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STRESS BUFFERING IN INJURED FOOTBALLERS: AN EXAMINATION OF STRESSORS, PSYCHOLOGICAL RESPONSES AND SOCIAL SUPPORT RELATIONSHIPS.

PSYCHOLOGY

SAM ALEXANDER DAWKINS

ST20007749
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Acknowledgements

Firstly I would like to thank my supervisor Dr Ian Mitchell for his invaluable advice and adequate assistance, throughout the dissertation process.

I also owe great thanks to my family and friends for their support throughout.
Abstract

Objective. The purpose of this article was to examine the stress-buffering effect relationship between social support and psychological responses to injury.

Method. The study matched social support types with injury stressors, where stressors, perception of social support availability and psychological responses of injured footballers (N=71) were measured. Post injury, injured footballers completed measures of stressors, social support and psychological responses to injury. Moderated hierarchical regression analysis was used to analyse the data.

Results. The moderated hierarchical analysis disclosed significant (p<.05) buffering-effects for the perception of available emotional support in relation to responses of restlessness, feeling cheated and isolation, and the perception of esteem support in relation to responses of restlessness and isolation. Significant (p<.05) main effects were found for the perception of available emotional, and esteem support in relation to responses of restlessness, isolation and feeling cheated.

Conclusion. The findings of the current study furthers our understanding in the stress buffering effects of social support on the impact of injury stressors in relations to psychological responses to injury; specifically the effects of perceived social support availability in relation to psychological responses. The discoveries provide important implications for the sport psychology domain. They provide the significance of social support interventions with injured footballers, in attempt to diminish the adverse consequences of injury stressors.
CHAPTER 1

INTRODUCTION
1.0 Introduction

It is believed that participating in sport regularly is associated with positive benefits, such as providing pleasure and relaxation, competition, socialisation, maintenance, and enhancement of fitness and health (Bahr and Holme, 2003). However, there is also a high risk of injury, especially in contact sports (Hrysomallis, 2013). Association football is one of the most commonly played contact sports in the world with approximately 265 million male and females taking part in the sport (Alentorn-Geli et al., 2009). Due to the nature of the game requiring different intensities and skills (Daneshjoo et al., 2013), it is associated with a high risk of injury, which can be detrimental to an individual’s well-being and performance. With this in mind, the potential benefits attributed to participation in sport should be considered in the light of physical risks as well as the direct and indirect costs linked with injury (Stevenson et al., 2000). The result of an injury can have significantly harmful side effects, which could be both short and long term (Myklebust and Bahr, 2005), with the long term effect ultimately having to drop out of the sport completely (Steffen and Engebretsen, 2010). Walker et al., (2007) suggests that investigating the psychological impact of injury can give an insight into how an athlete responds to injury and rehabilitation, and can assist the rehabilitation personnel to promote effective recovery from injury.

A sporting injury is very stressful and an athlete will experience a variety of detrimental stressors. Stressors can come in many forms, such as emotional, cognitive, physical, social, and financial (Eklund and Bianco 2004), and all can play a big part in an athlete’s psychological responses to injury. Early research into injury has focused mainly on the antecedents and interventions in rehabilitation, whilst lacking the application of theory, and a thorough understanding of the athlete’s psychological responses (Brewer, 2004). However, the research has provided us with the knowledge that injury can increase athletes’ levels of depression, feelings of isolation and can diminish self-esteem (Leddy et al., 1994). These findings have led to the development of theoretical models such as Kubler-Ross’ (1969) grief response and Weise-Bjornstal et al.’s cognitive appraisal model, which have enhanced our understanding of psychological responses to sporting injury (Brewer, 2004). The stage model of grief (Kubler-ross, 1969) was developed to explain the effect of an injured athlete’s feelings of loss, which they may experience at a particular
stage of injury (Evans and Hardy, 1995). In contrast the responses to injury are deemed to vary among individuals and particular situations or environment they find themselves in (McDonald and Hardy, 1990; Brewer, 1994). Grove and Gordon (1992) suggest the athlete must be within an environment where there is appropriate interaction with the coach, practitioners, friends and family in order to influence responses.

Social support has the potential to alleviate psychological responses to stress that are detrimental to health and well-being (Cohen et al., 2000) thus important for rehabilitation. There are four dimensions of social support that are associated with promoting recovery from injury; emotional, esteem, informational and tangible support (Rees and Hardy, 2000). The buffering effect model suggests that the use of social support can buffer the effects of stressors and promote well-being (Cohen and Wills, 1985), as interactive effects between social support and stressors diminish negative outcomes of psychological responses to injury (Rees and Smith, 2003). The buffering effect of social support on stressors is greater when specific stressors are matched to specific types of social support (Cutrona and Russell, 1990).

However, research that examines the effect of matching specific stressors to types of social support on psychological response outcomes is limited. Therefore the aim of the current study is to examine whether matching the specific types of social support with a specific stressor would buffer the negative outcome of psychological responses to injury of injured footballers.
CHAPTER 2

LITERATURE REVIEW
2.0 Literature Review

2.1. Competitive Sport and Anxiety

The process of taking part in any sport that requires physical exertion comes with a risk of the performer encountering a physical injury (Tracey, 2003). Although from a public health perspective there is significant evidence to suggest that participation in sport is beneficial, injuries are a significant negative side effect that can affect a person’s life both short and long term (Steffen and Egebretsen, 2010). Over the years the globalisation of sport has inflated. With this in mind, there is a greater population taking part in sport, and as a result the number of injuries has amplified with it (Smith and Milliner, 1994). The high possibility of injury suggests, returning to competitive sport after injury is a challenge an athlete may be likely to face at some point during their athletic career. With a sporting injury comes a lot of physical pain and trauma depending on the severity of the injury obtained. Primarily sports injury is seen to be a physical event, and a lot of research has gone into the physical and medical aspects of injury (Carson and Polman, 2008). However, Brewer (2007) suggests that within injury there is a psychosocial impact on the performer. Hence the research of sport injury from a psychological perspective is imperative for furthering knowledge of sport injury.

