understand their injury and the steps they needed to take to recover from injury. Satisfaction is likely due to athletes perceiving physiotherapists as having expertise in sport injury (Bianco & Ekland, 2001). Overall, participants were satisfied with the support they received from physiotherapists, which helped emotional adjustment to injury.

While participants were satisfied from the support they received from physiotherapists they were unsatisfied with the emotional support they received from teammates, friends, family, or coaches. This is problematic as athletes typically turn to family and friends for emotional support (Bianco & Ekland, 2001). Furthermore, research shows emotional support is necessary when athletes perceive stressful events to be out of their control and for athletes to come to terms with injury (Bianco & Ekland, 2001). As well, those who are more satisfied with their social support have less mood disturbances following injury (Green & Weinberg, 2001). In this study, participants perceived social support to only be valuable when coming from those that understood. Essentially they were more satisfied with support from those that experienced a similar sport injury. In this case, it helped athletes gain perspective about their injury. This partially aligns with previous findings, which states that those who had an understanding of sport and sport injury are better able to meet injured athletes support needs (Binaco, 1999; Johnston & Carroll, 1998). However this study’s findings indicate that satisfaction of support might go a step further, where support needs to come from those who have personally experienced injury, not just from those that have an understanding.
The ‘culture of risk’ could also play a role in participants perceiving inadequate social support to meet their needs. It has been suggested that athletes take pride in their ability to tolerate pain and injury (Young, White, & McTeer, 1994), and the ‘culture of risk’ discourages complaining about pain and injury (Nixon, 1992), which may discourage injured athletes from seeking social support. In this study participants admitted contemplating whom they could or should reveal their injury to and the consequences associated with revealing their injury. Furthermore, within sociocultural norms, some problems are viewed as stigmatizing (Hobfoll & Vaux, 1993). Many participants in this study experienced struggles with anxiety and depression following injury and they were left to cope with these problems alone, which may indicate a stigma of mental illness in sport.

It is important that social support meets injured athletes’ needs because when social support is perceived as sufficient it can provide injured athletes with a greater sense of control (Nixon, 1994), and contribute to SRG (McDonough, Sabiston, & Wrosch, 2014). According to the organismic valuing theory (OVT) there are many challenges for individuals to positively accommodate their schemas, and social support is needed to help one adapt. To facilitate growth, injured athletes might need supportive environments comprised of individuals that understand and have experienced sport injury. There is a need to focus on improving injured athletes’ social support, as many athletes’ social support networks do not meet their needs (Salim & Wadey, 2018). This is reflected in this study, as the majority of participants were left unsatisfied with the available social support, leaving them more vulnerable to a disruption of their psychological well-being.

Building on the aforementioned results, personal factors such as athletic identity, coping skills, and social support along with situational factors, play a role in how athletes will
psychologically respond to sport injury, resulting in many unique responses to sport injury. It has been found that social support can reduce distress and enhance the well-being of athletes (Bianco et al., 1999), mitigate perceptions of isolation and fears of re-injury (Podlog & Ekland, 2004), and increase motivation (Bianco, 2001), rehabilitation adherence (Johnston & Carroll, 1998), and self-confidence (Magyar & Duda, 2000). However, findings from this study indicate that it may be vital to ensure that injured athletes have social support that meets their expectations. Satisfaction with social support is crucial because the benefits of social support lie in the recipients’ satisfaction of social support received (Lakey & Heller, 1988).

5.3 Adaptation for the Disruption of Sport Injury

Participants expressed a period in which they resisted accepting their injury by engaging in distraction coping, which may have led them to accept their injury and rebalance their psychological well-being. This process of initial resistance and subsequent reappraisal is closely tied to Rogers’ (1959) person-centered theory. He argues traumatic stress (e.g. sport injury) can breakdown and disorganize self-structure, resulting in threatening experiences being pushed out of one’s awareness. As one develops a new self-structure that is congruent between self and experience they should become more fully functioning. This aligns with Ryff’s (1989) conceptualization of psychological well-being. The actions of adaptation and rebalance simultaneously target Ryff’s (1989) six dimensions of psychological well-being (e.g. self-acceptance, autonomy, environmental mastery, positive relationships, purpose in life, and personal growth). Participants accepted their injury, gained control over their response to sport injury and their choices in recovery, sought out an environment that catered to their needs and fostered their new goals, pursued social relationships with those that had an understanding of the injury experience and who could offer genuine support, established a purpose in life through
expanding the non-sport self and goal disengagement and reengagement, and personal growth through a reappraisal of the sport injury experience to be an opportunity for growth and development, and learning and becoming stronger through adversity. Goal disengagement appears to be an adaptive response when it leads to goal reengagement. By reengaging in attainable goals, the individual remains in pursuit in personally meaningful goals and continues to have a purpose (Ryff, 1989). Acceptance and adaptation to injury ultimately led participants to develop a new self-structure which fostered psychological well-being growth.

Past research has identified that injury causes one to contemplate the meaning and purpose of their life, questioning the basis of their existence, and challenging individual identity (Kampman, Hefferon, Wilson, & Beale, 2015). Furthermore, past research has found that those with severe physical injury experience an identity crisis, where they are forced to search for the ‘self’ again, expanding the previous version, as well as question the meaning of one’s body in one’s identity (Kampman et al., 2015). In the current study, participants experienced an identity crisis following injury where they then used distractive coping methods to try and escape their reality. However, these distractive coping methods were effective in eventually leading participants to explore and expand the non-sport self. Participants realized their unidimensional athletic identity immediately after injury, which led them to question their purpose in life. Disinvestment in athletic identity can be a form of self-protection to maintain positive self-concept (Sedikides, 2007), where devaluing a domain of the self decreases the relevance of the threat, because one no longer solely defines themselves by that domain (Schmader, Major, & Gramzow, 2001). One reason that participants reported unidimensional athletic identities is that student-athletes often lack the opportunity to explore identities other than that of the ‘athlete’ (Good, Brewer, Petitpas, Van Raalte, & Mahar, 1993). Thus, injury provided the opportunity for
student-athletes to expand their sense of self. Participants identified expanding the self as a way to begin rebalancing sport psychological well-being and global psychological well-being from the disruption of sport injury. The loss of functionality in the body, ultimately the loss of sport, provoked athletes to search for meaning in other areas of their life. Expanding the non-sport self helped with distraction from injury, as well as establishing an extended identity, a new purpose, and meaning in life.

