Examining hardiness, coping and stress-related growth following sport injury

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Running head: HARDINESS AND STRESS-RELATED GROWTH

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Abstract

This study aimed to explain how injured athletes high in hardiness experienced stress-related growth (SRG) and why athletes low in hardiness are less likely to derive such benefits. Twenty participants were theoretically sampled into high (N=10) and low (N=10) hardiness groups. Semi-structured interviews were used for data collection. Findings revealed that athletes high in hardiness experienced SRG from having an emotional outlet, which enabled them to reframe their injury and experience positive affect. In contrast, athletes low in hardiness had no emotional outlet, which led to sub-optimal outcomes. These findings have important implications for practitioners working with injured athletes.

Keywords: positive reframing, emotional support, positive emotions

Introduction

One concept that is gaining increased attention from researchers within the discipline of sport and exercise psychology is growth following a stressful or traumatic experience. By growth, we mean positive changes resulting from a demanding event that has propelled an individual to a higher level of functioning than that which existed prior to the event (Carver, 1998). Whilst stressful stimuli can lead to sub-optimal outcomes (e.g., burnout, under-performance), a number of researchers from other disciplines have suggested that they may also have positive consequences (Calhoun & Tedeschi, 1999; Joseph & Linley, 2008). And it is the latter point that has intrigued sport and exercise psychology researchers more recently. Indeed, Hefferon and Sabiston and their colleagues have examined how exercise can lead to growth among cancer survivors (e.g., Hefferon, Grealy, & Mutrie, 2008; Sabiston, McDonough, & Crocker, 2007), whereas Crawford and Smith and their colleagues have identified growth experiences in athletes with spinal cord injury (e.g., Crawford, Gayman, & Tracey, 2014; Smith & Sparkes, 2005). Other researchers have taken an alternative approach by exploring growth in elite and non-elite athletes across a diverse range of stressors (e.g., Galli & Reel, 2012; Howells & Fletcher, 2015; Tamminen, Holt, & Neely, 2013). The demands included poor performances, car accidents, family dysfunction, media scrutiny, and developmental stressors (e.g., speech impediment, ADHD). Collectively, these preliminary studies have shown that athletes from different competitive standards can experience positive changes following a stressful or traumatic event, and that exercise can be used as a vehicle to experience growth in individuals with certain conditions.

Another line of research of greater relevance to this study is the experience of growth following an acute sport-related injury (e.g., Udry, Gould, Bridges, & Beck, 1997; Wadey, Evans, Evans, & Mitchell, 2011). Although somewhat related to the aforementioned research, it is important to note that this line of research differs in a number of ways. Indeed, an acute

sport injury is a unique stressor compared to other demands or conditions such a car accident or terminal illness. It is unique in that injuries are frequent occurrences and considered part-and-parcel of sport (Wadey & Evans, 2011). Unlike other more unforeseen stressors, every time an athlete trains or competes they put themselves at risk of getting injured. Having an acute sport-related injury also means being physically incapacitated, which is dissimilar to other sport-specific stressors (e.g., poor performance, media scrutiny). Being incapacitated can lead to a greater sense of isolation, which can pose a significant threat to athletes' identity and coping resources (e.g., Bianco, Malo, & Orlick, 1999; Evans, Wadey, Hanton, & Mitchell, 2012). In addition, the characteristics of competitive athletes are suggested to differ from their non-athletic counterparts. Competitive athletes are suggested to laud physical prowess, emphasize positivity, admire risk-taking behavior, and tolerate pain (Howe, 2004; Mankad, Gordon, & Wallman, 2009a). Taken together, much can be learned from researchers exploring growth across different stressors or conditions; however, it is important to be cognizant of the unique subtleties and nuances between them. We believe injured athletes represent a group with unique stress experiences that are ideally viewed contextually through a lens that is sensitive to the recovery process and the unique characteristics of the athletes themselves.

Before reviewing the research that has explored growth following an acute sport-related injury, it is important to recognize an issue surrounding the terminology used to refer to growth. That is, researchers use different terms when referring to growth and some use terms interchangeably. For example, Wadey and colleagues have used the terms perceived benefits (Wadey et al., 2011), thriving (Wadey & Hanton, 2014), and stress-related growth (Wadey, Clark, Podlog, & McCullough, 2013). Other researchers favor the term post-traumatic growth (Hefferon et al., 2008; Sabiston et al., 2007). To develop a more unified body of literature, it is important that researchers grapple with the subtle differences between

these terms and employ an appropriate term for their research question. Park (2009) recommended that researchers should consider at least two factors: (a) commonality of occurrence of the stressor under examination to distinguish events or conditions that are considered traumatic from those that are stressful. It is advised that the term post-traumatic growth is reserved for those individuals who have suffered traumatic experiences, whereas the term stress-related growth would reflect more common stressful events; and (b) whether they are interested in examining perceived or actual growth. Some researchers are interested in measurable changes, whereas others are concerned with subjective experiences (cf. Tennen & Affleck, 2002). With regard to this study, the term perceived stress-related growth (SRG) is used as were interested in whether athletes believed they changed in positive ways as a result of their injury experience.

