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Prifysgol Fetropolitan Caerdydd

CARDIFF SCHOOL OF SPORT

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**THE RELATIONSHIP BETWEEN SOURCES OF
CONFIDENCE AND RE-INJURY ANXIETY IN INJURED
ATHLETES**

**(Dissertation submitted under the discipline of
PSYCHOLOGY)**

AMY WRIGHT-HAMILTON

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CONFIDENCE AND RE-
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INJURED ATHLETES**

Cardiff Metropolitan University
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ABSTRACT

Despite the importance afforded to re-injury anxiety in an injured athlete's return to sport and the suggestion that confidence may off-set this, there has been a lack of focused research into the relationship between re-injury anxiety and confidence. The aim of the present study was to address this oversight by exploring the relationship between sources of confidence and re-injury anxiety. Injured athletes ($N=40$) who had been injured for a minimum of 6 weeks and had competed at club level or above, completed the Modified Sources of Sport-Confidence Questionnaire (M-SSCQ; Magyar & Duda, 2000) and the Re-injury Anxiety Inventory (RIAI; Walker, Thatcher & Lavalley, 2010). Multiple regression analysis was conducted to determine the relationship between the nine sources of confidence used by athletes and re-injury anxiety. The results indicated that during rehabilitation, there was a significant relationship between re-injury anxiety and mastery ($p<.05$) and physical self-presentation ($p<.05$). During return to sport, there was a significant relationship between re-injury anxiety and mental and physical preparation ($p<.05$) and physical self-presentation ($p<.001$). The findings suggest that specific sources of confidence are significantly related to re-injury anxiety. Furthermore, the findings suggest that certain sources of confidence may play an important role in helping injured athletes offset the potentially detrimental effects of re-jury anxiety. Future research could gain a further insight into the relationship between sources of confidence and re-injury anxiety by examining this relationship over the three distinct phases of the injury process.

CHAPTER 1

INTRODUCTION

1.1 Introduction

Whether participating at a club or an elite level, the risk of injury and its subsequent consequences are a fundamental part for many athletes' sporting careers (Sáez De Herdia, Muñoz & Artaza, 2004). Over recent years, injury has been acknowledged by several researchers as a stressful experience that may challenge athletes' resources (Podlog & Eklund, 2006; Tracey, 2003; Wadey & Evans, 2011). Therefore, there has been a growing recognition of the role that psychological factors play in expediting injured athletes' rehabilitation from injury and return back to competitive sport (e.g., Podlog & Eklund, 2006). One of the biggest challenges athletes face as part of this process is dealing with re-injury anxiety (Podlog & Eklund, 2006; Wadey & Evans, 2011). However, despite the growing recognition of the issues associated with the return to sport phase generally, and the effects of re-injury anxiety, specifically, to date it has received limited focused research attention. One variable that has been seen as a means of overcoming re-injury anxiety is confidence (Anderson, 2001). To elaborate, research suggests that confidence restoration within injured athletes is fundamental to reduce the likelihood of re-injury anxiety (Christakou, Zervas, Stavrou & Psychountaki, 2011) and therefore facilitate a more successful return to sport (Magyar & Duda, 2000; Taylor & Taylor, 1997). Furthermore, research has sighted importance on the specific sources of confidence athletes utilise (Bandura, 1982; Vealey, 1998). Research has suggested that specific sources of confidence may facilitate towards a successful return to sport, while others may be debilitating (Kingston, Lane & Thomas, 2010; Vealey, 1998). However, despite such suggestions, the relationship between self-confidence and re-injury anxiety remains unclear.

Therefore, the purpose of the present study was to address this oversight and examine the relationship between sources of confidence and re-injury anxiety in injured athletes. Forty athletes completed a Modified Version of the Sources of Sport Confidence Questionnaire (M-SSCQ; Magyar & Duda, 2000) and the Re-Injury Anxiety Inventory (RIAI; Walker, Thatcher & Lavalley, 2010). Data was analysed to explore possible relationships between the sources of confidence and re-injury anxiety.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter will begin to examine the psychological responses associated with athletic injury and the problems athletes may experience as a result of this. Secondly, the chapter will discuss sport confidence research, with reference to sources of confidence and the influence it has on injured individuals. This chapter will also highlight the importance of confidence in relation to re-injury anxiety.

2.2 Athletic Injury

Injured athletes have to contend with a variety of unfamiliar demands and stressors, which may be characterised by periods of uncertainty, unpredictability and frustration (Kolt, 2000) and for the majority of athletes, these demands are negative (Kvist, Ek, Sporrstedt & Good, 2005). Indeed, “with often unfamiliar and varied demands, responses, outcomes and implications, injury can pose a significant threat to athletes coping resources” (Wadey & Evans, 2011, p.3). According to a number of researchers, the most prevalent demands that athletes face are associated with confidence and re-injury anxiety (Podlog & Eklund, 2006; Wadey & Evans, 2011). However, surprisingly, there is limited research into the relationship between confidence and re-injury anxiety.

2.3 Psychological Responses to Injury

Wiese-Bjornstal, Smith, Shaffer, and Morrey (1998) proposed that injury will influence an individual’s perceptions of one’s self, esteem, worth and capabilities. Indeed, Leddy, Lambert and Ogles (1994) found that self-esteem was significantly lower in injured and late injured athletes, compared to non-injured and recovered athletes. Clearly, self-perceptions can be an influential factor in how an individual copes with injury. However, according to a number of studies, confidence seems to be more of a prevalent theme within the injury domain; for example, a decrease in self-efficacy and confidence has been noted as a recurrent response by injured athletes, particularly when returning to sport (Bandura, 1990). Evans, Hardy and Fleming (2000) also found that injured athletes’ experience a deficit in confidence; in addition to feelings of frustration and anxiety. Indeed, diminished confidence has been observed to be extremely prevalent amongst injured athletes (Bandura, 1990; Evans et al., 2000; Magyar & Duda, 2000; Podlog & Eklund, 2006; Wadey & Evans, 2011).

In order to explain athletes' psychological responses to injury, researchers have proposed a number of theoretical models. Of these, Wiese-Bjornstal et al.'s (1998) integrated model of response has received the greatest research attention (Brewer, 2010). This stress based model considers the significance of both pre-injury factors (personality, coping resources and history of stressors) and post-injury factors (personal and situational variables). Wiese-Bjornstal et al. (1998) proposed that both these factors influence an athlete's cognitive, emotional and behavioural response to injury, mediated by a process of cognitive appraisal. Ultimately, an athlete's appraisal will influence the success of their rehabilitation programme and recovery outcome. For example, a positive appraisal towards returning to sport may encourage compliance and adherence (Podlog & Eklund, 2007); whereas a negative appraisal may lead to maladaptive behaviours, which could be detrimental to rehabilitation (Anderson, 2001).

Wiese-Bjornstal et al. (1998) proposed that an athlete's cognitive appraisal of the injury can influence their emotional responses, which subsequently impacts their behavioural responses. It has also been argued that an individual's cognitive appraisal changes over time and therefore, both emotional and behavioural responses are transient in nature (Bianco, 2001; Chang & Grossman, 1988; Quinn & Fallon, 1999; Wadey & Evans, 2011). As a result, researchers have acknowledged three salient phases of recovery; injury onset, rehabilitation and return to competitive sport (Wadey & Evans, 2011). At the onset, injured athletes endure some of the most intense, obscure emotions of all the phases (e.g. Carson & Polman, 2008). Feelings of shock, anger, frustration and depression have been reported during the onset (Tracey, 2003), while feelings of despair and uncertainty have been reported during rehabilitation (Kolt, 2000) and are replaced with feelings of anxiety and impatience when returning to competitive sport (Wadey & Evans, 2011); responses which may reflect a concern about an inability to perform to pre-injury levels (Podlog & Eklund, 2006) and external pressures from coaches and team mates to return prematurely (Bauman, 2005). That said, these emotional responses tend to shift from a negative to a positive state over the recovery period (McDonald & Hardy, 1990; Tracey, 2003). In terms of confidence, Podlog and Eklund (2006) found a deficit in confidence at the time the injury occurred, with an increase in confidence towards the completion of the rehabilitation programme.

However, although some studies have examined the temporal patterning of athletes' responses across the recovery period, it must be noted that the final phase of recovery, (returning to competitive sport), has received the most research attention due to its complex and challenging nature (Podlog & Eklund, 2006; Wadey & Evans, 2011). Indeed, the majority of studies that have explored the return to sport phase, have focused on three recurring themes; the decision to return to sport, returning to pre-injury levels of performance and re-injury anxiety - the most salient of which being re-injury anxiety (Evans et al., 2000; Kvist et al., 2005; Podlog & Eklund, 2007).

2.4 Re-Injury Anxiety

Returning to sport can be challenging for any athlete and present a range of uncertainties (Wadey & Evans, 2011). Re-injury anxiety may succeed these aforementioned uncertainties; namely, a lack of confidence within the injured limb, doubts about potential setbacks and the physical demands of training and competition (Podlog & Eklund, 2006). Indeed, various causes of re-injury anxiety have been suggested by researchers. For example, Podlog and Eklund (2006) identified avoidance of setbacks as one catalyst for re-injury anxiety. Other causes include ineffective, incomplete or incorrect rehabilitation (Taylor & Taylor, 1997), a loss of daily practice routine and soreness at the site of the injury (Petitpas & Danish, 1995). Although there is limited research into the causes of re-injury anxiety, contemporary research has increasingly acknowledged how re-injury anxiety may contribute to detrimental outcomes for an athlete returning to sport (Kvist et al., 2005). For example, Johnston and Carroll (1998) proposed that re-injury anxiety can manifest itself in a number of ways; including hesitation, avoidance of injury-provoking situations, reduced effort and exertion, heavy taping of injured limb and holding back.