In line with previous research, participants became aware of the athletic abilities that they took for granted (Kampman et al., 2015), perhaps one of the beginning steps of sport injury related growth. Once participants reappraised their perception of injury from a threat to a challenge they begin the process of adaptation. This included expanding the self, rebalancing, and awareness. At the crux of adaptation is rebalancing oneself to enter a state of equilibrium, harmonizing one’s psychological well-being. The initial threat appraisal of injury may be less adverse if athletes can reappraise injury as a challenge, leading to expansion of non-sport self, reestablishing purpose, and rebalancing psychological well-being.

Interventions that focus on accepting the negative aspects of injury, reappraising the situation as a challenge, searching for meaning in life, and establishing a new purpose may be valuable to help athletes rebalance and facilitate growth. When working with injured athletes, it may be beneficial to help facilitate athletes to accept injury and encouraging non-sport self-expansion to aid in a smoother recovery and rebalance of psychological well-being.

Participants noted the importance of playing an active role in recognizing and evaluating their mental state. Previous research found that awareness of changes in one’s thinking helped regulate negative emotions, allowing them to positively reappraise their situation (Roy-Davis et
al., 2017). As well, participants identified awareness as the key to stay in a state of balance and be on top of psychological well-being. Injury was a catalyst to help participants realize the importance of their mental health and their psychological well-being. Reflection offers the potential to empower individuals to become self-aware and implement change (Ghaye & Ghaye, 1998). Through self-awareness participants felt a greater sense of control, where they found it easier to return to their psychological well-being balance if they were thrown off.

Research has found that athletes struggle to differentiate areas of their life separately (Reynold & Pope, 1991), which may be related to stronger athletic identities and the collisions of sport and global psychological well-being. However, as found in this study, sport injury helps one separate themself from sport by expanding the non-sport self. Moreover, novel findings revealed that sport and life experiences are opportunities for growth and development and can strengthen one’s global psychological well-being and sport psychological well-being. Having a stronger global sport psychological well-being meant that they could rebalance their global and sport psychological well-being quicker in the face of adversity. Furthermore, a strong and stable global psychological well-being was perceived to buffer the harmful effects of challenges in sport, protecting one’s sport psychological well-being. This has been previously reported, where Lundqvist et al. (2014) also found that global psychological well-being served as a foundation to sport psychological well-being and as a protective factor to sport related challenges. These findings suggest that it might be important to target one’s global psychological well-being, building a strong diversified foundation so one can then build a strong sport psychological well-being, and fall back on their global psychological well-being in the face of sport challenges.
5.4 Sport Injury Psychological Growth

There has been a shift to study perceived psychological growth following injury (e.g. Durkin & Joseph, 2009; Joseph & Linley, 2006; Kampman et al, 2015; Roy-Davis et al., 2017; Podlog & Eklund, 2006; Salim et al., 2015; Salim & Wadey, 2018; Tracey, 2011; Wadey et al., 2011). Findings from this study support the claim that stress related growth (SRG) is possible after experiencing injury. Participants were able to reappraise their injury from a negative experience into an opportunity for growth and development. As well, injury can be an opportunity to foster self-development and psychological well-being. Consistent with the present findings, perceived benefits of sport injury identified by Podlog and Ekland (2006), Wadey et al. (2011) and Udry et al. (1997) included gaining perspective, personal development, developing non-sport self, increased mental toughness, learning healthy behaviours, and greater awareness of understanding and regulating one’s emotions. In the present study participants reported benefits beyond these, including increased coping ability, patience, acceptance, reappraisal, establishing a new purpose, increased motivation, preparation for subsequent injuries, relating to others with injuries, mental stamina, and gratitude. Athletes spoke strongly about personal strength from injury such as, resilience, mental toughness, mental stamina, personal growth, coping and dealing with emotions. These are similar to the results in Roy-Davis et al.’s (2017) study, where themes of sport injury related growth (SIRG) included personal strength, body-self relationship, self-acceptance, and purpose and appreciation of life. Participants in this study spoke about accepting injury, finding purpose, listening and understanding their body, and appreciating life and health. These benefits enabled participants to learn, increase their resilience, and psychological well-being.
It is important to recognize that not every athlete will experience sport injury growth and this is not necessary negative (Wortman, 2004). It must be understood that adversity does not lead to psychological growth for everyone, and those who do not grow from adverse experiences should not be viewed as failures (Joseph & Linley, 2006). Overcoming an adverse event and the alleviation of distress is not automatically generalized to psychological growth; rather it is an independent experience (Joseph & Linley, 2006). Suggesting that psychological growth should occur as a result of injury can create increased distress for injured athletes (Udry et al., 1997). Furthermore, there is a need to exercise caution about implying that there is anything inherently positive about adverse/traumatic experiences (Joseph & Linley, 2006). Psychological growth is not a result of the adverse event; it comes from within the individual (Joseph & Linley, 2006). Moreover, mental health professionals cannot create psychological growth for clients they can only aid in facilitating the client to achieve growth. Not all athletes will experience growth; for those who are suffering, the focus should be on alleviating distress.