A number of studies have explored SRG following an acute sport-related injury. One of the first studies was by Udry et al. (1997) who interviewed 21 injured athletes from the U.S. Ski Team. Twenty of the 21 skiers perceived they had experienced SRG across three dimensions: personal growth, psychologically-based performance enhancements, and physical/technical development benefits. With regard to the latter dimension, the skiers reported that they not only became physically stronger, but they learned more about their body, its workings, and how it responds to training. Interestingly, this finding is not reported by researchers examining growth following other stressful or traumatic events (cf. Calhoun & Tedeschi, 1999), which demonstrates how the recovery process from injury may generate unique growth experiences. Since Udry et al.'s (1997) study, a number of researchers have gone onto directly examine SRG following injury (e.g., Smith & Sparkes, 2005; Tracey, 2011; Wadey et al., 2011, 2013) or reported it as a serendipitous finding (e.g., Bianco et al., 1999; Ford & Gordon, 1999; Hurley, Moran, & Guerin, 2007). Collectively, this body of research has shown that male and female athletes, from team and individual sports, across

various levels of competition, and with different types of injuries believe they have experienced positive changes resulting from their injury experiences. Another interesting finding to emerge is that while many injured athletes experience SRG, some do not. Indeed, Udry et al. (1997) reported, ""One skier was unable to identify any benefits associated with being injured"" (p. 244). Consequently, they recommended that future researchers should identify who is more likely to experience SRG and explain how they are able to do so.

Aligned with Udry et al.'s (1997) recommendations, Salim, Wadey, and Diss (2015) recently examined the relationship between the personality trait of hardiness and SRG. The rationale for examining hardiness was that it is conceptualized to transform debilitating situations into an opportunity for personal growth and development (Kobasa, 1979). Being an exploratory study, the authors used a cross-sectional design, whereby 206 athletes who had recently return to sport following injury completed measures of hardiness, coping, and SRG. As hypothesized, findings revealed a significant positive relationship between hardiness and SRG. Two coping strategies were also found to mediate this relationship: emotional support and positive reframing. It was suggested, therefore, that athletes higher in hardiness had higher SRG scores because they reported greater use of their social support for emotional reasons (e.g., moral support, sympathy or understanding) and were able to view their injury in positive terms. Although these findings offered important insights for practitioners working with injured athletes seeking to encourage SRG, the quantitative nature of the research findings did not provide sufficient depth to inform professional practice. It was recommended by the authors that future researchers use qualitative inquiry to develop a more elaborative understanding of the relationship between hardiness and SRG. The aim of this study was to explain in depth *how* injured athletes high in hardiness are able to experience SRG, and *why* their low hardiness counterparts are unable to derive such positive changes.

Method

Philosophical Assumptions

This study is underpinned by critical realism and modified dualism/objectivism (Lincoln, Lynham, & Guba, 2011). These beliefs reflect a post-positivism paradigm, which recognizes that nature can never fully be understood and we can only approximate it. Adopting this paradigm had a number of implications for this study, which included the choice of method (i.e., semi-structured interview that was literature driven and standard across participants), how the data was collected (i.e., 'one-shot' interviews), and the trustworthiness techniques used and how they are employed (e.g., using peer debriefing to reach consensual agreement upon identified themes and to control for the researchers' values in the research process).