2.2. Injury and Psychology

The concentration of psychological research has been on the influence of psychological factors on the experience of athletic injury and understanding the complex process of injury and rehabilitation (Tracey, 2003). Meichenbaum & Turk, (1987) identify injury rehabilitation as, "an active, voluntary collaborative involvement of the patient in a mutually acceptable course of behaviour to produce a desired preventative or therapeutic effect" (p20). Although the intentions of rehabilitation are to increase strength and mobility in the injured limb, it is important not to ignore the thoughts and feelings the performer may endure. Research suggests that an injured athlete will experience a fluctuation of emotions during rehabilitation with the most frequent being shock, anger, depression, helplessness and frustration (e.g., Grove & Cresswell, 2007; Johnston & Carroll, 1998a; Tracey, 2003; Wadey et al., 2011). According to Brewer et al. (2000) psychological factors play a key role in influencing an athlete’s rehabilitation behaviour (e.g., adherence) and outcome. They
highlight these psychological factors as, personal characteristics, situational variables, cognitive responses, and emotional responses. Adherence to rehabilitation is linked with positive injury outcomes (Brewer et al., 2000; Bassett, 2006) and has been described as “behaviours an athlete demonstrates by pursuing a course of action that coincides with the recommendations of the athletic trainer”. (Granquist et al, 2010, p.252) In order to adhere to a rehabilitation program the athlete must be mentally strong as rehabilitation may be a long process, and to respond to implications they may face during the process. Therefore to ensure an athlete can adhere to rehabilitation and return from injury back to competitive sport researchers must advance further in to the psychological aspects of injury.

2.3. Stressors

Research into injury has highlighted its stressful nature and how it may challenge an athlete’s ability to cope (e.g., Podlog & Eklund, 2006; Tracey, 2003; Wadey & Evans, 2011). In a situation that is deemed as stressful by an individual, coping involves the individual’s constant changing struggles to manage the negative impact of these situations (Lazarus, 1991; Walker et al., 2007). The degree of stress an injured individual may experience is deemed to be affected by ones individual differences, and is essential to the development of the rehabilitation process. (Lazarus and Folkman, 1984). Mellalieu et al., (2006) proposes the idea that stress is the dynamic relationship between the environmental demands and the individuals’ resources, as well as underlining the meaning of ones relationship with the environment. These environmental demands within the stress process may also be referred to as stressors (Fletcher et al., 2006).

An athlete who has sustained an injury will experience a variety of stressors associated with the competitive environment (e.g. Eklund and Bianco, 2004; Podlog and Eklund, 2007). Fletcher et al., (2006) suggests that addressing specific stressors that give rise to psychological responses is the most effective approach to managing stress. Research suggests that the presence of particular stressors changes throughout the rehabilitation process and suggests that temporal patterns need to be further investigated. For instance, Evans et al., (2012) propose injury is built up of three distinct phases; onset of injury, rehabilitation and return to sport, and through each of these phases, different stressors are
understood to be present. For example, a longitudinal study examining the rehabilitation of rugby players from a serious injury found that at the onset of injury the stressors that the players experienced were incapacitation and isolation, during rehabilitation the stressors identified were setbacks and a lack of progression and finally the risk of re-injury was experienced in relation to returning to sport (Nicholls et al., 2006).

In light of the current findings and further research, it has been found that there are two detrimental stressors associated with rehabilitation; they are incapacitation and loss of confidence (Wadey and Evans, 2011; Mitchell et al, 2013). Physical incapacitation creates a vast impact on an individual, especially through the early stages of rehabilitation as this disrupts an athletes’ ability to commence in normal everyday activities (Evans et al., 2000; Gould et al., 1997; Johnston & Carroll, 1998a). It is believed that incapacitation and disruption to normal functioning are liable for feelings of frustration, isolation and perceptions of loss (e.g. Carson & Polman, 2008; Tracey, 2003; Udry et al., 1997), such as athletic identity, self-confidence and self-esteem, which are all deemed as important to mental well being (Mitchell et al., 2013). In the phase of returning back to sport it is highly likely an athlete will experience high levels of re-injury anxiety in response to the stressors of loss of confidence and efficacy in the injured limb. Bianco et al., (1999) highlights that after rehabilitation the physical demands of training and competition are high and there is a loss of confidence within the athlete. Therefore, the athletes concern may be that the injured limb will not be able to cope with such demands. The previous research highlights the inevitability that the aforementioned stressors will occur within rehabilitation, thus deemed highly prominent in creating psychological responses detrimental to the rehabilitation process.

2.4. Psychological Responses

The way an athlete responds to an injury psychologically is essential throughout the rehabilitation process (Tracey, 2003). McDonald and Hardy (1990) suggest that in order to focus fully on the recovery process, the athlete must express and experience the fluctuation of their emotions and accept the reality of their injury. Research into psychological responses within injury and rehabilitation has led to the development of numerous conceptual models.
The accepted models within psychological responses to injury focus mainly on the grief process and cognitive appraisal models. In early literature the grief models of injury were deemed the most salient conceptual model (e.g., Lynch, 1988). There are many definitions of grief and not one in particular has been operationalized. However research suggests that grief is a process of both experiencing an element of loss and the manner of recovering from that loss (Brewer, 2007; Karl, 1987), where loss is being deprived of something you once had (Evans and Hardy, 1995). In a sporting context the injury may lead to loss of their place in the team, resulting in feelings of deprivation within the athlete, triggering emotional responses such as diminished self-esteem or sense of importance within the team (Peretz, 1970). For example soon after the injury occurs it is assumed that an athlete will endure in emotions such as; shock, frustration, anger, helplessness and depression (Grove & Cresswell, 2007). The emotions are derived from factors such as physical pain, timing of the injury, the prognosis of the injury, time out of competition and training and financial issues, as well as possible losses for the athlete (Evans et al., 2011). In effect of the injury these losses will include self-esteem and efficacy as well as other issues such as independence, fitness and career (Evans & Hardy, 1995; Pearson & Jones, 1992; Wadey & Evans, 2012).