Findings from this study contribute theoretically, specifically supporting Roy-Davis et al.’s (2017) T-SIRG, and Tedeschi and Calhoun’s (1995) FDM and Joseph and Linley’s (2005) OVT. The findings align with the T-SIRG (Roy-Davis et al., 2017), where it is necessary for one to reappraise their injury and rebalance, which generates positive emotions, facilitative actions, and SIRG. It may be essential for mental health professionals to help athletes rebalance after injury, where findings suggest that this can be done through accepting injury, expanding the self, finding purpose and meaning, and reappraising injury. This is related to Fredrickson’s (1998) broaden and build theory of positive emotions, where positive emotions not only ‘broaden’ one’s thought-action repertoire but also ‘build’ individuals’ resources (e.g. growth after adversity) (Salim et al., 2015). In addition, findings support Tedeschi and Calhoun’s (1995) FDM and
Joseph and Linley’s (2005) OVT model in that participants expressed goals, beliefs, and assumptions to be shattered when sustaining an injury. Participants discussed thwarted goals, identity crises, and lack of purpose. This shattering can cause rumination, which is indicative of cognitive activity that is directed at rebuilding pre-trauma schemas, allowing for positive accommodation (e.g. growth after adversity) (Joseph & Linley, 2005; Tedeschi & Calhoun, 1995; Roy-Davis et al., 2017). Participants revealed initial chaos and distress, then a period of adaptation where they could accept, reappraise, disengage from goals, rebalance their psychological well-being, and find meaning. These findings relate to these models of growth following adversity in that periods of confusion and disorganization are necessary for growth that arises after reorganization (Hager, 1992) and meaning making is essential for growth (Joseph & Linley, 2006). The current study supports this as participants experienced a period of chaos, followed by an adaptation (reorganization and rebalance), and sport injury related growth.

Findings in this study suggest that cognitive reappraisal was a step toward psychological growth. It appears as though transformational coping (e.g. turning a stressful event into opportunities) was used to change the injury experience into an opportunity for growth and development. This aligns with Wadey et al.’s (2011) findings, where they found that athletes coped with their injury in three phases: a re-evaluation, a greater understanding, and transformational coping. Participants coped with their injury by reappraising their injury, which subsequently changed their cognitions surrounding injury (e.g. injury as a threat versus injury as a challenge). This allowed athletes to then use emotion-focused coping, where athletes expanded the non-sport side of themselves, established their purpose, and made meaning in life, which enabled them to increase their motivation to use problem-focused coping to recover from injury (e.g. sought out physiotherapy and recovery regime). As time went on, athletes began to
understand their injury and the process of recovery, where it became a familiar experience that was perceived as less threatening than before and an opportunity for psychological growth.

It has been identified that growth following adversity is related to psychological well-being (Durkin & Joseph, 2009). Findings from the current study suggest that growth following sport injury was related to injury as a learning experience where athletes accepted their injury, re-established a strong purpose, developed the non-sport self, greater appreciation of health and sport, mental stamina, and increased coping abilities. This is closely tied to Ryff’s (1989) model of psychological well-being, specifically the dimension of personal growth. Ryff (1989) identifies personal growth to encapsulate feelings of continued development, growth, and expansion, is open to new experiences, realizes one’s own potential, self-improvement, and is gaining more self-knowledge and effectiveness.

The role of the body has been viewed as central to stress-related growth experiences (Heffron, Grealy, & Mutrie, 2009), a source of psychological well-being, a route to appreciate life more, and personal strength (Kampman & Heffron, 2014). Past evidence indicated that experiencing growth helps promote post-event adjustment and alleviation of distress (Davis, Nolen-Hoeksema, & Larson, 1998; Frazier, Conlon, & Glaser, 2001), suggesting that athletes who experience growth may be better able to reintegrate into sport. In this study, participants reported having a greater appreciation of a healthy body, subsequently leading to a reappraisal of the injury, increased motivation, and strength to overcome adversity. They emphasized the need for an adverse event to happen to have the opportunity to grow. Previous research suggests that there needs to be a significant disruption to one’s life and belief system for growth to be possible (e.g. Calhoun & Tedeschi, 2006; Lindstrom et al., 2013; Tedeschi & Calhoun, 2004). Injury can
be a potential catalyst for one to recognize their abilities in overcoming adversity and strengthening their psychological wellbeing.

### 5.5 Practical Implications

Findings from this study highlight an important gap in current sport injury and psychological well-being knowledge. Participants expressed the difficulty of the disruption of sport injury on their lives, throwing them into a period of chaos. They experienced an identity crisis, thwarted goals, and disruption of psychological well-being. Participants felt overwhelmed, sparking negative emotional responses and negative appraisals of sport injury. All participants perceived a lack of life purpose as sport had been taken away from them. It is important for injured athletes to adjust to the disruption of sport injury and become aware of the reasons behind their negative psychological states (e.g. unidimensional identity). Moreover, it was found that there were disruptions to both athletes’ sport psychological well-being and global psychological well-being as a result of sport injury. Professionals working closely with athletes should help athletes understand the psychological implications of sport injury.

Injured athletes may need emotional support, psychological skill development, and injury education to help with a smoother recovery from injury. Mental health professionals can help aid athletes by providing emotional support and by facilitating adaptation. This can be done by helping an athlete rebalance, which includes supporting their acceptance of injury, finding meaning in other areas of their life (e.g. expanding the self), and helping them disengage and reengage in appropriate goals. Subsequently this can help athletes recover from their identity crisis and find purpose in life. When an athlete has adapted to injury they are in a better position
to rebalance their psychological well-being. Thus professionals should be aware about the type of support athletes need to deal with the psychological consequences of injury during this time.

Psychological skills training could be beneficial to athletes as they work to adapt from the disruption of sport injury. As mentioned above, it was found that athletes adapted by expanding the self to find meaning in life outside of sport. By teaching athletes coping skills such as reappraisal, seeking satisfying social support, goal adjustment or new goal adoption, expansion of unidimensional identity, and relaxation, athletes can better navigate the challenges of adapting to sport injury. Subsequently this can help them rebalance their psychological well-being, making them less susceptible to further psychological distress. By providing coping skills training, athletes can expand their resources and learn adaptive ways to cope with the disruption of sport injury. This is turn could help facilitate sport injury related growth.