More recently, Heil's (2000) psychophysiological risk model explains how re-injury anxiety may be a catalyst for a number of negative consequences to occur, including failure to return to sport and a decrease in motivation (Bianco, 2001; Christakou et al., 2011). Heil (2000) proposed that re-injury anxiety can initiate debilitating effects, both psychologically (a decrease in self-confidence, attention and concentration) and physiologically (a decrease in efficiency in the biomechanics of skill execution, co-ordination, muscle tension and over-arousal). Therefore, re-injury anxiety may be detrimental or debilitating for an athlete's performance upon returning from injury (McCloy, 2004). Furthermore, re-injury anxiety may not only have a negative effect on performance but may result in an increased likelihood of re-injury (Anderson, 2001). Indeed, 'the risk of re-injury in some sports is

greater than the risk of a first-time injury' (Caine & Maffulli, 2005, p.183). Gould, Udry, Bridges and Beck (1997) reported that 57.1% of injured skiers undergoing rehabilitation, experienced fear of re-injury. Similarly, Bjordal, Arnly, Hannestad and Strand (1997) found 30% of soccer players undergoing rehabilitation for an anterior cruciate ligament injury, experienced fear of re-injury. Indeed, re-injury anxiety has been viewed by athletes and coaches as one of the most salient factors to consider when returning to sport (Evans et al., 2000; Podlog & Eklund, 2007).

Therefore, in order to combat re-injury anxiety, researchers have suggested the salience of a number of coping skills and strategies (Bianco, 2001; Heil, 2000; Podlog & Eklund, 2006; Wadey & Evans, 2011). However in relation to re-injury anxiety, the role of confidence appears to be key (Andersen, 2001).

2.5 Self-Confidence

Research has suggested that confidence has been found to have a positive influence on behaviour (Vealey, 1986). Conversely, a lack of confidence has been linked to negative behaviours, including dissatisfaction, depression and anxiety (Vealey, 1986). Within sporting literature, self-confidence is prevalent amongst several contexts; including performance and injury (Vealey, 2001). Self-confidence has been defined as "the belief or degree of certainty individuals possess about their ability to be successful in sport" (Vealey 1986, p.222). In particular, self-confidence has been widely acknowledged by researchers as the most salient construct influencing performance (Vealey, Hayashi, Garner-Holman & Giacobbi, 1998). More specifically, this interest has emanated from the significant influence that a loss in self-confidence has on performance, for example choking (Vealey et al., 1998) and the positive outcomes an increase in self-confidence may have. For example, Hays, Thomas, Maynard and Bawden (2009) proposed that confident individuals have a tendency to be more skilled and efficient in utilising cognitive resources that are necessary for sporting success.

Fascination with this construct has steered researchers to develop several different theoretical frameworks to explain confidence within a psychology context. However, the two conceptual frameworks that have received the most empirical support are Self-Efficacy Theory (Bandura, 1982) and the Sport-Confidence Model (Vealey, 1986). According to Self-Efficacy Theory, an individual's perceived self-efficacy may influence behaviour, effort and performance. Self-efficacy has been defined as "beliefs in one's capabilities to

organize and execute the courses of action required to produce given attainments” (Bandura, 1997, p. 3) and has been suggested to be situation-specific. Therefore, self-efficacy is based on the performer’s perceptions of their ability to succeed in a particular situation at a given time (Hardy, Jones & Gould, 1996) and these perceptions of one’s efficacy have been suggested to stem from several sources of information (Maddux & Gosselin, 2003). The model proposed four sources where self-efficacy can be derived from; performance accomplishments, vicarious experiences, verbal persuasion and emotional arousal. Of these, performance accomplishments being the most important source of self-efficacy utilised. However, although this theory provided a fruitful, theoretical framework of confidence, these sources of self-efficacy were attributed to human behaviour and therefore the theory was not sport-specific. Consequently researchers questioned whether the sources of self-efficacy identified by Bandura (1982) were the most salient for athletes within unique sporting contexts (Magyar & Duda, 2000; Vealey, 1986).

Subsequently, Vealey (1986) acknowledged the latter criticisms of Self-Efficacy Theory and developed the first sport-specific model. As a result of this, Vealey (1986) adopted the term sport-confidence and defined it as “the beliefs in individual’s capability to be successful in sport” (p.222) and conceptualised sport-confidence into two constructs; sport-confidence trait (SC-trait) and sport-confidence state (SC-state). SC-trait was defined by Vealey (1986) as “the belief or degree of certainty individuals usually possess about their ability to be successful in sport” (p.223). In contrast, SC-state was referred to as “the belief or degree of certainty individuals possess at one particular moment about their ability to be successful in sport” (Vealey, 1986, p.223). However, according to Vealey (1986), sport-confidence levels are also influenced by competitive orientation, as well as the sporting situation. In this context, competitive orientation is considered to be a trait like construct, which refers to an individual’s tendency to attempt to achieve personal goals when competing (Vealey, 1986). Furthermore, Vealey’s (1986) model predicted that competitive orientation interacts with SC-trait to influence SC-state. However, there was limited support for the relationship between competitive orientations and self-efficacy (Martin & Gill, 1991). In addition, Vealey’s (1986) model did not examine the determinants of sport-confidence (Vealey, 1998). As a result of the aforementioned criticisms, Vealey et al. (1998) later revised the sport-confidence model and aimed to further Vealey’s (1986) work by examining sources of confidence within a sporting environment.

2.6 Sources of Self-Confidence

Vealey et al. (1998) developed a new, reconceptualised model of sport-confidence, comprising demonstration of ability, mastery, mental and physical preparation, environmental comfort, coach's leadership vicarious experience, social support, physical self-presentation and situational favourableness. Not only did this model account for athletes' characteristics, but it proposed that organisational culture (competitive level, motivational climate and goals of sport programmes) may also influence an athletes' level of sport-confidence. Vealey et al. (1998) found that mastery, mental and physical preparation and demonstration of ability were identified as the most significant sources of confidence. Vealey et al. (1998) proposed that sources of confidence based on controllable factors (mastery and mental and physical preparation) facilitate positive outcome, more so than sources of confidence based on uncontrollable factors (physical self-presentation). Furthermore, Vealey et al. (1998) also reported that the sources of confidence used were dependant on gender differences; female athletes found social support and physical self-presentation to be more significant sources of confidence compared to male athletes.

Gender differences were also found by Hays, Maynard, Thomas and Baldwin (2007), who conducted a qualitative study to ascertain the sources of confidence utilised by World Class athletes. Similar to findings reported by Vealey et al. (1998), preparation, social support, physical self-presentation and performance accomplishments were proposed to be the most important sources of confidence (Hays et al., 2007). Additionally, coaches' leadership was also identified as a source of confidence. Gender was found to be an influential factor in the type of confidence used within this study; in particular, females placed more emphasis on good personal performances as a source of confidence, whereas males focused more on successful competitive outcomes as a source of confidence.

More recently, Kingston et al. (2010) examined the sources of confidence utilised by elite athletes who competed in individual sports. Demonstration of ability, mental and physical preparation, physical self-presentation and situational favourableness were the favoured sources of confidence among athletes; similar to those of Vealey et al. (1986) and Hays et al. (2007). Kingston et al. (2010) also identified both uncontrollable sources (demonstration of ability, physical self-presentation) and controllable sources of confidence (social support, mastery, mental preparation). The findings suggested that a large

proportion of athletes acknowledged an uncontrollable source of confidence as the most significant compared to more controllable sources of confidence. This could be seen as detrimental since Vealey et al. (1998) proposed that athletes who utilise uncontrollable sources of confidence may develop fluctuating, unstable levels of confidence. In part, appraising the stability and controllability of sources of confidence needs to be considered to facilitate the development of a stable and robust sport-confidence within athletes (Kingston et al., 2010).

2.7 Self-Confidence and Injury

Recently, researchers have acknowledged confidence as a fundamental construct associated with injury, particularly when returning to competitive sport (Heil, 1993; Magyar & Duda, 2000; Taylor & Taylor, 1997). For example, both Taylor and Taylor (1997) and Evans et al. (2000) identified confidence as the most significant contributor to a successful and timely recovery. In particular, confidence in the injured body part has been identified as a significant determinant of a successful return to sport (Evans et al., 2000). Indeed, an athlete must have confidence that the previously injured body part can withstand the demands of competition (Podlog & Eklund, 2009). Similarly, Podlog and Eklund (2006) reported that athletes experienced declines in confidence when returning to sport, due to their inability to return to pre-injury levels and competing against more accomplished players. Since research has suggested that one main cognitive response ensuing injury is the decline in athlete's self-confidence beliefs (Heil, 1993; Taylor & Taylor, 1997), it is fundamental that athletes should focus on the restoration of their self-confidence prior to their return, to ensure a successful return to sport (Magyar & Duda, 2000). Bandura (1990) advocated that self-confidence restoration should allow an athlete to be at a comfortable level of performance to feel confident about returning to competition. However, surprisingly, there is little empirical evidence to support confidence restoration, specifically within the rehabilitation setting.

Therefore, Magyar and Duda (2000) noted this and examined the relationship of self-confidence and sources of confidence on confidence restoration during injured athletes' recovery. Magyar and Duda (2000) found that performance-related sources of confidence (e.g. mastery and demonstration of ability) were significant predictors of the athletes' perceptions of self-confidence. In addition, the performance-related sources were positively correlated with confidence restoration during the mid-point of rehabilitation. Social support also emerged to be a valuable source of confidence to the athletes during

the rehabilitation period, which was suggested to help them to gain further insight into the rehabilitation process. Magyar and Duda (2000) proposed that the most important sources found can be employed by athletes and coaches to aid confidence restoration. In a similar vein, Evans et al. (2000) highlighted the importance of confidence restoration in injured athletes, when returning to sport. Within this study, confidence was acknowledged by the injured athletes as key to a successful return to sport. In particular, gaining confidence within similar situations in which the injury occurred and also in the injured body part in order for it to meet the demands of the sport (Evans et al., 2000). Interestingly, similar sources of confidence were noted as salient during the process of confidence restoration, when the athletes were returning to sport; for example demonstration of ability was utilised through simulation training.

2.8 Self-Confidence and Re-Injury Anxiety

A number of researchers have acknowledged a relationship between confidence and re-injury anxiety. Bianco, Malo and Orlick (1999) reported diminished self-confidence within athletes experiencing re-injury anxiety and identified both these factors as sources of stress when returning to sport. Similarly, McCloy (2004) highlighted the importance of confidence within injured athletes when attempting to avoid re-injury anxiety. However, despite the growing acknowledgement that re-injury anxiety is the most important factor in an injured athlete's return to sport (Wadey & Evans, 2011), and that confidence may offset this, there has been a lack of focused research into this relationship. Therefore, the purpose of the present study is to address this oversight by exploring the relationship between sources of confidence and re-injury anxiety in injured athletes.