The grief models suggest the performer goes through a foreseeable sequence of stages throughout the injury process, until they reach a desirable adjustment (Brewer, 1994). The model employed mostly within research was devised by Kubler-Ross (1968). Kubler-Ross' five-stage model hypothesised that terminally ill individuals travel through five stages of emotion, and that injured athletes going through a grief process go through similar progressions. The stages involve; denial, anger, bargaining, depression, and acceptance (Brewer, 1994; 2007). Pederson (1986) provided response patterns related to Kubler-Ross’ observations of the terminally ill, and proposed another model of grief consisting of three stages, which involved an initial phase (shock and denial), followed by pre-occupation and re-organisation phases. Similarly Weiss and Troxel (1986) suggest a four-stage process where sports injury is a stressor that initiates the cognitive appraisals; the cognitive appraisals affect the emotional responses, which in turn affect the performer’s behavioural responses. Illogical thoughts, disbelief, fear, anger and depression were the observed emotional responses. Intensity of emotional responses is suggested to alter over time within severely injured athletes (Brewer, 1994). Longitudinal research suggests that
emotional disturbance is high immediately following the injury and diminishes over time (McDonald and Hardy, 1990; Smith et al, 1990). McDonald and Hardy’s (1990) study consisted of five intercollegiate athletes whose injury was expected to keep them out of competitive sport for at least three weeks. The results of the study showed that emotional responses revealed a progression of negative to more positive mood states as the rehabilitation developed, resulting in a two-stage process. The first stage consisted of feelings of shock (detachment) and encounter (panic, helplessness and disorganization) whereas the second stage consisted of retreatment (retreating in to ‘health’ or ‘illness’) and acknowledgement (cycles of approach avoidance). With this in mind the longitudinal studies provide knowledge that "the negative affective responses were global in nature, as evidenced by elevations on multiple scales of the Profile of Mood States" (Brewer, 2004, p89).

The grief models provide a helpful tool that aids our understanding of why athletes may act the way they do when going through the recovery process. However issues within the literature of stage models arise within the models. The stage process model suggests that all injured athletes go through the same sequence of stages at the same time through the rehabilitation process (Brewer 1994). Sports medical personnel (Gordon et al, 1991) suggested that behaviours might be consistent with various stages in the stage model; however discrete emotional responses have not been shown to be sequential, and rather affective responses to injury are highly affected by individual and contextual differences (Brewer, 2007). The stage models fail to account for individual differences and variability between individuals. It is possible for an individual to experience numerous emotions at one time or experience setbacks throughout the rehabilitation process. This in effect may vary the responses to injury between individuals (McDonald and Hardy, 1990; Brewer 2007).

With this in mind, the cognitive appraisal model highlights the importance of personal and situational factors within rehabilitation. A process of assessing possible stressful situations as being stressful and the individual’s evaluation of the extent of that stress, is know as cognitive appraisals, where appraisals influence the way in which an individual copes with those situations (Walker et al., 2007) The model proposes that the way an individual interprets their injury determines the emotional and behavioural responses (Brewer, 2001;
Podlog & Eklund, 2009; Wiese-Bjornstal et al, 1998). The significant personal factors suggested are previous injury history, coping ability, trait anxiety, personality factors and psychological investment (Grove and Gordon, 1992; Weiss and Troxel, 1986). Post injury it is proposed that athletes appraise many personal and situational factors (Podlog & Eklund, 2009). The appraisals may consist of perceptions about the cause of injury, recovery status, availability of social support and their ability to cope with the injury experience (Podlog & Eklund, 2009; Wiese-Bjornstal et al, 1998). Evidence of this is provided by Morrey (1997) who examined the rehabilitation process of athletes with ACL injuries. This study measured the athlete’s mood states through four intervals of the rehabilitation process. High levels of negative mood scores were measured in the first and fourth interval, but decreased during the second and third intervals. High negative scores are expected during the first interval because the injury is still recent and the athlete is trying to justify the situation. However a rationale for the negative moods increasing in the final interval is believed to be frustration due to the perception of rehabilitation being too long a process. This is similar to the findings by later literature (e.g. Johnston & Carroll, 1998a; Tracey, 2003) where results revealed feelings of frustration due to performer’s inability to continue to practice within their sport.

The importance of an injured athletes feelings of loss and the personal and situational variables that may affect responses to injury has lead to areas of the grief model to be integrated with the cognitive appraisal model (Wiese-Bjornstal et al., 1998). Grief is a situation where an individual perceives loss of any object of attachment such as a change in the satisfaction of an individual’s specific needs (Rodgers and Cowles, 1991). Specific to injury, the attachment theory (Bowlby, 1982) suggests that grief is a response to the loss of an attachment object, and this can only be dealt with in an environment that the individual is comfortable with (Evans and Hardy, 1995). According to Uchino (2009), developing supportive relationships between the athlete and the relevant attachment figures through positive interactions at early ages will allow the development and maintenance of interpersonal relationships as an adult (Hazan & Shaver, 1987; Mikulincer & Shaver, 2009). Furthermore, a history of supportive figures will promote an individual’s ability to deal with stress triggered by feelings of loss, due to the belief that these figures are available when required. The role of social support therefore seems important to an athlete’s rehabilitation.
2.5. Social Support

Social support is an important variable within rehabilitation and is defined as "an exchange of resources between at least two or more individuals perceived by the provider or the recipient to be intended to enhance the well-being of the recipient" (Shumaker and Brownell, 1984, p. 13). Both qualitative and quantitative research has shown that social support plays a significant role in the recovery of athletic injury (Udry, 1997). Nevertheless research investigating the role of social support in injury rehabilitation requires more attention (Johnston and Carroll, 2000).