Knowledge translation is an important component to disseminate research findings. This should be done in an accessible, credible, and meaningful way. It is crucial to translate findings of the psychological consequences of injury, the disruption of sport and global psychological well-being, the need to adapt and rebalance, expand the self, and find meaning and purpose. It is necessary to educate athletes and individuals who play a key role in athletes’ recovery from sport injury. This includes coaches, trainers, health care professionals, sport psychologists, sport counsellors, and varsity athletes. Education might be a pathway to help athletes better understand the psychological impact of sport injury and help prepare them to deal and cope with injury when the time comes. Specifically, sport injury awareness programs can be implemented at the start of every season to all varsity athletes to help them understand the impact of sport injury, the typical mental and physical consequences, and best approaches to recovery. This also may create a greater awareness that sport injury is a natural consequence of sport and deserves proper care,
physically and mentally. A second, more detailed injury awareness recovery program can be implemented when an athlete receives a serious injury. Sport injury awareness programs could be applied in person or through an online resource medium, as this may be more accessible and practical and result in higher engagement in this population. Education of the psychological consequences may help decrease the shock factor of injury and stigma of seeking out professionals to help with psychological adjustment. The goal would be to make seeking out a sport psychologist as normal as seeking out a physiotherapist as part of the injury recovery process. Just because an athlete has physically healed does not mean they have psychologically healed (Ford & Gordon, 1998; Walker et al., 2007). For example, an athlete may be physically able to return to sport yet they may still be struggling with excessive psychological concerns surrounding their injury (e.g. fear of reinjury, anxiety). Sport injury awareness programs may decrease the stigma surrounding injuries, help create realistic expectations of injury recovery, produce smoother recoveries, alleviate distress and facilitate sport injury growth. Ultimately awareness programs could help protect athletes’ psychological well-being and mental health during a vulnerable time.

Knowledge translation may be especially important, as there is resistance for athletes to seek out mental health services. In addition, mental health services are not viewed as a normative part of the sport injury recovery process. It is also important to acknowledge that elite sport encourages athletes to push through and normalize pain and injury. The sport culture has values of toughness and might prevent athletes from seeking emotional help, which could be harmful for their sport psychological well-being and global psychological well-being. Intervention programs targeting support from mental health professionals during sport injury recovery could change the stigma associated with seeking mental health help. Creating sport environments that
support the mental health of athletes by normalizing mental health services and support from those that understand during the sport injury recovery period may be crucial to protect athletes’ psychological well-being.

5.6 Strengths, Limitations, and Future Research

This study highlighted that rebalance is vital for one to adapt to sport injury and harmonize their psychological well-being. Sport injury recovery is a period where athletes are vulnerable to disrupted sport and global psychological well-being and negative mental health consequences. A major strength of this study is that it explored the under researched area of the role of psychological well-being during sport injury. Although much research has been generated in sport injury and psychological well-being, limited studies have looked at how sport injury plays a role in psychological well-being. As well, this research is situated in the Canadian varsity sport context. This research is important to the broader field of sport injury and mental health as it provides a detailed exploration of how one experiences sport injury and how it disrupts one’s psychological well-being. Acceptance and expansion of oneself were important factors to facilitate a reappraisal of sport injury, subsequently leading to a rebalance of sport psychological well-being and global psychological well-being. Sport culture was also identified as a dominating factor that shaped athletes perception of pain and injury, delaying athletes from rebalancing. This suggests there is a need to create awareness about appropriate responses to sport injury (e.g. injury recognition and recovery management), which could help buffer the negative affects of sport injury, expedite athletes’ recovery, and protect their mental health and psychological well-being. This study also brought to light the benefits of sport injury and how it is possible to grow from an adverse experience. Sport injury may not be an entirely negative experience, but rather an experience that can propel one to a heighten level of functioning.
Findings provide initial evidence that facilitating athletes with rebalancing can help protect their mental health by re-establishing their sport psychological well-being and global psychological well-being.

The use of an interpretive qualitative interview based study allowed me to explore the subjective experiences and perceptions of currently injury athletes. The interview methodology helped gain a contextual understanding of participants’ experiences (Smith & Sparkes, 2016) and looked beyond the emotional experiences of sport injury (Braun & Clarke, 2013). Moreover, the interpretivist constructionist paradigm allowed the opportunity to understand the participants’ subjective experiences and socially constructed contexts that shape their realities (Smith & Sparkes, 2009a). Semi-structured interviews provided flexibility to probe and explore topics that were personally meaningful. This method allowed me to explore the subject experiences of currently injured athletes to gain detailed accounts of sport injury and psychological well-being. This provided insight into the dynamic event of sport injury, and captured and told a coherent story of participants’ experiences with sport injury and psychological well-being. Furthermore, my personal experience as a varsity athlete who sustained a serious injury may have helped facilitate rapport with the participants, as I could relate to and understand participants’ experiences. Being viewed as an insider and establishing this rapport may have been vital in getting participants to expand on topics of interest that may have been sensitive, such as the negative responses to sport injury, depression, and isolation. Thus, my research questions were best support by the use of qualitative methods.