CHAPTER 3

METHODOLOGY

3.1 Research Design

The present study adopted a quantitative approach since this approach allows variables to be directly measured and easily converted into numerical form; which then can be statistically analysed (Gratton & Jones, 2010). Questionnaires were used as the method of data collection because this method generates large amounts of highly structured quantitative data which can be analysed to assess statistical relationships (Gratton & Jones, 2010). Two variables were measured within this study; sources of sport confidence and re-injury anxiety.

3.2 Participants

Participants comprised a purposeful sample of injured athletes who met a number of criteria ($N=40$) (Clark-Carter, 2004). All participants were required to (a) be 18 years old or above; (b) have sustained a sport related injury; (c) be currently injured injury for a minimum of six weeks; and (d) have competed at club level or above before the injury occurred. Athletes were injured at the time of data collection to avoid the effects of memory decay. Gratton and Jones (2010) suggested an absolute minimum of thirty participants is required for basic descriptive statistics. Therefore, the sample consisted of female ($N=23$) and male ($N=17$) injured athletes whose ages ranged from 18 to 38. Participants competed at a range of different levels, from club to international and represented both individual ($N=17$) and team ($N=23$) sports. Participant's injuries included sprains ($N=2$), torn ligaments ($N=9$), dislocations ($N=4$) and broken bones ($N=5$).

3.3 Measures

Sources of sport-confidence. The M-SSCQ (Magyar & Duda, 2000; see appendix E) was used to measure athletes' sources of sport-confidence, which was specifically adapted for injured athletes.

The M-SSCQ comprises 43 items, and includes a total of nine subscales: mastery (i.e. "developing new skills and improving"), demonstration of ability (i.e. "demonstrating that I am better than others"), mental and physical preparation (i.e. "preparing myself physically and mentally for a situation"), physical self-presentation (i.e. "feeling good about my weight"), athletic trainer's leadership (i.e. "knowing my coach is a good leader"), social support (i.e. "receiving support and encouragement from others"), vicarious experience (i.e. "seeing a friend perform rehabilitation successfully"), environmental comfort (i.e. "performing in a rehabilitation environment that I like and in which I feel comfortable") and

situational favourableness (i.e. “seeing the breaks are going my way”). Participants were asked to rate their confidence level on a likert scale from 0 (not confident at all) to 7 (always confident). Krosnick and Fabrigar (1997) proposed that a 7 point scale is the optimum length for a rating scale. The item stem was ‘I usually gain/gained (as appropriate) confidence in my rehabilitation programme from...’.

The M-SSCQ has been reported to provide “a reliable and valid instrument to assess potential sources that are being used by athletes” (Magyar & Duda, 2000, p.386). Vealey et al. (1998) provided initial support for the validity and reliability of the SSCQ. Internal consistency for the SSCQ was measured by calculating Cronbach alpha coefficients. Over the four phases, alphas for the nine subscales ranged from .71 to .93, surpassing the .70 criterion, advocated by Nunnally (1978). However, more recent findings have provided discrepancies of reliability for athletic trainer’s leadership, environmental comfort and situational favourableness subscales (Magyar & Duda, 2000). Furthermore, Wilson, Sullivan, Myers and Feltz (2004) found limited support for situational favourableness in the SSCQ, therefore deemed this source unreliable. However, internal consistency for each source of confidence alphas again exceeded the criterion value of 0.70.

Re-Injury anxiety. The RIAI (Walker, et al., 2010; see appendix F) was used to measure participants’ re-injury anxiety (RAI). The RIAI includes 28-items, comprising of two factors: re-injury anxiety regarding rehabilitation (RIA-R: 15 items) (i.e. “I feel/felt nervous about becoming re-injured during rehabilitation”) and re-injury anxiety regarding returning to training/competition (RIA-RE: 13 items) (i.e. “I feel/felt confident that I will not become re-injured during re-entry into competition”). Participants were asked to rate the level of how much they feel they experience each item on a likert scale from 0 (not at all) to 3 (very much so). Walker et al. (2010) reported Cronbach alpha coefficients of .98 (RIA-R) and 0.96 (RIA-RE).

3.4 Procedure

Participation in the study was completely voluntary. Those participants who met the specific sampling criteria were contacted and asked to take part in this study. Those who agreed to participate were given a participant information sheet (see appendix B) and administered a consent form (see appendix C). All participants were informed that they have the right to withdraw from the study at any time. By acting ethically, participants are more likely to co-operate fully and therefore results are likely to be more valid (Clark-Carter, 2009). Furthermore, they were made aware that information gathered would be

kept securely and confidentially was assured. Participants were asked to answer each question as truthfully as possible; however it was emphasised that not all questions had to be completed if the participant felt uncomfortable in answering a certain question. Participants were then asked to complete a demographic information sheet (see appendix D), the M-SSCQ and the RIAI. Questionnaires were completed by participants at a convenient time and location and were then collected by the researcher once completed.

3.5 Data Analysis

Scores were produced from the M-SSCQ for each confidence source and the RIAI for re-injury anxiety. Similarly to Wilson et al. (2004), and as recommended by Tabachnick and Fidell (1996) and Field (2009), data from the nine subscales of the M-SSCQ and the two subscales of the RIAI were first pre-screened for internal reliability prior to the analysis. Cronbach alpha coefficients were calculated for all subscales of the M-SSCQ and RIAI. Scores of internal reliability exceeding .7 were accepted as having good reliability (Nunnally, 1978). Any subscale which scored below the criterion of .7 could indicate unreliable scales; therefore, each item within that particular subscale was examined to evaluate whether any errors could be identified. Any subscale which was below .7, but above .6 was accepted as reliable for the present study.

Field (2013) proposed that a multiple regression analysis should be used when there are multiple predictor variables, which may predict a specific criterion variable. Therefore, the present study employed multiple regression (using SPSS software for Windows version 20), to determine the relationship between the nine sources of confidence used by athletes and re-injury anxiety. In the absence of a clear hypothesis of the relationship between sources of confidence and re-injury anxiety, backwards stepwise regression was conducted. This procedure involved the computer placing all of the predictors into the model and the significance value for each predictor was examined to calculate the contribution of each predictor and then this significance value was compared against a removal criterion (Field, 2013). A predictor was removed from the model if that predictor met the removal criterion. The model then was re-estimated for the remaining predictors and each predictor was then re-assessed (Field, 2013). The B coefficient was then analysed to identify the strength and direction of any correlations found. The standardized beta value was also analysed to determine the unique contribution made by each predictor variable to the prediction of the outcome variable (Pallant, 2007). A value of $P > .05$ will also be used to determine the significance of the model as a whole and each regression

coefficient, as recommended by O'Donoghue (2012). Prior to the analysis, the violation of underlying assumptions of linearity, independent errors, homoscedasticity, normality and multicollinearity was assessed to ensure accurate results (Field, 2013).

CHAPTER 4

RESULTS

4.1 Scale Internal Reliability

The internal reliability for each RIAI and M-SSCQ subscale was calculated using Cronbach's alpha. Internal reliability for the RIAI is presented in Table 1 and for the M-SSCQ in Table 2. Acceptable Cronbach's alphas were reported for both RIAI subscales (ranging from .95 to .96) and for all M-SSCQ subscales (ranging from .72 to .91), with the exception of environmental comfort and leadership. Although the Cronbach's alphas for environmental comfort and leadership fell below the accepted 0.70 criterion (.69 and .66 respectively), both were deemed sufficiently adequate to be retained within the M-SSCQ having been acknowledged by athletes in previous confidence research as important (Hays et al., 2007; Kingston et al., 2010; Machida, Ward & Vealey, 2012; Magyar & Duda, 2000).

Table 1. Coefficient alphas for the subscales of the RIAI

	α score
Rehabilitation	.95
Returning to Sport	.96

Table 2. Coefficient alphas for the subscales of the M-SSCQ

	α score
Mastery	.81
Demonstration of Ability	.84
Mental and Physical Preparation	.72
Physical Self-Presentation	.91
Social Support	.88
Vicarious Experience	.90
Environmental Comfort	.69
Situational Favourableness	.72
Leadership	.66

4.2 Confirming Underlying Assumptions

All underlying assumptions of linearity, independent errors, homoscedasticity, normality and multicollinearity were checked prior to analysis. Values for the Durbin-Watson test of independence of 1.79 for rehabilitation re-injury anxiety and 1.35 for return to sport re-injury anxiety were both above 1 and below 3, which meant that independence can be assumed (Field, 2013). The tolerance and VIF values were assessed to test for multicollinearity amongst the data to ensure that the importance of each individual predictor could be assessed (Field, 2013). For tolerance and VIF values for all M-SSCQ subscales for re-injury anxiety, see appendix G and H. All M-SSCQ and RIAI subscales had acceptable tolerance values above 0.2 (Menard, 1995) and acceptable VIF values above 1 and below 10 (Bowerman & Connell, 1990).

4.3 Means and Standard Deviations

Means and standard deviations for all M-SSCQ subscale scores are shown in Table 3.

Table 3. Means and standard deviations for all the M-SSCQ for re-injury anxiety

	Mean	Standard Deviation
Mastery	5.530	0.947
Demonstration of Ability	3.867	1.630
Mental and Physical Preparation	5.300	0.952
Physical Self-Presentation	4.317	2.223
Social Support	5.417	1.285
Vicarious Experience	4.360	1.647
Environmental Comfort	4.813	1.175
Situational Favourableness	4.417	1.438
Leadership	5.920	0.796

4.4 Results of Multiple Regression - Rehabilitation RIAI Subscale

Results from the multiple regression analysis of sources of confidence and rehabilitation re-injury anxiety are presented in Table 4, 5 and 6. The model summary, presented in Table 4, confirms that all nine predictors accounted for 28% of the variance in re-injury anxiety.

Table 4. Model summary for the rehabilitation subscale of re-injury anxiety

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.529 ^a	.280	.064	9.511	
2	.529 ^b	.280	.094	9.356	
3	.529 ^c	.280	.122	9.211	
4	.527 ^d	.278	.147	9.080	
5	.522 ^e	.273	.166	8.979	
6	.517 ^f	.267	.183	8.886	
7	.502 ^g	.252	.189	8.852	
8	.475 ^h	.226	.184	8.881	1.792

For ease of interpretation, the following abbreviations will be used for each table throughout this sub-section.