Participant Selection

After gaining university ethical approval, a four step purposeful sampling strategy was used to recruit participants. First, participants were identified using theory-based sampling (Patton, 2002), which involved selecting participants based on their representation of an important theoretical construct (i.e., high and low in hardiness). This strategy involved reviewing the composite hardiness scores from the Dispositional Resilience Scale (DRS) of the participants from Salim et al.'s (2015) original sample. Consistent with Khoshaba and Maddi's (1999) qualitative procedure, those athletes who were above the 75th percentile (i.e., 63 or above for this study) were identified as high in hardiness, and those who were below the 25th percentile (i.e., 47 or below for this study) were considered to be low in hardiness. This process resulted in 43 participants; 23 high and 20 low in hardiness. Second, maximum variation sampling was used, which involved selecting a sample with a range of characteristics to help document unique and diverse insights into the research question (Patton, 2002). The characteristics for this study included sex, sport type, competitive level, and injury severity. To facilitate meaningful group comparison, however, participants were

matched across these characteristics for the two hardiness groups, resulting in each group consisting of males and females, team and individual sports, different standards of competition, and injuries that varied in their severity. Third, any participants who recovered from their injuries and returned to competitive sport in excess of one year were excluded (N = 15). This criterion was adopted to minimize the effect of inaccurate recall. Fourth, the remaining participants (N = 28) were then asked to complete the DRS again to ensure their scores aligned with those found in Salim et al.'s study. Athletes high in hardiness once again scored above the 75 percentile, whereas those low in hardiness remained below the 25th percentile. The athletes were subsequently informed of the purpose of the study and invited to participate. Eight athletes declined due to various other commitments. The remaining 20 athletes all agreed to take part and provided written consent.

Participants

From the 20 athletes who served as participants, six were female and 14 were male, with a mean age of 23.7 years (*SD* = 6.4). They represented a number of individual and team sports (i.e., martial arts, football, running, tennis, golf, swimming, running, rugby, and basketball) and ranged from recreational to national levels of competition. All participants had fully recovered from their injuries and returned to full training and/or competition. Participant information is provided in Table 1.

Semi-Structured Interview Guide

Based on Salim et al.'s (2015) findings, a semi-structured interview guide was developed to gain an understanding of the participants' injury experiences. Although semi-structured interview guides are reported to be over relied on in sport psychology research, the rationale for using this method of data collection was because we had specific research aims and it has been shown to be useful in previous research when exploring events that follow a stage-by-stage temporal sequence (Culver, Gilbert, & Sparkes, 2012). Once developed, the

guide was piloted on two previously injured male athletes, who participated in football or rugby. Based on their feedback and the first author's personal reflections with the co-authors, a few changes were made to make the questions more user-friendly. Certain questions were also excluded as they were found to be unproductive for the aims of this study.

The final version of the interview guide contained three sections. In section one, the interviewer explained the objective of the study, after which the interviewee was encouraged to discuss their sporting background. Section two focused on the aims of the study, which for those high in hardiness it was to explain how they experienced SRG through the use of emotional support and positive reframing, whereas for those low in hardiness it was to explain why they were less likely to use the strategies that derive such benefits. This section also provided sufficient flexibility to enable the participants to contextualize their responses to these questions and allow for other ideas to be introduced that not only refine but also extend Salim et al.'s (2015) findings. The final section concluded the interview and invited the participant to add to anything previously discussed. Neutral non-directional probes were used throughout the entire interview process to help with detail, elaboration and clarification (e.g., Can you give me an example? What do you mean by this?).

Sixteen interviews were conducted face-to-face, in either a room that was provided by the University, or a place of best convenience to both the participant and the researcher (e.g., a local coffee shop). Four interviews were conducted over the telephone in a room provided by the University due to convenience and time constraints of the participants. Each interview lasted between 45 minutes and 130 minutes (M = 60.2; SD = 20.2) and was recorded in its entirety. All interviews were transcribed verbatim.

Data Analysis

Transcripts were analyzed and displayed using composite sequence analysis (CSA; Miles & Huberman, 1994). This form of qualitative analysis was developed to extract plots,

stories and scenarios that a number of cases share as meaningful time-ordered sequences. Considering the aims to this study were to explain how or why injured athletes high or low in hardiness are able or unable to foster growth (i.e., processes over time), the rationale for using CSA was because it accounts for time. Indeed, recovery from injury is viewed as a dynamic process, whereby responses are encouraged to be assessed in a temporal context (Wiese-Bjornstal, Smith, Shaffer, & Morrey, 1998). Data analysis involved five stages. First, all the transcripts were read and re-read by the first author to familiarize herself with the content. Second, chains of variables (i.e., causal streams) in the form of raw quotations were identified from the transcripts. Third, within-case causal networks were developed to provide an illustration of the relationships between the variables (Miles & Huberman, 1994). Fourth, cross-case causal networks were developed using comparative analysis for those high or low in hardiness. Finally, cross-case causal networks formed two time-ordered composite sequence maps to illustrate the overall findings of the study. The composite sequence maps are available from the first author.