This study provides unique perspectives from currently seriously injured women athletes. The sample represented twelve diverse, yet similar seriously injured women athletes to yield insight on the common experience of sport injury. This study focused on women varsity athletes
with current serious injuries. Past research has focused on athletes with previous injuries (Brewer, 1994; Podlog et al., 2010; Udry, 1997). I was able to explore the experiences of currently seriously injured women athletes, in which there has been little research. As well, I was able to bring attention to injured women athletes’ voices as they have been found to display greater levels of stress (Marisa & McKean, 2000), and poorer psychological adjustment to sport injury (Pulliam, 2010). The sample was diverse in nature in that participants represented different levels of competition (varsity, provincial, and national), a variety of sports (team and individual), and experienced a variety of injuries. In addition, participants’ time out of sport ranged from two to twelve plus months. These factors allowed the exploration of sport injury and psychological well-being from different perspectives, all the while targeting a similar experience, in a like population, in the Canadian varsity sport context. In this study a sample with distinct parameters (e.g. women, varsity, current and serious injury) allowed me to recruit a relatively homogenous group of participants in their own socially constructed contexts that shared the experience of a serious sport injury.

There were a few limitations with this study including interview methodology, sample, and differences in injury type and timeline. Participants partook in only one interview at one point in time. This presented challenges in gaining a complete understanding of the injury recovery process for each participant, as they were at different points in the injury recovery process. For example, some participants were over six months into recovery and had already rebalanced from the disruption of sport injury. This rebalance allowed athletes to report more positively about the injury experience, emphasizing a narrative of sport injury growth. This was in contrast to some athletes who were still in the first few months of their injury and displayed negative emotions and resistance to accept their injury. This created difficulty when trying to
explore the role of psychological well-being during the sport injury recovery process. However when examining all participants experiences together, the role of sport psychological well-being and global psychological well-being started to become apparent when engaging in coding and theme development. Examining the sport injury recovery process at a whole allowed the opportunity to observe the role of psychological well-being.

The findings of this study do have the potential to be generalized in certain ways. Specifically, naturalistic generalizability and inferential generalization; naturalistic generalizability in that the results can resonate with the reader and their personal engagement in similar experiences (e.g. those that have experienced injury or loss in sport), and inferential generalization in that these findings could transfer to other contexts if a group or individual considers adopting them (e.g. male athletes, recreational or elite, those outside Canada) (Smith, 2018). Caution must be used when suggesting generalizability of information in this study, because achieving generalizability is a combination of researcher responsibility and readers engagement (Smith, 2018). However, researcher responsibility was attended to by studying a meaningful topic and by presenting detailed findings (Smith, 2018).

Further research is needed to continue to explore sport psychological well-being and global psychological well-being during injury recovery and after return to sport. In addition, it may be beneficial to study athletes at the same point of the injury recovery process and interview them multiple times (e.g. injury onset, during rehabilitation, during return to play). Examining these different time points could increase understanding of the role of psychological well-being throughout the entire sport injury recovery process. Particularly, examining psychological well-being and athletes at time of return to play could be very important as returning to sport was a major source of anxiety and stress. As well, longitudinal studies could examine how sport and
global psychological well-being change throughout the injury recovery process and upon return to sport. Furthermore, studying psychological well-being (sport and global) and sport injury in different populations (e.g. males, elite, non-elite, adolescents), and contexts (e.g. NCAA, Olympics) could be valuable, as factors that play a role in psychological well-being may be found to be different or have a different impact (e.g. social support, sport culture). Moreover, additional research into what constitutes sport specific psychological well-being would be beneficial, as there still remains a limited understand on how this is conceptualized. A greater understanding of the dimensions of sport psychological well-being could help protect and improve athlete psychological well-being. Lastly, findings from this study identified the importance of rebalancing from the disruption of sport injury. Further attention to interventions that target rebalancing psychological well-being from sport injury could be developed and put into practice to help protect athletes from mental health difficulties and promote psychological well-being.

5.7 Concluding Remarks

Sport injury is a unique and dynamic event resulting in psychological consequences. At first these psychological ramifications are perceived as negative, consequently disturbing one’s psychological well-being. However, with adequate social support and coping resources, participants were able to adjust from the disruption of sport injury and rebalance, harmonizing their psychological well-being, leading to psychological growth. The findings from this study help extend our knowledge of injured athletes’ experiences of sport psychological well-being and global psychological well-being during the sport injury recovery process. As well, it draws attention to how various factors such as internal and external pressures and coping resources play a role in the appraisal and reappraisal of sport injury. By understanding how athletes perceive
and experience the sport injury recovery process, practitioners and mental health professionals can further their knowledge on how to better support injured athletes. This research along with future research into injured athletes’ experiences of psychological well-being could help inform theories, models, and policies about sport specific psychological well-being, as well as aid in learning more about effective support through injury recovery to protect athletes’ mental health.
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Appendices
Appendix A: Ryff’s (1989) Model of Psychological Well-Being

Self- Acceptance

High scorer: possesses a positive attitude toward the self; acknowledges and accepts multiple aspects of self, including good and bad qualities; feels positive about past life.

Low scorer: feels dissatisfied with self, is disappointed with what has occurred in past like, is troubled about certain personal qualities, wishes to be different than what he or she is.

Positive Relations with Others

High scorer: has warm, satisfying, trusting relationships with others; is concerned about the welfare of others; capable of strong empathy, affection, and intimacy; understands give and take of human relationships.

Low scorer: has few close, trusting relationships with others, finds it difficult to be warm, open, and concerned about others; is isolated and frustrated in interpersonal relationships; not willing to make compromises to sustain important ties with others.

Autonomy

High scorer: is self-determining and independent, able to resist social pressures to think and act in certain ways, regulated behaviour from within, evaluates by personal standards.

Low scorer: is concerned about the expectations and evaluations of others, relies on judgments of others to make important decisions, conforms to social pressures to think and act in certain ways.

Environmental Mastery

High scorer: has a sense of mastery and competence in managing the environment, controls complex array of external activities, makes effective use of surrounding opportunities, able to choose or create contexts suitable to personal needs and values.

Low scorer: has difficulty managing everyday affairs, feels unable to change or improve surrounding context, is unaware of surrounding opportunities, lacks sense of control over external world.

Purpose in Life

High scorer: has goals in life and a sense of directedness, feels there is meaning to present and past life, hold beliefs that give life purpose, and aims and objective for living.