Holt and Hoars (2006) identified the multidimensional construct of social support as they devised a Conceptual model of the social support process. The model proposes three distinct dimensions of social support: structural, perceptual and functional. The structural dimension focuses on social network, highlighting the social ties an individual possesses (e.g. size, frequency of contacts and the characteristics) (Cohen, 1988). Although this dimension highlights the importance of the size of a social network, research suggests that the presence of a large support network does not guarantee that social support is greater (Bianco & Eklund, 2001), in fact quality and the type of support from the network is of greater purpose for health. With this in mind, the functional dimension of social support (Cohen and Syme, 1985) indicates the importance of types of support in protecting individuals from the negative effects of specific stressors. Rees & Hardy (2000) propose four types of social support: emotional support, esteem support, informational support and tangible support. In agreement with Cutrona and Russell’s (1990) definitions, emotional support refers to the ability of one to confide in others for comfort and security. Esteem support is related to enhancing a persons self esteem and sense of competence through providing belief in their capabilities through positive feedback. Informational support requires providing the individual with possible solutions during the injury process through advice and guidance. Finally tangible support relates to providing the injured individual with the necessary resources such as financial and physical assistance in order to cope with the situation. Holt and Hoars state that the way to assess this dimension is by examining the social support that individuals actually receive (received support) from their social network. Furthermore, there is the perceptual dimension that highlights the individual’s subjective evaluation of their social network (Saracen et al., 1991). This
dimension therefore highlights the impact of an individual’s perception of available social support where the individuals appraise the availability and the meaning of support (Cohen & Syme, 1985), as opposed to actual received support as in the aforementioned dimension.

The next stage in the conceptual model highlights the mechanisms of social support, which is made up of two models. The two models are the main effects and the buffering effect model and are believed to explain the relationship between social support and well-being. Cohen and Wills (1985) suggest that the main effect model proposes that social resources have a beneficial effect on a persons well-being irrespective of whether stress is present, which suggests that there is no Stress × Support interaction. Bianco & Eklund (2001) consider the main effect model to be a preventative mechanism because those with adequate social support will experience fewer stressors in comparison to individuals who receive low levels of support. Therefore an increase in social support is associated with positive outcomes (Rees, 2007). There is a theoretical link between the main effects and the individual perceived support, proposing that those who have high perceptions of available support are going to view a situation as less stressful than individuals with low levels of perceived support (Sarason et al., 1990). Cohen and Syme (1985) suggest that the main effects are most commonly associated with structural elements of social support. The structural aspects involve the social network characteristics such as network size, social integration and frequency of social contact. Network size includes the number within the sport network including friends, family and sport personnel such as coaches. Social integration refers to the extent to which the athlete participates in a broad range of activities. Finally, frequency of social contact is how often the individual receives support with each individual in the network. The structural aspect of social support is believed to influence individual’s cognitions, emotions, and behaviours through integration in a supportive network that is not necessarily to provide help or support, it is seen to have a direct effect on performance (Rees, 2007).

In contrast the stress-buffering model suggests that the support is primarily associated with a persons well being when they are under stress. Therefore if support moderates the relationship between variables in the pathway from encountering stressors, through experiencing stress, to subsequent outcomes then stress buffering is present (Cohen et
al., 2000; Rees, 2007). The stress-buffering model is theoretically associated with the functional dimension and therefore in terms of well being, theory would state that received social support is prominent during stressful situations to enable the individual to cope with demands they may face (Cohen and Wills, 1985).

However in contrast to this theory, more recent research proposes that the functional dimension can be divided into both perceived support and received support (Freeman & Rees, 2008; Rees, 2007), which are both deemed to aid stress buffering (Lakey & Cohen, 2000).

Bianco (2001) examined the perceptions of skiers who had recovered from severe sport injuries. In terms of social support needs they found that the primary sources of social support, and the impact of social support on recovery were important to the performers. The results showed that skiers require different types of social support (emotional, informational and tangible) through recovery from injury in order to return to competitive sport. Similarly Tracey (2003) indicated that social support is an important factor to enable performers to cope through the recovery stage. For example the social contact between the players and the injured player was reported as “helpful to them emotionally by assisting them to maintain a sense of connection to the sport and their teammates” (p. 285). This suggests that emotional support was required for the injured players to feel apart of the team although unable to compete. Bianco (2001) took into account key variables such as the provider's expertise level, level of intimacy with the support provider, and the quality of the relationship between them and the provider. These aspects are deemed by skiers to be the key characteristics of support. This supports previous research (e.g. Lin., 1986) and suggests that injured athletes require emotional support from those closest to them, as they are most likely to relate to the individual.

However, Ford et al (2000) investigated social support as a moderator of the relationship between life stress and injury between high standard athletes, as well as assessing competitive trait anxiety, dispositional optimism, self-esteem and hardiness. The results showed that low quality support provided to performers suggests a greater vulnerability of injury when object loss is high. An example of this is shown with the negative correlation of -0.20 between the qualities of support with days missed through injury. This is supported by Smith et al (1990) who suggested that social support buffers stress, thus reducing the
risk of injury in athletes. The researchers have expanded on previous research to build our knowledge of the effect of perceived social support.