- a. Predictors: (Constant), Mastery, Demonstration of Ability, Mental and Physical Preparation, Physical Self-Presentation, Social Support, Vicarious Experience, Environmental Comfort, Situational Favourableness, Leadership
- b. Predictors: (Constant), Mastery, Mental and Physical Preparation, Physical Self-Presentation, Social Support, Vicarious Experience, Environmental Comfort, Situational Favourableness, Leadership
- c. Predictors: (Constant), Mastery, Mental and Physical Preparation, Physical Self-Presentation, Social Support, Vicarious Experience, Environmental Comfort, Situational Favourableness
- d. Predictors: (Constant), Mastery, Mental and Physical Preparation, Physical Self-Presentation, Social Support, Environmental Comfort, Situational Favourableness, Leadership
- e. Predictors: (Constant), Mastery, Mental and Physical Preparation, Physical Self-Presentation, Environmental Comfort, Situational Favourableness,
- f. Predictors: (Constant), Mastery, Mental and Physical Preparation, Physical Self-Presentation, Environmental Comfort
- g. Predictors: (Constant), Mastery, Mental and Physical Preparation, Physical Self-Presentation
- h. Predictors: (Constant), Mastery, Physical Self-Presentation

Table 5 contains the ANOVA output, which showed that model 5 ($p<.05$), 6 ($p<.05$), 7 ($p<.05$) and 8 ($p<.001$) all significantly predict re-injury anxiety during rehabilitation, with all F-Ratios greater than 1.

Table 5. F-Ratio and significance values for each model of the M-SSCQ subscales

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1056.222	9	117.358	1.297	.279 ^a
	Residual	2713.678	30	90.456		
	Total	3769.900	39			
2	Regression	1056.150	8	132.019	1.508	.195 ^a
	Residual	2713.750	31	87.540		
	Total	3769.900	39			
3	Regression	1054.982	7	150.712	1.776	.127 ^c
	Residual	2714.918	32	84.841		
	Total	3769.900	39			
4	Regression	1048.920	6	174.820	2.120	.077 ^d
	Residual	2720.980	33	82.454		
	Total	3769.900	39			
5*	Regression	1028.700	5	205.740	2.552	.046 ^e
	Residual	2741.200	34	80.624		
	Total	3769.900	39			
6*	Regression	1006.240	4	251.560	3.186	.025 ^f
	Residual	2763.660	35	78.962		
	Total	3769.900	39			
7*	Regression	948.764	3	316.255	4.036	.014 ^g
	Residual	2821.136	36	78.365		
	Total	3769.900	39			
8**	Regression	851.478	2	425.739	5.398	.009 ^h
	Residual	2918.422	37	78.876		
	Total	3769.900	39			

Note. * significant at $p<.05$; ** significant at $p<.01$; *** significant at $p<.001$

Results of the multiple regression showed a significant relationship between re-injury anxiety and two of the nine subscales of the M-SSCQ, presented in Table 6. These subscales were mastery ($p<.05$) and physical self-presentation ($p<.05$). Table 6 also shows both unstandardized and standardized coefficients. The standardized coefficients show the unique contribution made by each source of confidence to the prediction of the outcome variable. Results showed that physical self-presentation made the strongest unique contribution to the prediction of rehabilitation re-injury anxiety.

Table 6. Unstandardized and standardized errors with significance values for each model of M-SSCQ subscales

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
		B	Std. Error	Beta			
1	(Constant)	30.226	13.660		2.213	.035	
	Mastery	-2.114	2.273	-.204	-.930	.360	
	Demonstration of Ability	.033	1.185	.006	.028	.978	
	Mental and Physical Preparation	-1.804	2.539	-.175	-.711	.483	
	Physical Self-Presentation	1.275	.962	.288	1.327	.194	
	Social Support	-.481	2.090	-.063	-.230	.819	
	Vicarious Experience	-.341	1.269	-.057	-.269	.790	
	Environmental Comfort	1.060	1.886	.127	.562	.578	
	Situational Favourableness	.537	1.473	.079	.365	.718	
	Leadership	-.328	3.032	-.027	-.108	.915	
2	(Constant)	30.259	13.388		2.260	.031	
	Mastery	-2.101	2.193	-.202	-.958	.345	
	Mental and Physical Preparation	-1.822	2.417	-.176	-.754	.457	
	Physical Self-Presentation	1.284	.904	.290	1.420	.166	
	Social Support	-.472	2.031	-.062	-.232	.818	
	Vicarious Experience	-.335	1.229	-.056	-.272	.787	
	Environmental Comfort	1.070	1.817	.128	.589	.560	
	Situational Favourableness	.545	1.422	.080	.383	.704	
	Leadership	-.341	2.949	-.028	-.116	.909	
	3	(Constant)	29.536	11.651		2.535	.016
Mastery		-2.193	2.011	-.211	-1.091	.284	
Mental and Physical Preparation		-1.863	2.354	-.180	-.792	.434	
Physical Self-Presentation		1.305	.872	.295	1.496	.144	
Social Support		-.576	1.792	-.075	-.322	.750	
Vicarious Experience		-.322	1.205	-.054	-.267	.791	
Environmental Comfort		.974	1.586	.116	.614	.544	
Situational Favourableness		.617	1.257	.090	.491	.627	
4		(Constant)	30.144	11.265		2.676	.012
		Mastery	-2.357	1.889	-.227	-1.248	.221
	Mental and Physical Preparation	-1.937	2.304	-.188	-.841	.407	
	Physical Self-Presentation	1.355	.840	.306	1.614	.116	
	Social Support	-.786	1.588	-.103	-.495	.624	
	Environmental Comfort	.979	1.564	.117	.626	.535	
	Situational Favourableness	.657	1.231	.096	.534	.597	
	(Constant)	29.607	11.087		2.670	.012	

5	Mastery	-2.284	1.862	-.220	-1.227	.228
	Mental and Physical Preparation	-2.519	1.960	-.244	-1.285	.207
	Physical Self-Presentation	1.238	.797	.280	1.554	.129
	Environmental Comfort	.881	1.534	.105	.575	.569
	Situational Favourableness	.642	1.217	.094	.528	.601
	(Constant)	30.325	10.889		2.785	.009
6	Mastery	-2.530	1.784	-.244	-1.418	.165
	Mental and Physical Preparation	-2.113	1.784	-.205	-1.184	.244
	Physical Self-Presentation	1.197	.785	.271	1.526	.136
	Environmental Comfort	1.194	1.400	.143	.853	.399
	(Constant)	33.611	10.147		3.312	.002
7	Mastery	-2.454	1.775	-.237	-1.383	.175
	Mental and Physical Preparation	-1.972	1.770	-.191	-1.114	.273
	Physical Self-Presentation*	1.497	.699	.339	2.142	.039
	(Constant)	29.889	9.613		3.109	.004
8	Mastery*	-3.454	1.536	-.333	-2.248	.031
	Physical Self-Presentation	1.219	.655	.276	1.861	.071

Note. * significant at $p < .05$

Table 7 provides a summary of each excluded variable for each model, giving the beta value, partial correlation and collinearity statistics (see appendix G).

4.5 Results of Multiple Regression - Return to Sport RIAI Subscale

Results of the multiple regression analysis of sources of confidence and return to sport re-injury anxiety are presented in Table 8, 9 and 10. The model summary, presented in Table 8, denoted that all nine predictors accounted for 47.6% of the variance in re-injury anxiety.

Table 8. Model summary for the return to sport subscale of re-injury anxiety

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.690 ^a	.476	.318	10.296	
2	.689 ^b	.475	.340	10.134	
3	.689 ^c	.474	.359	9.984	
4	.684 ^d	.467	.371	9.894	
5	.676 ^e	.457	.377	9.847	
6	.664 ^f	.440	.376	9.848	
7	.640 ^g	.409	.360	9.975	
8	.608 ^h	.370	.336	10.166	1.352

For ease of interpretation, the following abbreviations will be used for each table throughout this sub-section.

- a. Predictors: (Constant), Mastery, Demonstration of Ability, Mental and Physical Preparation, Physical Self-Presentation, Social Support, Vicarious Experience, Environmental Comfort, Situational Favourableness, Leadership
- b. Predictors: (Constant), Mastery, Mental and Physical Preparation, Physical Self-Presentation, Social Support, Vicarious Experience, Environmental Comfort, Situational Favourableness, Leadership
- c. Predictors: (Constant), Mastery, Mental and Physical Preparation, Physical Self-Presentation, Social Support, Vicarious Experience, Environmental Comfort, Leadership
- d. Predictors: (Constant), Mastery, Mental and Physical Preparation, Physical Self-Presentation, Social Support, Environmental Comfort, Leadership
- e. Predictors: (Constant), Mastery, Mental and Physical Preparation, Physical Self-Presentation, Social Support, Leadership
- f. Predictors: (Constant), Mental and Physical Preparation, Physical Self-Presentation, Social Support, Leadership
- g. Predictors: (Constant), Mental and Physical Preparation, Physical Self-Presentation, Leadership
- h. Predictors: (Constant), Mental and Physical Preparation, Physical Self-Presentation

The ANOVA output, presented in Table 9 showed that model 1 ($p < .05$), 2 ($p < .01$), 3 ($p < .01$), 4 ($p < .01$), 5 ($p < .01$), 6 ($p < .001$), 7 ($p < .001$) and 8 ($p < .001$) all significantly predict re-injury anxiety when returning to sport, with all F-Ratios greater than 1.

Table 9. F-Ratio and significance values for each model of the M-SSCQ subscales

Model		Sum of Squares	Df	Mean Square	F	Sig.
1*	Regression	2885.500	9	320.611	3.024	.011 ^a
	Residual	3180.475	30	106.016		
	Total	6065.975	39			
2**	Regression	2882.550	8	360.319	3.509	.005 ^b
	Residual	3183.425	31	102.691		
	Total	6065.975	39			
3**	Regression	2876.199	7	410.886	4.122	.002 ^c
	Residual	3189.776	32	99.681		
	Total	6065.975	39			
4**	Regression	2835.701	6	472.617	4.828	.001 ^d
	Residual	3230.274	33	97.887		
	Total	6065.975	39			
5**	Regression	2769.273	5	553.855	5.712	.001 ^e
	Residual	3296.702	34	96.962		
	Total	6065.975	39			
6***	Regression	2671.278	4	667.820	6.885	.000 ^f
	Residual	3394.697	35	96.991		
	Total	6065.975	39			
7***	Regression	2483.894	3	827.965	8.321	.000 ^g
	Residual	3582.081	36	99.502		
	Total	6065.975	39			
8***	Regression	2242.385	2	1121.193	10.850	.000 ^h
	Residual	3823.590	37	103.340		
	Total	6065.975	39			

Note. * significant at $p < .05$; ** significant at $p < .01$; *** significant at $p < .001$

Results of the multiple regression showed a significant relationship between re-injury anxiety and two of the nine subscales of the M-SSCQ, presented in Table 10, mental and physical preparation ($p < .05$) and physical self-presentation ($p < .001$). Table 10 also shows both unstandardized and standardized coefficients. The standardized coefficients show the unique contribution made by each source of confidence to the prediction of the outcome variable. Results showed that physical self-presentation made the strongest unique contribution to the prediction of return to sport re-injury anxiety.