Trustworthiness

Aligned with the philosophical orientation of this study, two techniques were selected and employed to bolster the rigor of the findings: member checking and peer-debriefing. These techniques were used over three phases. The initial phase followed data transcription, where the first author sent the respective transcripts to the participants by email to verify the data and to provide any additional commentary. All the participants responded and verified that the transcripts reflected their experiences; no additional commentary was provided at this stage. The second phase occurred during data analysis and involved the first author using the co-authors as ‘critical friends’ (Faulkner & Sparkes, 1999). Specifically, this debriefing involved the co-authors questioning the first author to ensure her personal experiences, attitudes, values, and/or beliefs were not biasing her interpretations of the findings, and that

she had a thorough understanding of the participants' experiences. This process involved the first author continually going back and forth between the transcripts and the co-authors. The resultant interpretations were continually discussed and reflected upon until consensus was achieved amongst all the authors. Once all researchers were in agreement, the final phase involved each of the participants reviewing their results face-to-face with the first author to verify that the interpretations were an accurate representation of their experiences and once again provided an opportunity for additional dialogue. All participants confirmed the researchers' interpretations and provided additional contextual findings surrounding the data.

Results

Four broad and sequential themes emerged from the interviews to explain how athletes high in hardiness promoted SRG, and why those low in hardiness are unable to derive such benefits. The themes are emotional trauma, emotional outlet, subsequent responses, and resultant outcomes. To more meaningfully compare across the two groups, the following descriptive account integrates high and low hardiness responses.

Emotional Trauma

Athletes low and high in hardiness recalled that when they incurred their injury through sport, they experienced a number of intrusive thoughts and negative emotions, which were found to emanate from real and perceived losses. Although the athletes recalled the typical process was that perceived loss resulted in intrusive thoughts and subsequent negative emotions; all participants highlighted that these three factors all mutually affected one another in a dynamic and reciprocal fashion (e.g., negative emotions led them to dwell on their perceived loss, which in turn led them to ruminate about their injury). In terms of real and perceived losses, the athletes mentioned losses in fitness, money, opportunities (sporting and non-sporting), independence, career, and athletic identity. One athlete high in hardiness expressed, ""Running makes me feel like I have a purpose, it is who I am. Without it I'm

lost"" (Participant 11), whereas another athlete expressed, ""I knew I would be off for a long period of time. I was in so much pain. I knew that I would lose my fitness. I was so frustrated; my pre-season training was a complete waste of time"" (Participant 16). These perceived losses led all the athletes to experience a number of negative emotions in the days and weeks following their injury, which were reported to engulf them. Specifically, the emotions reported were misery, anger, frustration, and disappointment. One athlete low in hardiness recalled:

> Sitting and doing nothing all day was so upsetting. It meant all I could do was think about it [injury], which made me more and more angry … I was angry at myself for getting injured and worried about how bad it was. I had just made my break through with a club and I thought that was it, my career was over (Participant 17).

The combined effect of the losses and unpleasant emotions led the participants to go down a negative spiral of intrusive rumination. The intrusive rumination about the event that led to the injury, concerns about how they would cope with the aftermath of their injury, and blaming oneself and/or others for the injury. Indeed, the participants explained that they would experience flashbacks or images of the incident that caused their injury, repeatedly ask themselves an ongoing set of questions (e.g., Why me? Why now?), and direct negative judgments towards themselves and/or others for being injured. One athlete high in hardiness commented:

> I just kept thinking about how it happened over and over again and I just couldn't understand it. I was so worried about how bad the injury was. I couldn't stop thinking, 'This is it, I will never swim again; everything I have ever worked for has come to an end. Life is so unfair, I don't deserve this. What am I meant to do now?' (Participant 15)

Emotional Outlet

Although both groups of athletes experienced emotional trauma following their injury, they differed in how they responded to this trauma. Athletes high in hardiness recalled disclosing their thoughts and feelings to members of their support network, whereas those low in hardiness reported having no emotional outlet. When asked why they did or did not disclose, the participants' reasoning reflected three themes: emotional climate, personal beliefs, and support exchanges. For those participants high in hardiness, their emotional climate outside of sport (e.g., family unit, circle of friends) encouraged disclosure. One athlete expressed:

> I talk to my friends about pretty much anything, so injury wasn't much different. I live with other runners, so talking about how we are thinking or feeling is pretty normal. When I was feeling down about my injury, they were the first people I spoke to … I am also really close to my Mum, I always have been. She's a really good listener. She never makes me feel embarrassed or silly for the things I say. Talking to her about feeling unhappy about my injury was a great comfort (Participant 19).