The previous research has enhanced our knowledge and understanding of the relationship between social support and injury and the process of recovering from injury. Specifically Tracey (2003) and Bianco (2001) who focus on the importance of social support suggest that received social support sanctions an analgesic coping mechanism and relieves the stress of the injury experience. In contrast Ford et al (2000) and Smith et al (1990) studied social support through the effects of perceived social support availability on the process of recovering from injury. There is a lot of previous research into the effect of social support in the recovery of injury process, covering both the perceived and received availability of social support. Once stress is experienced, both perceived and received support may intervene to minimise the negative effect of stress on outcomes (Cohen et al., 2000; Cohen & Wills, 1985). The buffering effect suggests that social support can be used to intervene at any point in the injury process from confronting stressors, to the experience of stress to psychological responses to injury (Cohen and Wills, 1985). However perceived support may intervene when a stressor is encountered, leading it to be appraised as less stressful (Cohen et al., 2000). Perceived support encourages the development of effective coping skills within injured athletes if they believe that the necessary resources are available to them to deal with the stress endured by injury. With this in mind, although both perception and reception of social support are associated with the buffering hypothesis (Cohen and Wills, 1985; Sarason et al., 1990), perceived support is most consistently linked with this model (Rees, 2007).

In relation to research, stress buffering is essential for the well-being of injured athletes. However, according to Cutrona and Russell (1990) to aid stress, buffering requires the matching of specific types of social support and specific stressors. The effects of social support are imperative in reducing the negative effects of stressful events when the support matches the demands created by them (Cohen and McKay, 1984; Cohen and Wills, 1985). This is known as the specificity theory of optimal matching. This theory assumes that combining specific stressors and specific types of support will aid the understanding of the types of social support that are relevant to protect individuals from the harmful effects of specific stressor (Lakey and Cohen, 2000; Wills and Shinar, 2000). Even matched types of social support and specific stressors that provide insignificant interactions will also further our understanding of which types of social support are
irrelevant or support is not useful with particular stressors (Rook, 1992). Although research is limited, recent research has tested this theory within returning to competitive sport from injury. Rees et al. (2010) presented a study examining the main and stress buffering effect relationship between perceived social support and psychological responses in injured athletes of high and low standard performers. The results from this study indicate that low-performance standard participants provided significant interactions between perceived support and stressors in relation to responses of devastation, feeling dispirited and reorganisation, where there were no interactive effects in high-standard participants in relation to the psychological responses. The findings therefore provide knowledge that for low-performance standard participants matching perceived social support and stressors aids stress buffering in order to enhance coping from injury. Furthermore Mitchell and colleagues (2013) reported two studies that examined the main and stress-buffering effect relationships between social support and psychological responses to injury. Most pertinently the first study examined both the main and stress-buffering effects of the perception of support availability. The research revealed effective interactions between perceived availability of social support and injury stressors on psychological responses to injury. For example results showed that disruption of normal functioning and incapacitation can create increasing levels of frustration and resentment and can diminish self-esteem and self-image. Therefore the individuals perceptions of the availability of specific types of support delicately matched to specific stressors, reduces the harmful impacts on the injured athlete, thus promoting an effective recovery process (Cutrona and Russell, 1990; Lakey and Cohen, 2000; Wills and Shinar, 2000).

Previous research within this domain was deemed as a barrier towards furthering our knowledge of rehabilitation from injury, due to the psychometric integrity of the methodology and variability (Brewer, 2001). Within their study, Mitchell and colleagues overcame these issues. The different types, functional and perceptual dimensions of social support are accounted for through the use of a theoretically derived multi-dimensional measure of perceived availability of support. They used population specific measures for psychological responses and social support, and single-item measures of stressors that where relevant to injury and rehabilitation.

Within the literature, the relationship between the types of social support and stressors on psychological responses to injury has covered various sports rather than the effects on a specific sport (e.g., Rees et al., 2007, 2010). For those studies that have investigated the
effects on a specific sport their methodology included a minute sample that allows us to question the generalisability of that population in a given sport (Rees & Hardy, 2004). Association football is one of the most popular games in the world (Grooms et al, 2013) and the risk of sustaining an injury is very high. This is due to the sport’s high intensity nature requiring continuous changes of direction and high load actions, demanding high levels of neuromuscular control, agility and both eccentric and concentric strength (van Beijsterveldt et al., 2012).

Table 1. Hypotheses with corresponding interactions

<table>
<thead>
<tr>
<th>Stressor</th>
<th>Support type</th>
<th>Response</th>
<th>Effect</th>
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<tr>
<td>1 Incapacitation</td>
<td>Emotional support</td>
<td>Restlessness</td>
<td>Interaction</td>
</tr>
<tr>
<td>2 Incapacitation</td>
<td>Emotional support</td>
<td>Feeling</td>
<td>Interaction</td>
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<td></td>
<td></td>
<td>Cheated</td>
<td></td>
</tr>
<tr>
<td>3 Incapacitation</td>
<td>Emotional support</td>
<td>Isolated</td>
<td>Interaction</td>
</tr>
<tr>
<td>4 Loss of confidence</td>
<td>Esteem support</td>
<td>Restlessness</td>
<td>Interaction</td>
</tr>
<tr>
<td>5 Loss of confidence</td>
<td>Esteem support</td>
<td>Isolated</td>
<td>Interaction</td>
</tr>
</tbody>
</table>

The present study examines the stress-buffering effects of the perception of available support on injured association football players’ psychological responses to injury. It is hypothesised that a stress-buffering effect for the specific types of social support on particular psychological responses to injury in relation to previous relevant research (e.g., Cohen & McKay, 1984; Cohen & Wills, 1985; Evans et al., 2012; Johnston & Carroll, 1998b; Mitchell et al., 2013; Rees et al., 2010) As a result of this we identified and tested the five models presented in Table 1.

2.5. Hypothesis
In regard to the five models identified the following hypotheses were formed. Specifically there will be interactive effects between social support and stressors. The interaction will be due to the result of stress buffering. More specifically the harmful relationship between stressors and psychological responses will be decreased (buffered) by a high perception of available support in comparison to those with a low perception of available support. However levels of social support will be somewhat unimportant at low levels of stressors.
CHAPTER 3

METHOD
3.0 Method

3.1. Participants

The participants were 71 injured footballers with a mean age of 21.85 years (SD = 2.63). The playing level of the participants varied from recreational to semi-professional standards. The time spent out of competitive sport was the measure of the severity of the injury. The severity of injury ranged from 3 weeks to 36 weeks where the minimum requirement was of one-week absence, and their injury must have been sustained during participation in football. The participant’s injury must have occurred within the last year, in order to minimise memory decay that can occur over time. Each participant was required to complete a questionnaire, which measured the stressors, perceived social support, and the psychological responses to the injury.