Low scorer: lacks a sense of meaning in life, have few goals or aims, lacks a sense of direction; does not see purpose in past life; has no outlooks or beliefs that give life meaning.

Personal Growth

High scorer: has feelings on continued development, sees self as growing and expanding, is open to new experiences, has sense of realising his or her potential, sees improvement in self and behaviour over time, is changing in ways that reflect more self-knowledge and effectiveness.

Low scorer: has a sense of personal stagnation, lacks sense of improvement or expansion over time, feels bored and uninterested with life, feels unable to develop new attitudes or behaviours.
Appendix B: Lunqvist’s (2011) Integrated Model of Well-Being in Sport
Appendix C: Recruitment Poster

ARE YOU A WOMAN VARSITY ATHLETE WITH A PAST OR CURRENT INJURY?

If so, we would love to talk to you!

WHAT IS THE STUDY ABOUT?
The purpose of this research is to explore how injured women varsity athletes perceive and experience psychological well-being during injury recovery.

YOU CAN PARTICIPATE IF:
- You are 18 years or age or older
- You are a woman athlete participating in a varsity sport
- You have had a serious injury in the last 6 months (out of sport for 21+ days)
- You currently have a moderate injury (expect to be out of sport for 8+ days)

WHAT IS INVOLVED?
If you agree to participate, you will be interviewed on two occasions at a location of your choosing. Each interview will take approximately 1 to 1.5 hours. You will receive $10 for each interview as compensation for your time and any related travel costs.

WHO IS DOING THE RESEARCH?
Dr. Peter Crocker, Professor in the School of Kinesiology at UBC and MA student Lisa Trainor.

If you are willing to participate, please call [phone number] or email [email address] Thank you!
Appendix D: Letter of Initial Contact

Perceptions of Psychological Well-being during Sport Injury Recovery: Experiences of Moderately and Seriously Injured Women Athletes

Dr. Peter Crocker
School of Kinesiology
University of British Columbia
Contact Number: 

Lisa Trainor, BKin
School of Kinesiology
University of British Columbia
Contact Number: 

To whom it may concern,

My name is Lisa and I am a Sport and Exercise Psychology Masters student at the University of British Columbia working under the supervision of Dr. Peter Crocker in the School of Kinesiology. Dr. Crocker and I are studying how seriously injured women varsity athletes at UBC perceive and experience psychological well-being during the injury recovery process. We are currently looking for athletes who have had a serious injury in the last 12 months (out of sport for 21+ days) or athletes who are currently experiencing a moderate to serious injury (expect to be out of sport for 8+ days). The study would involve the athletes participating in two one-on-one interview with myself that would last approximately 1 to 1.5 hours each. The second interview will take place after the first interview has been transcribed; approximately three weeks later. Topics to be covered in the interview will surround sport, sport injury, injury recovery, the athlete’s perception of psychological well-being, and how sport well-being has influenced other areas of the athlete’s life. Athletes will receive a $10 stipend for the interview as compensation for their time and any related travel costs. The findings from our study will further our understanding of how sport injury influences psychological well-being.

The reason for my writing of this letter is to ask for your assistance in recruiting varsity athletes. I could personally come to speak with your athletes at a time that is convenient for you and your athletes to explain the study. Alternatively, if this is not possible, I could provide an email message for you to send to your athletes that provides information about the study and my contact information. As you will be sending this to your athletes, I will not have access to any of your athletes’ contact information unless they chose to contact me. You will be able to view the message prior to it being sent to your athletes.
Furthermore, while we appreciate your assistance in recruiting athletes, due to the confidential nature of the study you will not be privy to who chooses to contact the researchers and who is participating in the study. Please note, there is no obligation to agree to the potential recruitment of participants, and any athlete’s involvement will be completely voluntary.

I will contact you in a week’s time to see if you would be willing to assist us in recruiting potential participants (through the methods outlined above). I have also included a letter of introduction to provide you with more information about the study. In the meantime, if you have any questions, comments, or concerns, please feel free to contact myself or Dr. Crocker.

Thank you for your time and consideration.

Sincerely,

Lisa Trainor

[redacted]
Appendix E: Letter of Introduction

Sport and Exercise Psychology Lab
School of Kinesiology

Perceptions of Psychological Well-being during Sport Injury Recovery:
Experiences of Moderately and Seriously Injured Women Athletes

LETTER OF INTRODUCTION

Dr. Peter Crocker
School of Kinesiology
The University of British Columbia
Contact Number: [Redacted]

Lisa Trainor, BKIN
School of Kinesiology
The University of British Columbia
Contact Number: [Redacted]

WHO IS DOING THE RESEARCH?
The principal investigator for this study is Dr. Peter Crocker, Professor in the School of Kinesiology at the University of British Columbia. Lisa Trainor is a second year graduate student working under the supervision of Dr. Crocker.

WHAT IS THE RESEARCH ABOUT?
We are interested in learning about how moderately and seriously injured women varsity athletes perceive and experience psychological well-being during the injury recovery process.

WHAT WILL PARTICIPATING IN THE STUDY INVOLVE?
If you agree to participate, you will be invited to take part in two interviews (conducted in English) that will be conducted at a place of personal convenience. Each interview will be approximately 1 to 1.5 hours in length. The discussions that take place will be audio-recorded and transcribed (written out word for word) for analysis.

You do not need to talk about any issues you do not feel comfortable discussing and if you wish to withdraw from the study you may do so at any time without having to give any reason for doing so. There will be no negative consequences to you or anyone else if you chose to
withdraw. This study will not subject you to any physical risk. Although we do not expect any psychological risk, in the event you would like to further discuss your feelings regarding the topics discussed in the interviews, accommodations will be made for you. We will accept participants for the study based on order of initial contact with the researcher.

All participants will receive $10 for completing each interview.