In contrast, the athletes low in hardiness recalled that in their emotional climate, both inside (i.e., training, socializing with teammates) and outside of sport (i.e., home, socializing with friends), they felt they needed to keep up the visage of being strong. This visage was shown from demonstrating 'mental toughness' and giving others the impression of coping well. The last thing the athletes reported was not wanting to demonstrate any sign of weakness. One athlete recalled:

> When you are playing sport you never want to show that you are weak. You learn that part of being a good sportsman is having mental toughness. If I start talking about my emotions and showing signs of weakness then people will probably tackle me even harder. Talking is just not something I do. You aren't going to sit around with your friends in the changing room and just start talking about how you are feeling. You just

have to get on with things. In all of the time I have been at the club, nobody has ever come up to talk to me about their emotions (Participant 5).

Based on previous personal experiences or from observing others expressing emotions in and outside of sport, the participants mentioned that their emotional climate reinforced their personal beliefs about disclosure. Athletes high in hardiness believed that disclosure was beneficial, they expressed: "It's good to talk", "Better out than in", and "It's cathartic to talk". One athlete commented:

> I just feel that getting it [thoughts and feelings] out is a weight off your shoulders and is something less to worry about. When you are feeling down about being injured and you can't stop thinking about it, having someone to talk to just makes it less stressful. It's when you don't talk about things; that's when things build up inside and you get angrier or upset (Participant 4).

The athletes low in hardiness reported contrasting beliefs. They believed that by talking to others about their emotions, they would be negatively evaluated and it would have consequences (e.g., team selection upon return to sport). Furthermore, some participants recalled that they believed that disclosing to others meant they would be a burden and that people have their own problems to deal with. One athlete expressed, "I just didn't want to burden others with my negative emotions … Everyone has their own things going on in life, which are more important than me. I'm sure they wouldn't want to sit and listen to me about a silly injury" (Participant 8). Another belief the participants highlighted was, "Talking to people about feelings wouldn't have helped me to recover any quicker" (Participant 2). Athletes low in hardiness were not concerned with their psychological recovery, and saw no relationship between their psychological and physical recovery.

The participants' emotional climate and personal beliefs were found to ultimately effect their support exchanges. Athletes high in hardiness reported that the support provided

by their support members' matched their needs. The types of social support provided were listening support, emotional support, and emotional challenge. Specifically, it was recalled that the support members would firstly provide listening support by encouraging the participants to express how they were thinking and feeling. During these support exchanges, the participants expressed that emotions would start to surface and their support providers would comfort them by demonstrating that they care for them, either verbally or through their actions (e.g., holding hands, arm around the shoulder). Finally, the support providers would challenge their emotions indirectly by disclosing about their own personal stressors, or directly by normalizing the injury or comparing it to more stressful injuries. The following example provides an insight into emotional challenge support:

> Sometimes the pain would be really bad and I would question whether I would ever get better. I would think it's not improving; I may as well give up. My parents would then say things like, ""It won't get better overnight"" … They would also explain to me that there are a lot of people less fortunate than me, and I can't feel too sorry for myself when there are other people who will never be able to walk again. I soon realized that worse things could happen in life than this injury (Participant 14).

In contrast, the support network of the athletes low in hardiness never asked them about how they felt and were more concerned with their physical injury because they could see it and observe its impact (e.g., flinching, limping, and grimaces of pain). As a result, their social network would offer information support, despite not having the necessary expertise. Throughout the remainder of the participants' recovery, the support members remained unaware of their psychological needs:

> There were quite a few people around, friends and parents but they didn't really help. They just didn't understand … Nobody said anything supportive. They just made things worse because they had no idea or understanding of how much it [sport] means

to me. How could they understand, they don't even play sport. They wouldn't know how it feels to miss a game (Participant 20).

Subsequent Responses

Having or not having an emotional outlet that met the needs of the participants was found to have an important influence on how they responded to and coped with the recovery process. For those athletes high in hardiness who had a supportive environment that aligned with their personal beliefs and psychological needs, they reported that their support exchanges led to: (a) positive reframing, (b) heightened positive affect, and (d) investing increased time and effort in resources. First, the participants reported their support exchanges reframed their perception of their injury by viewing it in a less stressful way and as a challenge to overcome. One athlete high in hardiness recalled, "When I was down, my dad would remind me situations which were worse. Like when I broke my leg, which made me see that although my injury seemed bad right now, it wasn't as bad as that" (Participant 16). Their support network also challenged them to think how they could make the most out of the situation by asking questions like: So what are you going to do now? How can you learn from this? What are you going to do with your free time?