3.2. Measures

3.2.1. Stressors.

Stress is identified as individuals handling their environments, appraising the situations they find themselves in and striving to cope with any problems they may face through an ongoing process (Fletcher et al., 2006). Within the stress process stressors are believed to play a major part, and the degree of stress experienced is determined by one’s individual differences (Lazarus and Folkman, 1984). Therefore the stressors were defined as the situational demands experienced by the participants. The situational demands faced by the injured athletes were measured using single-item measures of potential injury-related stressors. The measures were created using two perceived stressors “incapacitation,” and ‘loss of confidence’. These stressors were chosen due to the agreement of many researchers that injured athletes experience them and they have the ability to impact upon psychological responses (e.g., Eklund and Bianco, 2004; Evans et al., 2000; Gould et al., 1997a; Johnston and Carroll, 1998; Mitchell et al., 2013). The questionnaire consisted of a 5-point Likert scale from 1 (not at all) to 5 (a lot) which was used in response to the stem question ‘to what extent are these an issue to you as an injured athlete?’. This system was employed throughout recent literature (e.g., Mitchell et al., 2013; Rees et al., 2010).
3.2.2. Psychological responses.

In order to measure psychological responses to injury, the PRSII (Psychological Responses to Sport Injury Inventory) was used (Evans et al, 2008). The PRSII consists of five subscales – feeling cheated, restlessness, isolation, devastation and reorganisation. The first three subscales were suggested to characterise athletes’ responses to sport injury and therefore were chosen to match the two specific stressors (incapacitation and loss of confidence: Mitchell et al, 2013). The inventory asks questions on how they felt at that moment in time, for which they had to respond using a 5-point Likert scale 1 (strongly disagree) – 5 (strongly agree). Items included “I can’t help but feel bitter” (feeling cheated), “I am unusually anxious” (restlessness), “I feel isolated” (isolation), “my world has fallen apart” (devastation) and “I am starting to feel like myself again” (reorganisation).

3.2.3. Social support.

Research suggests that capturing the full meaning and nature of social support requires the use of functional measures (Cohen & Wills, 1985). The functional measures focus on the different functions of social support and the perceived availability of these functions (Wills & Shinar, 2000). These measures allow for appropriate testing of the stress-buffering hypothesis, by carefully matching specific types of social support to specific stressors (Cutrona & Russell, 1990). Carefully matched social support–stressor combinations that produce significant interactions in regression analysis will enhance our knowledge of which specific types of social support help to protect people from the harmful effects of specific types of stressors (Cutrona & Russell, 1990; Lakey & Cohen, 2000; Wills & Shinar, 2000). On the other hand the matched types of social support and specific types of stressors that produce non-significant interactions will provide knowledge of where specific types of social support is not useful (Dakof & Taylor, 1990; Rook, 1992). The two stressors (incapacitation and loss of confidence) were chosen for their capability to influence the psychological responses identified. The perceived social support items were then selected for their potential to be matched with those stressors. The Social Support
Inventory for Injured Athletes (SSIIA: Mitchell, Rees, Evans, & Hardy, 2005) was used to measure perceived social support, which represents the four types of social support suggested by Rees and Hardy (2000). These included: emotional support, esteem support, informational support and tangible support. With agreement with Cutrona and Russell’s (1990) definitions, emotional support refers to the ability for one to confide in others for comfort and security. Esteem support is related to enhancing a persons self esteem and sense of competence through providing belief in their capabilities through positive feedback. Informational support requires providing the individual with possible solutions through the injury process via advice and guidance. Finally tangible support relates to providing the injured individual with the necessary resources (financial and physical assistance) in order to cope with the situation. The SSIIA consisted of a 16-item self-report inventory in response to the question ‘To what extent do you have someone…’ with a 5-point Likert scale from 1 (not at all) to 5 (a lot) rating the level of support available to them.

3.3. Procedure and Data Analysis

In order to examine the effects of injury-related stressors and perceived social support on the psychological responses to injury, a moderated hierarchical regression analysis was carried out. Moderated hierarchical regression analysis is the preferred method of analysis due to the predictor variables (stress and support) and the criterion being treated as a continuous variable, as opposed to a two-way analysis of variance (Cohen & Wills, 1985). Cohen and Wills indicate that stress buffering can be tested using a Stress x Perceived social support interaction on the athlete’s psychological response to injury (Cohen & Wills, 1985). Therefore, if there is an effect of stressors on psychological responses or separately an effect of perceived support on psychological responses then this would suggest a main effect. However Cohen and Wills suggest that if there is an interaction when specific stressors are combined with perceived support on psychological responses to injury, then this provides an indication of a stress buffering effect. Furthermore it could then be suggested that the variance of the interaction was due to perceived social support determining the effect of stress on the athlete’s psychological responses. Finney et al (1984) proposed that standardising the variables before analysis is essential in order to provide a common metric and to facilitate the interpretation of the interaction term.
Consequently the variables were standardised with a mean of 0 and a standard deviation of 1.

The process consisted of following Biddle et al's (2001) guidelines of entering each variable into a hierarchical model that consisted of three blocks. The first independent variable (the stressor) was entered in the first block and the second independent variable (perceived social support), which is hypothesised as the moderating variable, was entered into the second block. At block 3, the product term (psychological responses) was entered together with the two independent variables. A significant rise in the percentage of the total variation in the psychological responses ($R^2$) at block 3 will show an indication of an interactive effect.