Table 10. Unstandardized and standardized errors with significance values for each model of M-SSCQ subscales

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
		B	Std. Error	Beta			
1	(Constant)	54.232	14.789		3.667	.001	
	Mastery	-1.492	2.461	-.113	-.606	.549	
	Demonstration of Ability	-.214	1.283	-.028	-.167	.869	
	Mental and Physical Preparation	-3.878	2.749	-.296	-1.411	.169	
	Physical Self-Presentation*	2.253	1.041	.401	2.164	.039	
	Social Support	2.548	2.263	.263	1.126	.269	
	Vicarious Experience	-.739	1.374	-.098	-.537	.595	
	Environmental Comfort	1.135	2.042	.107	.556	.582	
	Situational Favourableness	.434	1.594	.050	.272	.787	
	Leadership	-4.149	3.283	-.265	-1.264	.216	
2	(Constant)	54.019	14.501		3.725	.001	
	Mastery	-1.572	2.375	-.119	-.662	.513	
	Mental and Physical Preparation	-3.763	2.618	-.287	-1.437	.161	
	Physical Self-Presentation*	2.202	.979	.392	2.248	.032	
	Social Support	2.489	2.200	.256	1.132	.266	
	Vicarious Experience	-.779	1.331	-.103	-.585	.562	
	Environmental Comfort	1.066	1.967	.100	.542	.592	
	Situational Favourableness	.383	1.540	.044	.249	.805	
	Leadership	-4.066	3.194	-.259	-1.273	.212	
	3	(Constant)	55.029	13.715		4.012	.000
Mastery		-1.576	2.340	-.120	-.674	.505	
Mental and Physical Preparation		-3.527	2.405	-.269	-1.467	.152	
Physical Self-Presentation*		2.154	.946	.384	2.276	.030	
Social Support		2.628	2.096	.271	1.254	.219	
Vicarious Experience		-.827	1.298	-.109	-.637	.528	
Environmental Comfort		1.312	1.676	.124	.783	.439	
Leadership		-4.415	2.826	-.282	-1.562	.128	
4		(Constant)	56.605	13.368		4.234	.000
		Mastery	-2.051	2.198	-.156	-.933	.358
	Mental and Physical Preparation	-3.654	2.375	-.279	-1.539	.133	
	Physical Self-Presentation*	2.278	.918	.406	2.483	.018	
	Social Support	2.079	1.894	.214	1.098	.280	
	Environmental Comfort	1.366	1.658	.129	.824	.416	
	Leadership	-4.365	2.799	-.279	-1.559	.128	

	(Constant)	58.373	13.132		4.445	.000
5	Mastery	-2.193	2.181	-.167	-1.005	.322
	Mental and Physical Preparation	-3.650	2.364	-.279	-1.544	.132
	Physical Self-Presentation*	2.582	.836	.460	3.088	.004
	Social Support	2.079	1.885	.214	1.103	.278
	Leadership	-3.646	2.647	-.233	-1.377	.177
	(Constant)	54.751	12.630		4.335	.000
6	Mental and Physical Preparation*	-4.666	2.137	-.356	-2.183	.036
	Physical Self-Presentation**	2.809	.805	.501	3.488	.001
	Social Support	2.541	1.828	.262	1.390	.173
	Leadership	-4.761	2.404	-.304	-1.981	.056
	(Constant)	51.887	12.621		4.111	.000
7	Mental and Physical Preparation	-3.301	1.922	-.252	-1.717	.095
	Physical Self-Presentation***	3.287	.737	.586	4.458	.000
	Leadership	-3.523	2.262	-.225	-1.558	.128
	(Constant)	38.270	9.279		4.124	.000
8	Mental and Physical Preparation*	-4.636	1.754	-.354	-2.644	.012
	Physical Self-Presentation***	3.250	.751	.579	4.326	.000

Note. * significant at $p < .05$; ** significant at $p < .01$; *** significant difference; $p < .001$

Table 11 provides a summary of each excluded variable for each model, giving the beta value, partial correlation and collinearity statistics (see appendix H).

CHAPTER 5

DISCUSSION

5.1 Introduction

The purpose of the present study was to explore the relationship between sources of confidence and re-injury anxiety in injured athletes. Results showed that there was a significant relationship between rehabilitation re-injury anxiety and two of the nine sources of confidence; namely mastery and physical self-presentation. Results also showed that there was a significant relationship between return to sport re-injury anxiety and two of the nine sources of confidence; namely mental and physical preparation and physical self-presentation.

This chapter will initially discuss the relationship between sources of confidence and rehabilitation and return to sport re-injury anxiety. The strengths and limitations of the present study will then be identified, followed by recommendations for future research. Subsequently, possible practical implications derived from the findings will be highlighted.

5.2 Sources of Confidence and Re-injury Anxiety

The results of the present study showed that two of the nine sources of confidence were significant predictors of rehabilitation re-injury anxiety and two of the nine sources of confidence were significant predictors of return to sport re-injury anxiety. Physical self-presentation made the strongest unique contribution to the prediction of both outcome variables, contributing more so to the prediction of return to sport re-injury anxiety, than rehabilitation re-injury anxiety. Furthermore, physical self-presentation was found to have a significant positive relationship with both re-injury anxiety subscales. In part, these findings are inconsistent with research which has questioned the significance of physical self-presentation and found this source to be one of the least important sources of confidence with regards to performance (e.g. Hays et al., 2007; Vealey et al., 1998). However, with regards to re-injury anxiety, physical self-presentation appears to be an important source of confidence to consider. A possible explanation for this could be the sample used within this study. Considering Vealey et al. (1998) suggested that body image is more important to females, it is notable that the present sample comprised of 23 female athletes. Furthermore, considering the present sample comprised of injured athletes who were currently not competing, concerns of body image may have been an issue due to the possible incapacitation. Indeed, Chan and Grossman (1998) found that injured athletes perceived their dissatisfaction of their body image more of a stressor, than non-injured athletes. Similarly, Hanton, Fletcher and Coughlan (2005) found body image and physique to be a significant stressor that may negatively influence confidence and performance.

Conversely, the present findings provide support for previous research. Research has acknowledged physical self-presentation as a maladaptive, uncontrollable source, which may elicit negative outcomes; for example, fluctuating, less stable perceptions of sport-confidence (Kingston et al., 2010; Machida et al., 2012). Furthermore, research suggests that a deficit in confidence may precede re-injury anxiety (Wadey & Evans, 2011). With regards to the present study, athletes who used physical self-presentation as a source of confidence, may have developed unstable perceptions of sport-confidence and as a result of this may have been more predisposed to re-injury anxiety. In addition, physical self-presentation contributed more to the prediction of return to sport re-injury anxiety, than rehabilitation re-injury anxiety. This is unsurprising considering re-injury anxiety has been cited as the most salient theme to athletes during the return to sport phase. Podlog and Eklund (2006) found that when returning to competitive sport, athletes experienced self-presentation concerns of not upholding their reputation, meeting the expectations of others and perceiving that they will perform poorly in front of coaches, spectators and fellow competitors. This may provide a possible explanation for the findings of the present study given that the athletes may have had concerns about how significant others perceive their performance when returning to competitive sport. It is clear that physical self-presentation is a significant contributor to the prediction of re-injury anxiety, therefore it important to recognise the detrimental consequences that physical self-presentation may have on confidence, and subsequently influence re-injury anxiety.

Mastery made the second strongest unique contribution to the prediction of rehabilitation re-injury anxiety. Furthermore, mastery was found to have a significant negative relationship with rehabilitation re-injury anxiety. These findings are not surprising since mastery experiences have consistently been identified as one of the strongest predictors of confidence for athletes across a number of sport contexts (Vealey & Chase, 2008). The findings are also consistent with those from Magyar and Duda (2000) who found that mastery was significantly related to confidence restoration during the mid-point of an athlete's rehabilitation. Therefore, mastery is an important source of confidence to consider in both injury and performance contexts. With regards to the present study, the findings suggest that as mastery use increased, symptoms of rehabilitation re-injury anxiety possibly decreased. A possible explanation for this could be that confidence levels were maintained by using mastery as a source of confidence. This contention is supported by Vealey et al. (1998), who suggested that mastery was based on controllable factors; therefore athletes who utilise this source are more likely to develop stable levels of

confidence. Indeed, sources of confidence based on controllable factors should facilitate a positive outcome, productive cognitions and continuing motivation more so than sources based on uncontrollable outcomes (Vealey et al., 1998). Furthermore, Duda, Smart and Tappe (1989) found that athletes who are more mastery focused and task-involved are more likely to adhere to their injury rehabilitation, and therefore make more of a successful recovery, suggesting that mastery has a positive influence on confidence. In relation to the present study, athletes who used mastery as a source of confidence may have developed a stable level of confidence, which could have potentially off-set re-injury anxiety. These explanations for the present study's findings are consistent with other findings and not only provide support for the significance of mastery in different sporting contexts, but highlight the possible positive outcomes (attenuation of the risk of re-injury anxiety) that can result from using mastery as a source of confidence.