From their support network enabling them to view their injury as a challenge to overcome, the participants recalled feeling more positive. Two athletes expressed, "I started to feel more optimistic, seeing what I could learn from this injury" (Participant 15) and "I became more positive on what I could get out of this experience" (Participant 12). Indeed, the athletes reported feeling gratitude towards their friends and family, more optimistic in making the most of their situation, and a great deal of interest in their injury and the recovery process. Another athlete commented, "I was down and upset, but I became more upbeat after chatting with my friend. I remember saying to my friend that I am going to do what I can to make myself better; I need to be positive and get back" (Participant 20). These

positive feelings then led them to identify and invest time and effort in their physical and social resources. With regard to the physical resources, the participants reported investing time and effort into the sports club's gymnasium to work on their non-injured muscle groups, as well as the learning resources available to them (e.g., library, internet at home) to better understand their injury, the recovery process, and effective training methods. One athlete recalled, ""I become really interested in my injury. I couldn't do any sport with my injury, so I thought I would learn about it instead. I spent lots of time researching my injury and asking the physiotherapist questions"" (Participant 11). In terms of their social resources, the participants reported that they decided to invest their free time into their family, close circle of friends, and reflecting on themselves. One athlete recalled, ""I did not have a very good relationship with my brother before my injury because we have just never really got on. But when I got injured I decided to spend more time together"" (Participant 14).

In contrast, the athletes low in hardiness expressed different resultant responses from their social support network not meeting their psychological needs. Three resultant responses reported were: (a) suppressing negative emotions, (b) expressing positive emotions, and (c) emotional outbursts. With regard to emotional suppression, those low in hardiness recalled that they would 'bottle up' the negative emotions they were really feeling as a way to cope with the social norms in their sporting and nonsporting environments. However, although suppressing their negative emotions helped them to avoid being judged and/or a burden on others, the participants did not think it was an effective strategy. One athlete commented:

> I didn't talk to anybody. I bottled things up and it makes things worse. I never offloaded to anyone about how I felt. Not telling anyone actually made me feel worse because all my anger and frustration just built up and I became more and more miserable. The more I kept my emotions in, the angrier I got, and the more I got annoyed with everyone around me (Participant 6).

Due to the participants' ineffective attempts to manage their negative thoughts and feelings, many highlighted that they continued to have repeated episodes of intrusive rumination and experienced negative emotions throughout their recovery. These responses led to them being unable to reframe their injury. One athlete reported, ""I felt worst [during rehabilitation] than I did when I got injured. I was filled with anger, disappointment; I couldn't see myself recovering or see any light at the end of the tunnel. It seemed to just go from bad to worse"" (Participant 4). These episodes occurred at sporadic times, but typically when they were by themselves (e.g., first thing in the morning, last thing at night). When the athletes were with others in a sporting context however, they coped by expressing positive emotions (e.g., cheerful, happy, upbeat, interested) as they found it easier just to tell people what they wanted to hear. The following athlete mentioned his typical response to questions about his injury:

> I would say, ""Yeah, I'm fine thanks, really happy with the way rehab is going. I'll be back soon."" I kept telling everyone how excited I was about coming back. I'd also be really cheerful for everyone else. But, yeah, deep down, especially when I was on my own, I was pretty miserable (Participant 7).

As a consequence of suppressing negative emotions and expressing positive emotions, participants recalled that every now and then, they would have an emotional outburst. These outbursts were described as their emotions 'boiling over', and things just getting too much for them, resulting in them verbally shouting towards members of their social network. To their frustration, the outbursts would often be directed towards those who they valued most (i.e., close friends, immediate family). One athlete mentioned:

> I would shout or get cross at people around me. I remember my mum trying to help me upstairs to the toilet one day, and I ended up shouting, ""Just leave me alone! I

> can do it myself. Go away, I don't want you here."" I didn't mean it like that, but I said it so aggressively, just because I was so frustrated (Participant 9).

Resultant Outcomes

The participants' subsequent responses were reported to lead to resultant outcomes. The outcomes recalled however, differed between the high and low hardiness groups. The athletes high in hardiness mentioned three resultant outcomes: (a) physical growth, (b) psychological growth, and (c) behavioral growth. Although some of the areas of growth recalled within these themes were not related across the themes, many of them were related. For example, one aspect of physical growth was improved strength and conditioning, which according to the participants led to psychological growth (i.e., confidence in one's physical prowess) and behavioral growth (i.e., positive actions for improvement). Another example is that of psychological growth, where having a greater empathy for others was mentioned by the participants to lead to them help other injured athletes in need (i.e., behavioral growth).