The interactions were presented graphically by plotting the regression of the dependent variable (psychological responses) on one of the independent variables (stressors) under altered values of the second independent variable (perceived social support). Typically, one substitutes high (e.g. one standard deviation above the mean) and low (e.g. one standard deviation below the mean) values for the independent variables into the final regression equation and plots the resultant slopes against the dependent variable. Unstandardised regression coefficients are used, since the standardised regression coefficients are adversely influenced by differences in variances across levels of the moderator variable (Baron and Kenny, 1986).
CHAPTER 4

RESULTS
4.0 Results

Table 2. *Means and SDs table of stressors, responses and social support*

<table>
<thead>
<tr>
<th>Subscale</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Incapacitation</td>
<td>3.48</td>
<td>0.81</td>
</tr>
<tr>
<td>2. Loss of Confidence</td>
<td>3.08</td>
<td>1.07</td>
</tr>
<tr>
<td>3. Restlessness</td>
<td>11.87</td>
<td>2.99</td>
</tr>
<tr>
<td>4. Isolation</td>
<td>8.14</td>
<td>3.10</td>
</tr>
<tr>
<td>5. Feeling Cheated</td>
<td>8.69</td>
<td>3.38</td>
</tr>
<tr>
<td>6. Emotional</td>
<td>4.69</td>
<td>2.23</td>
</tr>
<tr>
<td>7. Esteem</td>
<td>14.45</td>
<td>2.03</td>
</tr>
</tbody>
</table>

*Note. N = 71*
### Table 3. Hierarchical regression analyses: Effects of stressors, social support factors and products on psychological responses.

<table>
<thead>
<tr>
<th>Model</th>
<th>Dependent variable</th>
<th>Independent variable</th>
<th>$b$</th>
<th>$t$</th>
<th>FEt</th>
<th>$F$</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Restlessness</td>
<td>Incapacitation</td>
<td>.04</td>
<td>.03</td>
<td>.35</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Emotion</td>
<td>.05</td>
<td>.04</td>
<td>-.14</td>
<td>.17</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Product</td>
<td>.06</td>
<td>.01</td>
<td>-.19</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Feeling Cheated</td>
<td>Incapacitation</td>
<td>.05</td>
<td>.03</td>
<td>.13</td>
<td>.11</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Emotion</td>
<td>.04</td>
<td>.06</td>
<td>-.32</td>
<td>.18</td>
<td></td>
</tr>
<tr>
<td></td>
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<td>Product</td>
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<td>.01</td>
<td>-.28</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Isolation</td>
<td>Incapacitation</td>
<td>.01</td>
<td>.08</td>
<td>-.16</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Emotion</td>
<td>.06</td>
<td>.00</td>
<td>-.21</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td></td>
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<td>.02</td>
<td>-.09</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Restlessness</td>
<td>Loss of confidence</td>
<td>.03</td>
<td>.02</td>
<td>-.18</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Esteem</td>
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<td>.02</td>
<td>-.20</td>
<td>.05</td>
<td></td>
</tr>
<tr>
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<td>.04</td>
<td>-.12</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Isolation</td>
<td>Loss of confidence</td>
<td>.05</td>
<td>.00</td>
<td>.70</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Esteem</td>
<td>.02</td>
<td>.01</td>
<td>-.49</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Product</td>
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<td>.00</td>
<td>-.58</td>
<td>.00</td>
<td></td>
</tr>
</tbody>
</table>

*Note. $N = 71$. All variables standardised except for product. Product formed from the two preceding standardised variables.

*a* Stepwise change in $R^2$.

*b* Probability of $F$ for $\Delta R^2$.

*c* Unstandardised regression coefficient in final equation.

*d* Probability of $t$ for $b$. 
There was a significant interaction for emotional support and incapacitation in predicting the response of restlessness ($\Delta R^2 = .06$, $b = -.19$, $p = .01$). Participants with low emotional support who reported a higher level of incapacitation, displayed higher levels of feeling restlessness, whereas those with high emotional support who reported a higher level of incapacitation had lower levels of feeling restlessness.

There was also a significant interaction for emotion support and incapacitation in predicting the response of feeling cheated ($\Delta R^2 = .05$, $b = -.28$, $p = .01$). Participants experiencing incapacitation were helped to maintain isolation by the perception that they had someone who was always there for them to turn to. This was more apparent when a higher level of incapacitation was experienced alongside lower levels of emotion support.

There was a significant interaction that was found for emotion support and incapacitation when predicting the response of isolation ($\Delta R^2 = .04$, $b = -.09$, $p = .01$). Participants experiencing incapacitation were helped to maintain isolation by the perception that they had someone who could bolster feelings of competence. This was more apparent when a higher level of incapacitation was experienced alongside lower levels of esteem support.

There was a significant interaction for esteem support and loss of confidence in predicting the response of restlessness ($\Delta R^2 = .02$, $b = -.12$, $p = .01$). Specifically, higher levels of esteem support maintained restlessness when loss of confidence was relatively stable. However participants with lower levels of esteem support had increased restlessness as loss of confidence increased.

There was a significant interaction for esteem support and loss of confidence when predicting the response of restlessness ($\Delta R^2 = .04$, $b = -.58$, $p = .00$). At higher levels of loss of confidence, esteem support did not make a major impact. However, at lower levels of loss of confidence, more esteem support suppressed feelings of restlessness when compared to less esteem support that resulted in higher levels of restlessness.

The proportion of variance in psychological responses explained by the main effects of perceived support availability ranged from 3% - 14%.
CHAPTER 5

DISCUSSION
5.0 Discussion

The stress buffering effect of social support in sport and specifically in response to sustaining athletic injury has not been thoroughly investigated within the literature. However research that has embarked on this domain has covered sport injury as a general term rather than how this may be affected by specific sport. Due to the popularity of the sport worldwide and the high injury rate, the main purpose of the study was to investigate the hypothesis that the perception of available social support acts a stress buffer in the specific context of footballing injury.