From the present findings, it was evident that mental and physical preparation made the second strongest unique contribution to the prediction of return to sport re-injury anxiety. Furthermore, mental and physical preparation was found to have a significant negative relationship with return to sport re-injury anxiety. These findings are once again not surprising considering that preparation has been consistently identified as an important source of confidence for athletes (Hays et al., 2007; Kingston et al., 2010; Vealey et al., 1998). Therefore, mental and physical preparation is clearly a fundamental source of confidence to consider in both injury and performance contexts. In addition, mental and physical preparation has been suggested to be based on controllable factors (Kingston et al., 2010). Consequently, athletes who derive their confidence from more controllable sources are more likely to develop stable levels of confidence. In the context of re-injury anxiety, athletes who used mental and physical preparation as a source of confidence potentially developed stable levels of confidence and this subsequently attenuated the risk of re-injury anxiety manifesting. Another finding that emerged was that mental and physical preparation was only a significant contributor to the prediction of return to sport re-injury anxiety. One interpretation for this finding concerns the fact that the rehabilitation period can elicit negative emotions, unpredictability and a lack of control over the physical injury, which may explain why mental and physical preparation was not a significant contributor to the prediction of rehabilitation re-injury anxiety. This is supported by Wadey and Evans (2011) who suggested that during rehabilitation athletes experience negative emotions (e.g. feelings of despair, frustration and uncertainty) as they face the challenges of rehabilitation, for example setbacks, physical incapacitation and slowness of rehabilitation

progress. When returning to sport however, research suggests that athletes use mental and physical preparation. For example, Magyar and Duda (2000) found mental and physical preparation to be more important to athletes during their return to sport, than during rehabilitation. Evans et al. (2000) also highlighted the importance of preparation when returning to sport and suggested that athletes who questioned physical and psychological readiness to return were more likely to experience detrimental outcomes; such as re-injury anxiety. These findings suggest that placing emphasis on mental and physical preparation when returning to sport may reduce the likelihood of re-injury anxiety occurring; this was not the case however for rehabilitation re-injury anxiety.

A number of non-significant findings are also worthy of discussion. Specifically, leadership made the third strongest unique contribution to the prediction of return to sport re-injury anxiety and approached significance. This is consistent with Magyar and Duda's (2000) findings, which suggested that perceived leadership qualities of the athletic trainer was the most salient source of confidence rated by athletes. Similarly, Hays et al. (2000) found that males in particular, placed high importance on their coaches' ability to set an appropriate training program. Since approximately half the sample comprised of males, this may provide an explanation for the contribution of leadership to the prediction of return to sport re-injury anxiety. However, in relation to re-injury anxiety, results indicate that there is no significant relationship; therefore this suggests that leadership may not be as important to consider, than other sources of confidence.

Social support made the fourth strongest unique contribution to the prediction of return to sport re-injury anxiety. This is consistent with research which has suggested that social support is fundamental during rehabilitation, particularly when returning to sport (Podlog & Eklund, 2007; Wadey & Evans, 2011). Therefore, this contention supports the present findings, since social support was a contributor to the prediction of return to sport re-injury anxiety. Indeed, Rees and Hardy (2004) suggested that esteem support can instil confidence within an athlete; therefore understandably, social support may facilitate confidence restoration, thus potentially reducing the likelihood of re-injury anxiety. Likewise, Evans et al. (2000) suggested that informational support and emotional support may help to lower and/or eradicate re-injury anxiety. However, it must be noted that social support had a positive relationship with return to sport re-injury anxiety. This suggests that as the use of social support as a source of confidence increases, so does the likelihood of re-injury anxiety occurring. An explanation for this could be that the athletes from the

present sample experienced a mismatch with the social support they were being given, which resulted in negative outcomes. Indeed, the type of social support being given needs to be optimally matched to the individual's stressors needs in order for it to be beneficial (Mitchell, 2011).

Demonstration of ability made the lowest unique contribution to the prediction of both rehabilitation re-injury anxiety and return to sport re-injury anxiety. This finding is inconsistent with previous confidence research which suggests that demonstration of ability is one of the most salient sources of confidence identified by athletes, within performance context (Kingston et al., 2010; Vealey et al. 1998). In the absence of research, one possible interpretation for this could be that all of the participants of the present study were currently injured; therefore during the rehabilitation phase of injury. Majority of the research has focused on demonstration of ability as a source of confidence within the competition environment; for example Hays et al. (2007) reported athletes gained confidence from competition outcomes. During the rehabilitation phase of injury, athletes are removed from this competitive environment and therefore can no longer rely on demonstrating their ability through performance. During rehabilitation, athletes may not find it easy to access demonstration of ability as a source of confidence. For example, an athlete who gains confidence from being better than others will be unable to demonstrate their ability as they may be physically incapacitated. Indeed, the use of social comparison within a rehabilitation environment has been perceived as a stress by athletes that can elicit several detrimental outcomes (Gould et al., 1997). Therefore, with regards to the present study, it is clear that different sources of confidence contribute to re-injury anxiety, than performance.

The present findings indicate a significant relationship between certain sources of confidence and rehabilitation re-injury anxiety and return to sport re-injury anxiety. Although some findings were consistent with previous confidence research, there were some inconsistencies between the present results and previous research.

5.4 Strengths and Limitations

The current study had several strengths and limitation. A major strength of the study was that it explored sources of confidence and re-injury anxiety, an area of research that had lacked research attention.

A second strength of the study was that the sample was heterogeneous and as a result, the findings are generalisable to a wider population. However, it must also be recognised that the sample could also be a limitation because of what could be perceived as a relatively small size. Field (2013) proposed that for every predictor variable in the model used in regression, a minimum of 10 cases of data should be used.

One possible limitation of the current research design concerns the fact that the backwards stepwise method was used for the multiple regression analysis. The stepwise method is frowned upon by some statisticians since there are several issues with this approach and some controversy in the literature concerning this methods use (Pallant, 2007). One problem concerns the fact that the stepwise method is dependent on sampling error, therefore does not often produce replicable results (Biddle, Markland, Gilbourne, Chatzisarantis & Sparkes, 2001; Field, 2013). Mernard (2002) suggested that because of this, the stepwise method results should be considered as inconclusive.

Another potential limitation concerns the psychometric integrity of the M-SSCQ. Specifically, although two of the nine sources of confidence did not meet the .70 alpha criterion, both were deemed adequate to be retained in the M-SSCQ. This may be an issue considering Nunnally (1978) proposed that any subscale that does not meet the .70 alpha criterion is deemed unacceptable. However, since previous confidence research suggested the importance of both subscales, the justification for the inclusion of each subscale in the M-SSCQ was appropriate.

The final possible limitation concerns the fact that the present study only provided a snapshot perspective of the relationship between sources of confidence and re-injury anxiety, therefore failed to explore this relationship throughout the three distinct phases of injury (injury onset, rehabilitation and return to sport). Previous research has suggested that an athlete's response to injury is transient nature (Bianco, 2001; Wadey & Evans, 2011) and subsequently can change throughout the injury process. Furthermore, Magyar and Duda (2000) found that the salience of each source of confidence can differ

throughout the three phases of injury. Therefore, the contribution of specific sources of confidence to re-injury anxiety may differ for each of the three different phases.

5.6 Future Research

In outlining potential limitations of the present study, a number of possible future research directions warrant attention. Firstly, the results of the current study highlight possible underlying implications for the construct validity the M-SSCQ. Based on the unacceptable Cronbach alphas obtained from the present study and measurements from previous studies (e.g. Magyar & Duda, 2000; Vealey et al., 1998), there appears to be a need to carry out a large scale study to examine the psychometric integrity of the M-SSCQ, within an injury context.

Another recommendation for future research concerns the temporal nature of an athlete's response to injury (Bianco, 2001; Magyar & Duda, 2000). Future research may find it beneficial to carry out a longitudinal study. This will allow researchers to explore the relationship between sources of confidence and re-injury anxiety over a period of time, through each distinct phase of injury (e.g. injury onset, rehabilitation and return to sport). Therefore, future research should aim to examine the relationship between sources of confidence and re-injury anxiety over the three phases of injury and also examine these measures beyond the return to sport phase.

It is also notable that future research should consider categorising the injury severity of each participant. Wiese-Bjornstal et al. (1998) proposed that post-injury factors (e.g. injury severity and gender) can moderate an athlete's response to injury. Indeed, Evans and Hardy (1995) proposed that injury severity is a significant determinant of an athlete's emotional response to injury. Therefore, it seems that it may be useful for future research to examine whether the relationship between sources of confidence and re-injury anxiety is influenced by injury severity or not.

A final recommendation for future research concerns gender differences. Previous confidence research has suggested that there may the gender of an athlete may determine the sources of confidence used (Kingston et al., 2010). However, to date there has been no research focus around gender effects on re-injury anxiety. Therefore, future research should aim to explore the relationship between gender, sources of confidence and re-injury anxiety.

5.3 Practical Implications

There are several practical implications which can be derived from the present results. The findings suggest that athletes who use mastery as a source of confidence are less likely to experience rehabilitation re-injury anxiety, and athletes who use mental and physical preparation are less likely to experience return to sport re-injury anxiety. In contrast, athletes who use physical self-presentation are more likely to experience both rehabilitation re-injury anxiety and return to sport re-injury anxiety. Coaches and practitioners therefore, should be made aware of the particular sources of confidence which contribute to re-injury anxiety, and the possible influences they may have.

In particular, it is clear from the present findings that coaches and practitioners should be educated on how to promote a task-orientated training or rehabilitation environment (e.g. goal setting, task-specific focus), that promotes mastery involvement (Vealey et al., 1998) and mental and physical preparation. Subsequently, coaches and practitioners need to provide the opportunity for athletes to successfully demonstrate mastery, particularly in the rehabilitation setting, while focusing on mental and physical preparation when the athlete is returning to sport. Conversely, the reliance on physical self-presentation as a source of confidence should be discouraged by coaches and practitioners, to help attenuate the risk of re-injury anxiety. Furthermore, it must be noted that social support and leadership approached significance, thus coaches should be educated further on how to deliver such sources of confidence. Team mates should also be made aware of the different types of social support they can offer.

It is also clear from the present findings that coaches and practitioners should develop interventions that encourage the development of stable, robust perceptions of sport-confidence. It is evident that athletes who used sources of confidence based on controllable factors (mastery and mental and physical preparation), were less likely to experience re-injury anxiety. In contrast, athletes who used sources of confidence based on uncontrollable factors (physical self-presentation) were more likely to experience re-injury anxiety. This suggests that the stability of sources of confidence is an important factor to consider; therefore coaches in particular should also be educated about the stability of different sources of confidence, to allow them to place more emphasis on controllable sources of confidence.