With regard to physical growth, the participants recalled that from investing time and effort in their physical environment during their recovery the athletes were able to see improvements in their flexibility, conditioning, strength, and core stability; all of which, according to the participants, lead to decreased risk of future injury. One athlete mentioned:

> I definitely became physically stronger because of my injury and I have had less niggles since returning back. I used to get a sore back all of the time, but I worked on my weaker muscles while I was off … The physiotherapist gave me some excellent exercises to do whilst I couldn't use my knee. And the time I spent in the gym was so effective because I wouldn't have worked on those muscles if I didn't get injured … I also increased my flexibility, which is something I had never worked on. I had so much free time that I took that time to stretch more because my physiotherapist suggested it could prevent me getting injured again (Participant 17).

Athletes also recalled experiencing psychological growth, which was reported to entail developing positive relations with others, having a new appreciation and outlook on life, having a new appreciation and outlook on sport, gaining a new awareness of one's limits and capabilities, gaining a sense of mastery, and having a greater knowledge of health-related behaviors. This growth was a result of investing time and effort into their social network (e.g., family, friends, coach, and physiotherapist) and taking the time to reflect. For example, one athlete mentioned:

> Before my injury I had an awful relationship with my mum, we couldn't be in the room with one another without arguing! My mum helped me so much throughout my injury, even with things like putting my socks on and helping me to the bathroom. I realized how good she was to me during my worst time, and I appreciate her far more now, which has brought us so much closer. We now spend a lot of time together, respect each other more and I do my best to help her out around the house (Participant 18).

Finally, all athletes recalled experiencing behavioral growth, which is reflective of positive actions. The actions include warming up and cooling down properly, eating healthier, having a better work-life balance, asking for help when needed, no longer messing about in training, spending more time with family and friends, helping people who need it (e.g., injured athletes), listening more carefully to others, and performing better in sport. This growth developed by investing time into their physical and social resources. For example, one athlete commented:

> Before my injury I used to think, 'I am slim, if I don't exercise much it doesn't matter, nothing can stop me'. I thought because I was slim I was fit; I ate what I wanted, I trained when I wanted and I messed around [in training] so much … I would warm up for about 2 minutes and wouldn't bother to cool down. But from dislocating my hip, it

> was the most painful experience ever … It scared me so much. I also put on so much weight and couldn't train … I realized what I was eating was unhealthy. Now, I have changed my diet, I know when is the time to be serious in training, and I make sure I warm up and cool down every session because I never want to injure myself like that again (Participant 12).

In contrast to those high in hardiness, the low hardiness counterparts experienced no growth-related outcomes. Three contrasting resultant outcomes were reported: (a) returning back to sport too early, (b) re-injury, and (c) poor sporting performance. Indeed, over half the athletes low in hardiness reported that they returned back to training and/or competition too early because they wanted to feel good again or were getting bored. One athlete mentioned, ""I started feeling a little bit better so I just went back, I knew I wasn't 100% but I got bored being at home"" (Participant 10). This resultant outcome however, led to them getting re-injured:

> I didn't cope with my injury very well at all. Being injured is the worst thing ever. At the start I was so angry, rehabilitation was slow and I was in pain for so long; I got so bored of being injured and missed playing so much, I went back a few weeks earlier than the physiotherapist said but I thought I would be fine. But, I got re-injured and now need an operation on my knee (Participant 6).

For those who did not get injured, they recalled performing badly in their first session back. They mentioned being 'more in their head' rather than focusing on their game plan or tactics, and would pull away from tackles or demanding actions to protect their injury body part. For example, one athlete expressed:

> I got bored and just wanted to return. I lost my place in the first team, because I retuned when I wasn't fit or ready and played so badly. My coach took me off after

only 10 minutes in the game. I was so excited about coming back but after my performance, I didn't feel good (Participant 3).

Discussion

The purpose of this study was to explain how injured athletes high in hardiness are able to experience SRG and explore why those low hardiness were unable to foster such perceived benefits. Findings revealed that athletes high in hardiness were able to experience SRG because their support network provided them with an outlet for their emotions, which enabled them to reframe their injury from a stressful event into a challenge to overcome. From having a challenge appraisal, the athletes were able to experience positive affect (e.g., gratitude, optimism, interest), which led them to invest their time and effort into their physical and social resources. Interestingly, these findings not only refine and extend Salim et al.'s (2015) findings, but also significantly contribute to bodies of literature focusing on hardiness and SRG. In term of Salim et al.'s study, the current findings extend theirs in four important ways: (a) they describe the use of emotional support and positive reframing and how they relate to one another, (b) they give greater insights into the participants' SRG experiences (i.e., physical, psychological, and behavioral), (c) they explain how certain coping strategies led to SRG (i.e., positive affect), and (d) they provide a context to the previous findings (e.g., emotional trauma, emotional climate, and personal beliefs).