WHAT WILL BE DONE WITH THE INFORMATION I PROVIDE?
Any information you provide within this interview will be made anonymous. You will be identified by a pseudonym (fake name) and identifying information will be removed. All interview transcripts will be kept in a locked cabinet in the office of the principal investigator and no one other than the researchers associated with this study will have access to this information. The information collected will be written up for publication in a scholarly journal and/or presented at an academic conference.

WHAT IF I WISH TO WITHDRAW FROM THE STUDY?
Your participation in the research is entirely voluntary and you may withdraw from the study at any time without having to give any reason for doing so and without experiencing any negative consequences.

HOW WILL THE RESEARCH BE USEFUL?
Findings from this study will allow us to gain insight from moderately and seriously injured women varsity athletes about their experiences and perceptions of psychological well-being during the injury recovery process. Such findings will further our understanding of how sport injury influences psychological well-being.

If you would like more information about this study or to learn how to become involved, please contact Lisa Trainor at [contact information] or at [contact information]

Thank you!
Appendix F: Consent Form

Perceptions of Psychological Well-being during Sport Injury Recovery:
Experiences of Moderately and Seriously Injured Women Athletes

Consent Form

Peter Crocker, PhD (Principal Investigator)       Lisa Trainor, BKin, MA Kinesiology Student
School of Kinesiology                           School of Kinesiology
The University of British Columbia              The University of British Columbia
Contact Number:                                  Contact Number:
                                                  
PURPOSE OF THE STUDY:

The purpose of this study is to learn from moderately and seriously injured women athletes about their perceptions and experiences of psychological well-being during the injury recovery process. Findings from this study will allow us to gain insight from seriously injured women athletes about how sport injury influences psychological well-being. Such findings will further our understanding of psychological well-being and sport injury.

STUDY PROCEDURES:

You will be interviewed twice at a location of your choosing by UBC graduate student, Lisa Trainor. The interviews will take approximately 1 to 1.5 hours each. With your permission, we will digitally record the interviews so that we can concentrate on what you have to say rather than on taking notes.

CONFIDENTIALITY:

Your identity will be kept strictly private. Only Dr. Crocker and the graduate student involved in the project will have access to the digital recordings and study documents, which will be kept in a locked filing cabinet and on a password protected computer. All data will be encrypted. No
names or information that might show who you are will be used when the results of the study are reported. The results of this study will be reported in a graduate thesis and may also be published in journal articles and books.

**REMUNERATION:**

You will be offered a $10 stipend after each interview as compensation for your time and any related travel costs.

**YOUR RIGHTS:**

Your participation in the study is entirely voluntary. You may refuse to answer any question or withdraw from the study at any time without giving a reason and without penalty.

**POTENTIAL RISKS:**

This study will not subject you to any physical risk. You can refuse to answer any questions in the questionnaire package and/or withdraw from the study at any time and doing so will result in no penalty to you or anyone else. Although we do not expect any psychological risk, if we feel participating is placing you under undue stress we will discontinue your involvement in the study and direct you to appropriate resources, again resulting in no penalty. Any data collected prior to this point will be omitted from the study and destroyed. In the event that you would like to further discuss your feelings regarding the topics discussed in the study, your student health/counselling services can be of assistance (UBC Counselling Services: [phone number]; UBC Student Health: [phone number]).

**WHO TO CONTACT IF YOU HAVE COMPLAINTS OR CONCERNS ABOUT THE STUDY?**

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at [phone number] or if long distance email [email address] or call toll free [phone number].
QUESTIONS?

If you have any questions or want further information about the study, please contact Lisa Trainor by telephone at (604) 839-3750 or by email at lisa.trainor@ubc.ca

CONSENT

☐ I have read the above and I consent to being part of this study of seriously injured women athletes’ experiences and perceptions of psychological well-being during the injury recovery process.

☐ I consent to audio recording of the interview.

☐ I have received a copy of this consent form for my own records.

Signature: _____________________________________________

Printed Name: __________________________________________

Date: _________________________________________________
Appendix G: Demographic Questionnaire

Perceptions of Psychological Well-being during Sport Injury Recovery:
Experiences of Moderately and Seriously Injured Women Athletes

Demographic Information Questionnaire

The following questionnaire will ask for some background information and will be used for research purposes only. Accurate information is greatly appreciated; however, questions may be left un-answer ed if you do not feel comfortable providing certain information. All information recorded here will be kept strictly confidential.

If you would like to create your own pseudonym (fake name for confidentiality purposes), please include it here:

Note that a pseudonym will be created for you if you do not provide one – this will help promote confidentiality.

1. Age: ________________________

2. Gender: ________________________

3. Place of Birth: ________________________

4. Current Varsity Sport: ________________________

5. Team or Individual Sport? ________________________
6. Number of Years involved in Sport at the Varsity level: _____________________

7. What age did you start participating in your sport? _____________________

8. What is the highest level you have competed at? _____________________
   a. How long have you competed at this level? _____________________

9. What academic year are you currently in? _____________________

10. What academic program are you enrolled in? _____________________

   The following questions are about the specifics of your injury

1. Are you currently injured or were you previously injured? _____________________

2. When did you experience this injury? _____________________

3. What type of injury have you experienced? OR
   What type of injury did you experience? _____________________

4. How long do you expect to be out of play? OR
   How long were you out of play? _____________________

5. Have you sought medical attention? OR
   Did you seek medical attention? _____________________

6. Have you received a formal diagnosis? OR
   What was your formal diagnosis (if applicable)? _____________________

7. What is your suggested recovery plan (i.e. physio, AT, surgery)? OR
   What did your recovery look like (i.e. physio, AT, surgery)? _____________________

8. Have you experienced this injury before? _____________________

9. Have you sustained any other serious injuries (out for 21 days) in the last two seasons? _____________________

   If you would like to provide any further information regarding yourself, please do so below:
Appendix H: Interview Guide

INJURY AND PSYCHOLOGICAL WELL-BEING
INTERVIEW PROTOCOL

The following questions represent an overarching agenda for interviews with study participants. The questions will be pursued flexibly and may be altered and added to over time as different themes and patterns emerge in the data.