CHAPTER 6

CONCLUSION

6.1 Conclusion

In conclusion, the present study attempted to explore the relationship between sources of confidence and re-injury anxiety in injured athletes. Significant relationships were found between rehabilitation re-injury anxiety and mastery and physical self-presentation and between return to sport re-injury anxiety and mental and physical preparation and physical self-presentation. While not statistically significant, leadership and social support emerged to make the third and fourth strongest unique contribution to the prediction of return to sport re-injury anxiety respectively. Demonstration of ability however, made the lowest unique contribution to the prediction of both rehabilitation re-injury anxiety and return to sport re-injury anxiety. From a practical perspective, it appears that athletes, coaches and practitioners need to be educated on specific sources of confidence which may influence re-injury anxiety. The present study found that sources of confidence which are based on more controllable factors (mastery and mental and physical preparation) are more likely to attenuate the risk of re-injury anxiety, compared to physical self-presentation which is based on more uncontrollable factors and was significantly related to high levels of re-injury anxiety. These findings are supported by previous confidence research, which proposed that controllable sources of confidence may facilitate a stable level of self-confidence, whereas uncontrollable sources of confidence may encourage fluctuating and unstable level of confidence (Kingston et al., 2010; Vealey et al., 1998). This highlights the importance of developing stable levels of confidence; particularly within injured athletes. Although the present study addressed an oversight in confidence and re-injury anxiety literature, further research is needed from a qualitative perspective in order to elucidate the relationship between sources of confidence and re-injury anxiety in more depth.

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APPENDICES

APPENDIX A
ETHICS APPROVAL FORM



Cardiff
Metropolitan
University

Prifysgol
Metropolitan
Caerdydd

Date: 10th March 2014

To: Amy Wright-Hamilton

Project reference number: 13/05/412U

Your project was recommended for approval by myself as supervisor and formally approved at the Cardiff School of Sport Research Ethics Committee meeting of 29th May 2013.

Yours sincerely

A handwritten signature in cursive script that reads "Lynne Evans".

Lynne Evans

Supervisor

APPENDIX B
PARTICIPANT INFORMATION SHEET

Cardiff Metropolitan University
PARTICIPANT INFORMATION SHEET

Title of Project: The Relationship between Sources of Confidence and Re-Injury Anxiety in Injured Athletes

Background

The purpose of this study is to investigate the relationship between confidence and re-injury anxiety in injured athletes. Gaining an understanding of this relationship will help coaches and injured athletes understand the role of confidence and the sources from which it is derived to overcome negative responses associated with injury. The study will be undertaken at Cardiff Metropolitan University by an undergraduate student, completing a Sports degree.

Your participation in the research project:

Why have you been asked?

You have been asked to take part in this study because you are a suitable candidate, who meets the criteria; you are currently injured and sustained this injury a minimum of six weeks ago. You are 18 years old or above and compete at club level or above in your sport.

What would happen if you agree to take part in this study?

If you agree to participate in this study:

1. You will be asked to read and sign the consent form.
2. You will then be asked to fill out and complete a demographic information form, which will ask questions about yourself, your sport and your injury. This will give the researcher background information to ensure that the analysis of data is effective.
3. You will then be asked to fill out two questionnaires, one regarding your sources of confidence and the other regarding re-injury anxiety levels.

Are there any risks?

I do not think that you will be exposed to any significant risks from taking part in the study.

Your rights

If you do feel uncomfortable when filling out the questionnaires and do not complete them fully, your relationship with Cardiff Metropolitan University will not be affected.

What happens to the data gathered from the questionnaires?

The data gathered from all the questionnaires will be stored securely in locked filing cabinets at Cardiff Metropolitan and an electronic file of the analysis will be kept on a private, personal computer. All information disclosed by you, as the participant, will be kept confidential and only my supervisor and I will be able to access this data.

Are there any benefits from taking part?

There are no benefits for you by taking part in this study. However, the research collected could be used to help other injured athletes and coaches in the future.

What happens next?

If you agree to participate in this study, you will need to read and sign the participant consent form; only sign this if you fully understand the study and all your questionnaires have been answered. You will find this form with this letter, and this form needs to be completed only if you are willing to take part in the study. This form needs to be completed as soon as possible.

How we protect your privacy:

Your privacy will be respected and I will ensure that all data and information gathered on you is kept securely away, to ensure confidentiality. At the end of the study, any data/questionnaires gathered about you will be destroyed. If you wish to withdraw from the study, your information will also be destroyed and not used in anyway.

We will only keep the consent forms with your name on. We keep these for ten years because we are required to do so Cardiff Metropolitan University.

Further information

If you have any questions about the research or how we intend to conduct the study, please contact me.

Amy Wright-Hamilton

E-mail: st20002131@outlook.cardiffmet.ac.uk

APPENDIX C
INFORMED CONSENT FORM

Cardiff Metropolitan University

INFORMED CONSENT FORM

Title of Project: The Relationship between the Sources of Confidence and Re-Injury Anxiety in Injured Athletes

Name of Researcher: Amy Wright-Hamilton

Participant to complete this section: **Please initial each box.**

<p>1. I confirm that I have read and understand the information sheet for this study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.</p>	<input type="checkbox"/>
<p>2. I understand that my participation is voluntary and that it is possible to stop taking part at any time, without giving a reason.</p>	<input type="checkbox"/>
<p>3. I also understand that if it happens, our relationships with Cardiff Metropolitan University, or our legal rights will not be affected.</p>	<input type="checkbox"/>
<p>4. I understand that information from the study may be used for reporting purposes, but I will not be identified.</p>	<input type="checkbox"/>
<p>5. I agree to take part in this study on the relationship between sources of self-efficacy and return to sport from injury.</p>	<input type="checkbox"/>

Name of Participant

Signature of Participant

Date

APPENDIX D
DEMOGRAPHIC INFORMATION SHEET

Demographic Information

Age_____

Gender_____

What is your main Sport _____

Years competing_____

What is the highest level that you have competed at (e.g., International age-group, National, Regional, Club)?

When did you compete at this level (highest level)? _____

What is/was the nature of the injury that you sustained? _____

When did you sustain the injury? _____

Has the injury required surgery? Yes / No _____

If yes what was the date of your surgery? _____

Have you already returned to competitive sport post-injury? Yes / No _____

When did you return to competitive sport post-injury? _____

How long do you anticipate/did the injury prevent you from competing in your main sport?

Could you tell us about any previous injuries - i.e., previous injuries that you sustained, when, and how long they kept you out of sport?

Do you have private medical health cover? Yes/No _____

APPENDIX E
MODIFIED SOURCES OF SPORT CONFIDENCE
QUESTIONNAIRE

The Modified Sources of Sport-Confidence Questionnaire

Athlete Self-Rating Scale (SSCQ)

We are interested in learning about things that help **YOU** be self-confident when participating in your **rehabilitation program**. Listed below are some things that may help/have helped athletes feel confident during rehabilitation. **Please circle the extent to which each statement reflects your current/past rehabilitation experience.** Please respond to every statement even though they may appear repetitive. There are no right or wrong answers because each athlete is different. Please be honest- your answers will be completely confidential.

I usually gain/gained (as appropriate) confidence in my rehabilitation programme from...

		Not at all			Sometimes			Always		
1	Getting positive feedback from my teammates and/or friends	0	1	2	3	4	5	6	7	
2	Completing rehabilitation exercises faster than others	0	1	2	3	4	5	6	7	
3	Keeping my focus on the task	0	1	2	3	4	5	6	7	
4	Psyching myself up	0	1	2	3	4	5	6	7	
5	Mastering a new skill in rehabilitation	0	1	2	3	4	5	6	7	
6	Getting breaks from my physiotherapist	0	1	2	3	4	5	6	7	
7	Performing in a rehabilitation environment that I like and in which I feel comfortable	0	1	2	3	4	5	6	7	
8	Feeling good about my weight.	0	1	2	3	4	5	6	7	
9	Believing in my physiotherapist's abilities	0	1	2	3	4	5	6	7	
10	Knowing I have support from others that are important to me	0	1	2	3	4	5	6	7	

11	Demonstrating that I am better than others	0	1	2	3	4	5	6	7
12	Seeing successful rehabilitation performances by other athletes	0	1	2	3	4	5	6	7
13	Knowing that I am mentally prepared for the situation.	0	1	2	3	4	5	6	7
14	Following certain rituals (e.g. wearing a lucky shirt, eating certain foods etc.)	0	1	2	3	4	5	6	7
15	Improving my performance on a skill in rehabilitation	0	1	2	3	4	5	6	7
16	Seeing the breaks are going my way	0	1	2	3	4	5	6	7
17	Feeling that I look good	0	1	2	3	4	5	6	7
18	Knowing my physiotherapist will make good decisions	0	1	2	3	4	5	6	7
19	Being told that others believe in me and my abilities	0	1	2	3	4	5	6	7
20	Showing my ability by doing my best in rehabilitation	0	1	2	3	4	5	6	7
21	Watching another athlete I admire perform a rehabilitation skill	0	1	2	3	4	5	6	7
22	Staying focused on my goals	0	1	2	3	4	5	6	7
23	Improving my rehabilitation skills	0	1	2	3	4	5	6	7
24	Feeling comfortable in the rehabilitation environment in which I am performing	0	1	2	3	4	5	6	7
25	Feeling that everything is “going right” for me in that situation	0	1	2	3	4	5	6	7
26	Feeling as though my body looks good	0	1	2	3	4	5	6	7
27	Knowing my coach is a good leader	0	1	2	3	4	5	6	7

I usually gain/gained (as appropriate) confidence in my rehabilitation programme from...

		Not at all			Sometimes			Always		
28	Being encouraged by physiotherapist and/or family	0	1	2	3	4	5	6	7	
29	Knowing I can outperform others on rehabilitation exercises	0	1	2	3	4	5	6	7	
30	Watching a teammate successfully perform rehabilitation exercises	0	1	2	3	4	5	6	7	
31	Preparing myself physically and mentally for a situation	0	1	2	3	4	5	6	7	
32	Increasing the number of rehabilitation skills I can perform	0	1	2	3	4	5	6	7	
33	Liking the environment where I am performing	0	1	2	3	4	5	6	7	
34	Having trust in my physiotherapist's decisions	0	1	2	3	4	5	6	7	
35	Getting positive feedback from physiotherapist and/or family	0	1	2	3	4	5	6	7	
36	Proving I am better than others in rehabilitation	0	1	2	3	4	5	6	7	
37	Seeing a friend perform rehabilitation successfully	0	1	2	3	4	5	6	7	
38	Believing in my ability to give maximum effort to complete my rehabilitation program	0	1	2	3	4	5	6	7	
39	Receiving support and encouragement from others	0	1	2	3	4	5	6	7	
40	Showing I am one of the best in rehabilitation	0	1	2	3	4	5	6	7	
41	Watching my teammates who are at my level perform well	0	1	2	3	4	5	6	7	
42	Developing new skills and improving	0	1	2	3	4	5	6	7	
43	Feeling my physiotherapist provides effective leadership	0	1	2	3	4	5	6	7	

APPENDIX F
RE-INJURY ANXIETY INVENTORY

RE-INJURY ANXIETY

Below are a number of statements about re-injury worries that athletes may experience during rehabilitation and return to competition. Read each statement and circle the appropriate number to indicate how you feel right now. For each statement first rate how much (i.e., level) of the symptom you experienced, and then rate the frequency (i.e., how often) of these symptoms.