The findings also extend hardiness research. Maddi (2005) reported that over 1,000 studies on hardiness have been published, and this body of research has shown hardiness to lead to desirable health- and performance-related outcomes through four mechanisms: (a) appraisal, (b) social support, (c) transformational coping, and (d) positive health practices. The findings from this study suggest however, that another mechanism by which hardiness may operate is through positive affect. The study of positive affect has not received much research attention in the sport psychology literature (cf. McCarthy, 2011). However, it is

gaining increased attention in other fields of research. One theory that has helped to explain this phenomenon is Frederickson's (1998) broaden-and-build theory of positive emotions. The theory suggests that positive emotions not only 'broaden' an individual's momentary thought-action repertoire, but also 'build' an individual's resources. For example, the positive emotion of interest is suggested to create the urge to explore, to learn, to immerse oneself in novelty (i.e., thought-action repertoire) and thereby expand one's knowledge base (i.e., durable resource). Interestingly, this resonates with the current findings that show 'interest' led athletes high in hardiness to learn more about their injuries and the recovery process, which promoted psychological growth. What is also noteworthy is that theories and associated research examining SRG have yet to identify positive emotions as a mechanism leading to growth (for a theoretical review, see Joseph & Linley, 2006). Clearly, researchers interested in hardiness, SRG, and/or sport injury should consider the role of positive emotions.

This study also examined the experiences of athletes low in hardiness, which is a group of individuals who have not received a great deal of research attention in sport or other fields of research. Their social environments did not encourage disclosure of negative emotions, the support offered to them from their social network outside of sport did not inquire about their psychological needs, and they did not personally believe that emotional disclosure would be advantageous. However, not having an emotional outlet was reported to result in the athletes suppressing their thoughts and feelings, leading to increasing bouts of intrusive rumination and the inability to reframe. In addition, they would cope with social exchanges in their sporting environment by expressing inauthentic positive emotions. The resultant outcomes from these responses were returning to sport too soon, re-injury and poor performance. Interestingly, these findings extend previous research in sport psychology examining growth, in that they identify the barriers to positive changes following a stressful

event. Many of the sentiments resonate with Mankad et al.'s (2009a) research however, who found injured athletes to report feeling as though they needed to inhibit their emotions in a sporting culture to maintain an image associated with being 'tough'. Their study, likes ours, however, only employed one-method of data collection (i.e., semi-structured interviews) and this method is limited in that is that fails to capture the dynamics of sporting cultures. Future researchers, therefore, should consider embracing alternative methodologies (e.g., ethnography) and methods (e.g., observations) to fully understand the social pressures injured athletes encounter. Furthermore, researchers should not only aim to examine 'what' injured athletes say, but also 'how' say it (Smith & Sparkes, 2009).

Considering the importance of meeting injured athletes' psychological needs, the current findings represent a challenge for practitioners. On the one hand, the athletes low in hardiness do not want to disclose their emotions because of the adverse consequences it may have (e.g., sign of weakness, future team selection), yet on the other hand by keeping their emotions to themselves it is likely to have a negative effect on their physical and psychological recovery. It could be recommended therefore, that sporting clubs aim to challenge and change their culture to encourage emotional disclosure, that support providers (sporting and non-sporting) are taught the communication strategies to foster effective exchanges that challenge athletes' beliefs and promote disclosure, and/or we as a profession also explore other methods of enabling athletes to disclose their emotions (e.g., written disclosure, art therapy, music therapy). For example, a significant body of research has examined the efficacy of written disclosure (for a review, see Frattarolli, 2006); however, very limited research has examined this type of disclosure with injured athletes, and in particular athletes who are prone to emotional suppression (Mankad & Gordon 2010; Mankad, Gordon & Wallman 2009b). Indeed, written disclosure could be used at injury onset and rehabilitation to encourage injured athletes to reframe their situation as a challenge to

599 overcome and/or also during their return-to-sport as a reflective tool to learn for the future.
600 Future researchers are encouraged to explore the efficacy and effectiveness of various
601 interventions to encourage disclosure and whether these in turn can led to the experience of
602 SRG.

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