First Interview: The first interview will focus on how athletes perceive their injury and their perceptions of how injury affects or affected well-being at this time. The first half of the interview will focus on perception of injury. Psychological well-being will be introduced in the second part of the interview. There will be a focus on the six dimensions of psychological well-being (both at the global and sport specific level). The focus will be on how sport injury influences perceptions and experiences of psychological well-being during the injury recovery process.

Research Questions:

1. How do injured women athletes perceive and experience psychological well-being during the injury recovery process in the sport context?
2. How do injured women athletes conceptualize psychological well-being in the sport and global context?

Introduction (ice breaker):

1. Can you tell me a little bit about yourself?
2. Can you tell me about your sport experiences?
3. What’s the highest level you have played sport at?

Perceptions and experiences with injury:

4. Can you describe your injury?
   a. How did your injury happen?
   b. How severe do you think this injury is? Or How severe was your injury?
   c. When did you sustain this injury?
      i. How would you describe your playing status on the team?
   d. What happened after you got injury (i.e. seek medical attention)?
i. Has your injury been diagnosed?

5. What were your thoughts immediately after you sustained this injury?
   a. How have your thoughts changed over the last few days?

6. Can you describe your emotional feelings when you sustained this injury (i.e. negative/positive)?
   a. How have your emotions changed over the last few days?
   b. How are you controlling your emotions?

7. What did you do immediately after you sustained this injury?
   a. What have you done since the injury?

8. How long do you expect to be out of sport? Or How long were you out of sport?

9. Can you elaborate on any stressors you have experienced during your injury recovery?
   a. Can you touch on some worries you have?
   b. How are these stressors and worries making you feel?
   c. What are you doing to handle these stressors and worries (i.e. social support etc.)?

10. Are there any other concerns that you have? Can you expand?

11. Is there anything that you are relieved about? Can you expand?

PART 2:

Perceptions, experiences, and understanding of well-being:

12. What does the term psychological well-being (PWB) mean to you?
   a. Where did you learn about PWB?
   b. Can you describe what it looks like? Components? Characteristics?

13. What does the term PWB in sport mean to you?
   i. Can you describe what PWB in sport looks like to you?
      - Can you describe a high level of sport PWB?
      - Can you describe a low level of sport PWB?
   ii. What kind of components do you think make up sport PWB?
   iii. How do you think you develop sport PWB?
   iv. How does your sport PWB change over time or with circumstances?
   v. What kinds of things do you think help build your sport PWB?
   vi. What kinds of things do you think hinder your sport PWB? What do you do in this case?
   vii. Has sport PWB affected you in sport? Explain.
viii. Has sport PWB played a role in your successes or failures as an athlete? Explain.
ix. Would you describe yourself as having high sport PWB? Please describe why or why not.
x. How do you think your injury has influenced your sport PWB?
xi. How would you rate your sport PWB now compared to before the injury?
xii. (If applicable) Can you describe the changes to your sport PWB post injury?

14. Can you describe a time when you experienced high sport PWB?
   a. Can you describe a time when you experienced low sport PWB?

15. What does the term PWB in other aspects of your life mean to you? For example, your overall PWB.
   i. Can you describe what overall PWB looks like?
      - Can you describe high overall PWB?
      - Can you describe low overall PWB?
   ii. What kind of components do you think make up overall PWB?
   iii. How do you think you develop overall PWB?
   iv. How does your overall PWB change overtime or with circumstances?
   v. What kinds of things do you think help build your overall PWB?
   vi. What kinds of things do you think hinder your overall PWB? What do you do in this case?
   vii. Would you describe yourself as having high overall PWB? Please describe why or why not.
   viii. Has overall PWB played a role in your successes or failures in life? Explain.
   ix. How do you think your injury has influenced your overall PWB?
   x. How would you rate your overall PWB now compared to before the injury?
   xi. (If applicable) Can you describe the changes to your overall PWB post injury?

16. Can you describe a time when you experienced high overall PWB?
   a. Can you describe a time when you experienced low overall PWB?

17. Do you think sport PWB and overall PWB are connected?

18. To what extent has your sport PWB influenced your overall PWB?

19. To what extent has your overall PWB influenced your sport PWB?
Perceptions and experiences with PWB:

Perceptions and experiences of Self-acceptance:

20. What does the term ‘self-acceptance’ in sport mean to you?
   a. Has your injury affected your self-acceptance in sport?

Perceptions and experiences of Autonomy:

21. What does the term ‘autonomy’ mean to you?
   a. Has your injury affected your autonomy? In sport?

Perceptions and experiences of Environmental Mastery:

22. What does the term ‘managing the environment effectively’ mean to you?
   a. Has your injury affected how you manage the environment effectively in sport?

Perceptions and experiences of Positive Relations:

23. What does the term ‘positive relationships’ mean to you?
   a. Has your injury affected your positive relationships in sport?

Perceptions and experiences of Purpose in Life:

24. What does the term ‘purpose in life’ mean to you, and how are you motivated to achieve this?
   a. Has your injury affected your purpose in life in sport?

Perceptions and experiences of Personal Growth:

25. What does the term ‘personal growth’ mean to you? (i.e. reaching your potential)
   a. Has your injury affected your personal growth in sport?

Is there anything else you would like to talk about that we did not cover?
Appendix I: Thematic Map

The *overarching theme* is the umbrella theme that includes various themes below it. Within the present study, the two overarching themes are appraisal of injury followed by coping methods to manage it.

*Themes* are the final themes that were identified.

*Sub-themes* are related to the final themes, helping to tell the coherent story of the theme.

*Candidate themes* were the various themes identified through the early stages of analysis, which aided final formation of themes.