		LEVEL (HOW MUCH)				FREQUENCY (HOW OFTEN)						
		Not at all	Some- what	Moderately so	Very much so	Never			All the time			
1	I am/was worried about becoming re-injured during rehabilitation	0	1	2	3	1	2	3	4	5	6	7
2	I feel/felt nervous about becoming re-injured during rehabilitation	0	1	2	3	1	2	3	4	5	6	7
3	I have/had doubts that I will remain injury free during rehabilitation	0	1	2	3	1	2	3	4	5	6	7
4	I feel/felt on edge about becoming re-injured during rehabilitation	0	1	2	3	1	2	3	4	5	6	7
5	I am/was worried that I may not do as well as I could in rehabilitation due to re-injury worries	0	1	2	3	1	2	3	4	5	6	7
6	My body feels/felt tense about rehabilitation because of re-injury worries	0	1	2	3	1	2	3	4	5	6	7
7	I am/was worried about failing during rehabilitation due to my re-injury worries	0	1	2	3	1	2	3	4	5	6	7
8	Re-injury worries about rehabilitation make my body feel tense	0	1	2	3	1	2	3	4	5	6	7

9	I am/was worried about performing poorly during rehabilitation due to re-injury worries	0	1	2	3	1	2	3	4	5	6	7
10	I feel/felt my stomach sinking due to re-injury worries during rehabilitation	0	1	2	3	1	2	3	4	5	6	7
11	I am/was confident about not becoming re-injured during rehabilitation because I mentally picture myself staying injury free	0	1	2	3	1	2	3	4	5	6	7
12	I am/was worried about concentrating during rehabilitation because of re-injury worries	0	1	2	3	1	2	3	4	5	6	7
13	My body feels/felt tight due to re-injury worries during rehabilitation	0	1	2	3	1	2	3	4	5	6	7

		LEVEL (HOW MUCH)				FREQUENCY (HOW OFTEN)						
		Not at all	Some- what	Moderately so	Very much so	Never			All the time			
14	I am/was worried about becoming re-injured during re-entry into competition	0	1	2	3	1	2	3	4	5	6	7
15	I feel/felt nervous about becoming re-injured during re-entry into competition	0	1	2	3	1	2	3	4	5	6	7
16	I have/had doubts that I will remain injury free during re-entry into competition	0	1	2	3	1	2	3	4	5	6	7
17	I feel/felt on edge about becoming re-injured during re-entry into competition	0	1	2	3	1	2	3	4	5	6	7
18	I am/was worried that I may not do as well as I could on returning returning to competition due to re-injury worries	0	1	2	3	1	2	3	4	5	6	7
19	My body feels/felt tense about re-entering competition because of my re-injury worries	0	1	2	3	1	2	3	4	5	6	7
20	I feel/felt confident that I will not become re-injured during re-entry into competition	0	1	2	3	1	2	3	4	5	6	7
21	I am/was worried about failing when re-entering into competition	0	1	2	3	1	2	3	4	5	6	7

	due to re-injury worries											
22	Re-injury worries about re-entry into competition make/made my body feel tense	0	1	2	3	1	2	3	4	5	6	7
23	I am/was worried about performing poorly during re-entry into competition due to re-injury worries	0	1	2	3	1	2	3	4	5	6	7
24	I am/was worried about failing to achieve full re-entry into competition due to re-injury worries	0	1	2	3	1	2	3	4	5	6	7
25	I am/was worried that others will be disappointed if I become re-injured during re-entry into competition	0	1	2	3	1	2	3	4	5	6	7
26	The thought of re-injury during re-entry into competition makes/made my palms sweaty	0	1	2	3	1	2	3	4	5	6	7
27	I am/was worried about concentrating during re-entry into competition because of re-injury worries	0	1	2	3	1	2	3	4	5	6	7
28	My body feels/felt tight due to re-injury worries during re-entry into competition	0	1	2	3	1	2	3	4	5	6	7

APPENDIX G

TABLE 7. EXCLUDED VARIABLES SUMMARY OF M-SSCQ SUBSCALES FOR REHABILITATION RE- INJURY ANXIETY

Model		Beta In	t	Sig	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
2	Demonstration of Ability	.006 ^a	.028	.978	.005	.621	1.610	.322
3	Demonstration of Ability	.009 ^b	.046	.964	.008	.636	1.573	.401
4	Leadership	-.028 ^b	-.116	.909	-.021	.408	2.454	.330
	Demonstration of Ability	-.001 ^c	-.005	.996	-.001	.659	1.517	.412
	Leadership	-.022 ^c	-.093	.926	-.016	.411	2.435	.404
5	Vicarious Experience	-.054 ^c	-.267	.791	-.047	.552	1.811	.410
	Demonstration of Ability	-.018 ^d	-.101	.920	-.018	.686	1.459	.576
	Leadership	-.063 ^d	-.307	.761	-.053	.516	1.939	.499
	Vicarious Experience	-.082 ^d	-.461	.648	-.080	.684	1.463	.518
6	Social Support	-.103 ^d	-.495	.624	-.086	.508	1.969	.439
	Demonstration of Ability	.006 ^e	.034	.973	.006	.733	1.364	.600
	Leadership	-.092 ^e	-.491	.627	-.084	.606	1.650	.606
	Vicarious Experience	-.091 ^e	-.514	.610	-.088	.690	1.449	.616
	Social Support	-.100 ^e	-.488	.629	-.083	.508	1.968	.491
7	Situational Favourableness	.094 ^e	.528	.601	.090	.676	1.480	.594
	Demonstration of Ability	.044 ^f	.266	.792	.045	.793	1.261	.670
	Leadership	-.031 ^f	-.173	.863	-.029	.686	1.458	.619
	Vicarious Experience	-.090 ^f	-.510	.613	-.086	.690	1.449	.620
	Social Support	-.073 ^f	-.360	.721	-.061	.519	1.926	.491
	Situational Favourableness	.133 ^f	.821	.417	.137	.794	1.259	.597
	Environmental Comfort	.143 ^f	.853	.399	.143	.748	1.336	.665
8	Demonstration of Ability	.053 ^g	.320	.751	.053	.795	1.258	.759
	Leadership	-.077 ^g	-.450	.655	-.075	.735	1.361	.713
	Vicarious Experience	-.142 ^g	-.869	.391	-.143	.788	1.270	.753
	Social Support	-.153 ^g	-.915	.366	-.151	.748	1.336	.724
	Situational Favourableness	.047 ^g	.311	.757	.052	.942	1.062	.902
	Environmental Comfort	.124 ^g	.742	.463	.123	.755	1.325	.720
	Mental and Physical Preparation	-.191 ^g	-	.273	-.183	.708	1.413	.708
			1.114					

APPENDIX H

TABLE 11. EXCLUDED VARIABLES SUMMARY OF M-SSCQ SUBSCALES FOR RETURN TO SPORT RE-INJURY ANXIETY

Model		Beta In	T	Sig	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
2	Demonstration of Ability	-.028 ^a	-.167	.869	-.030	.621	1.610	.322
3	Demonstration of Ability	-.019 ^b	-.119	.906	-.021	.645	1.551	.337
	Situational Favourableness	.044 ^b	.249	.805	.045	.537	1.862	.330
4	Demonstration of Ability	-.034 ^c	-.213	.832	-.038	.660	1.516	.390
	Situational Favourableness	.059 ^c	.340	.736	.060	.548	1.823	.404
	Vicarious Experience	-.109 ^c	-.637	.528	-.112	.560	1.787	.352
5	Demonstration of Ability	.009 ^d	.057	.955	.010	.735	1.361	.393
	Situational Favourableness	.106 ^d	.711	.482	.123	.735	1.360	.409
	Vicarious Experience	-.116 ^d	-.682	.500	-.118	.561	1.782	.352
	Environmental Comfort	.129 ^d	.824	.416	.142	.661	1.513	.424
6	Demonstration of Ability	-.022 ^e	-.153	.880	-.026	.769	1.301	.428
	Situational Favourableness	.118 ^e	.797	.431	.135	.741	1.350	.431
	Vicarious Experience	-.156 ^e	-.974	.337	-.165	.626	1.597	.399
	Environmental Comfort	.140 ^e	.901	.374	.153	.665	1.504	.451
	Mastery	-.167 ^e	-1.005	.322	-.170	.582	1.717	.424
7	Demonstration of Ability	.022 ^f	.155	.878	.026	.809	1.236	.762
	Situational Favourableness	.155 ^f	1.066	.294	.177	.776	1.289	.630
	Vicarious Experience	-.067 ^f	-.437	.665	-.074	.707	1.415	.644
	Environmental Comfort	.144 ^f	.917	.365	.153	.665	1.503	.665
	Mastery	-.211 ^f	-1.310	.199	-.216	.619	1.615	.619
	Social Support	.262 ^f	1.390	.173	.229	.451	2.218	.451
8	Demonstration of Ability	.019 ^g	.131	.896	.022	.809	1.236	.780
	Situational Favourableness	.201 ^g	1.427	.162	.231	.833	1.201	.833
	Vicarious Experience	-.117 ^g	-.771	.446	-.127	.747	1.339	.711
	Environmental Comfort	.051 ^h	.331	.742	.055	.750	1.333	.750

Mastery	-.269 ^h	-1.787	.082	-.285	.711	1.407	.708
Social Support	.124 ^h	.679	.501	.113	.523	1.914	.523
Leadership	-.225 ^h	-1.558	.128	-.251	.788	1.270	.762