The results provide significant evidence of the buffering hypothesis. It is evident that there are interactive effects for athlete's perception of availability of social support and injury stressors on psychological responses to sporting injury. Stressors were consistent with less positive psychological responses, while the perceived availability of social support was consistent with more positive psychological responses (see table 3). With this in mind buffering the harmful effects of the stressors, requires the use of matching the perceived availability of social support to specific stressors. This is deemed important due to the perceived availability of certain types of social support when matched to the specific stressors. This then aids the recovery process by reducing the impact of the stressors on the athlete (Cutrona & Russell, 1990; Lakey & Cohen, 2000; Wills & Shinar, 2000; Mitchell et al, 2013).

In the present study two out of the four different types of social support provided significant interactions on particular psychological responses, when matched to a specific stressor. Consistent with the findings made by Mitchell et al (2013) these types of social support were 'emotional' and 'esteem', which provided evidence of interactive effects in relation to feelings of restlessness, feeling cheated and isolation.

In support of the findings by Mitchell and colleagues (2013), the stressor ‘loss of confidence’ was associated with two significant interactions when matched with esteem support in relation to feelings of restlessness and isolation (see table 3). In essence as an athlete decreased in confidence, perceptions of high levels of esteem support maintained
levels of restlessness and isolation. However in contrast, low levels of esteem support were related to an increase in levels of restlessness and isolation. Feelings of restlessness are caused through anxiety, anger and frustration within an athlete (Pearson and Jones, 1992; Johnston and Carroll, 1998a). A sporting injury can cause the loss of important sources of confidence, which in turn can enhance an athlete’s level of anxiety (Bandura, 1982). Isolation is a response to loss or grief (Evans and Hardy, 1995) and is associated with non-adherence to rehabilitation. When an athlete is injured they become removed from their usual environment, the injury causes a loss of this attachment and also a loss of self-esteem and image (Peretz, 1970). Esteem support has maintained levels of restlessness and isolation by providing reassurance that they are capable of recovering and returning back to their sport in their pre-injury state, reducing the athletes concern and enhancing their morale and motivation (Rees and Hardy, 2000). With this in mind athletes are believed to lack self-efficacy and self-esteem after injury (Taylor and May, 1996). In coherence with Bandura’s (1977) self-efficacy theory, the esteem support provided the athlete with compliments and reassurance that influenced their thoughts, behaviours and actions. Thus fostering their esteem and efficacy by encouraging and motivating them to engage in positive health behaviours and return back to sport (Cutrona and Russell, 1990).

Isolation and restlessness also had significant interactions with the stressor ‘incapacitation’ in association with emotional support (see table 3). High levels of perceived available emotional support maintained the perceptions of restlessness and isolation, whereas with low levels of emotional support they increased.Thoits (1995) suggests that the injured athlete perceives incapacitation as uncontrollable and this aspect of the stressor forecasts the use of emotion-focused coping. Therefore the idea that the athlete has someone there to listen to them allows for improved coping by allowing the individual to exhaust themselves of their anger and frustration, therefore reducing perceptions of isolation, incapacitation and restlessness. Rees et al (2010) states that it is inevitable for feelings of incapacitation to lead to disruption to normal functioning and result in the loss of important attachments (self-image and self-esteem). Logically this would imply the element of loss created through incapacitation, and would suggest that athletes require esteem support in order to reinforce their lost sources of self-esteem through injury (Bianco, 2001; Johnston and Carroll, 1998b; Tracey, 2003). Conversely the findings do not match those identified
by Mitchell et al (2013), rather they suggest that emotional support is sufficient in overcoming the perceptions of loss. It is therefore mandatory to do further scientific research within this area.

Lastly the stressor ‘incapacitation’ also showed significant interactions with emotional support in response to ‘feeling cheated’. Feeling cheated is characterised by feelings of bitterness and resentment (see table 3). This again is opposed to the findings uncovered by Mitchell et al (2013). They found that in the presence of the stressor incapacitation, high levels of esteem support would maintain levels of feeling cheated, and low levels of esteem support would enhance perceptions of feeling cheated. These findings are in agreement with previous research because in order to maintain levels of bitterness it is believed that injured athletes must perceive high levels of esteem support (Rees and Hardy, 2000), implying that being reassured that their body can return to its pre injury physiological state post rehabilitation will maintain levels of feeling cheated. In contrast the results from the current study suggest that high levels of emotional support maintained the levels of feeling cheated, and low levels of emotional support increased perceptions of feeling cheated. Johnston and Carroll (1998b) found that the requirement for emotional support was dependent on the emotional impact of the injury. Consequently the athletes may have deemed their injury as severe and therefore required emotional support (Udry et al., 1997) in order to express their resentment and why they feel cheated to significant others, which then allows them to maintain this response.

It is not surprising that significant interaction effects were found between esteem and emotional support in relation to feelings of restlessness, isolation and feeling cheated, as Mitchell and colleagues (2013) discovered similar interactions. However the matching of specific stressors to types of social support in relation to the more positive psychological response in both studies contradict each other. Due to a mass of previous research stating that feelings of incapacitation are associated with decreased self-esteem (Evans & Hardy, 1995; Johnston & Carroll, 1998b; Tracey, 2003; Mitchell et al., 2013), it is surprising that there was not a significant interaction between the stressor incapacitation and esteem support in association to any of the psychological responses. The emotional impact of the injury between athletes was deemed prominent, which is evident in the significant requirement of perceived emotional support. Nonetheless, in order to prevent memory
decay when completing the questionnaire, the athletes must have been injured and returned back to competitive football within 12 months. Thus although the individuals may believe their injuries are severe, it is doubtful that any of the injuries sustained could be categorised as being ‘career ending’. This type of injury, as well as those with long histories of previous injury have been mostly linked with emotional support (Udry et al., 1997) due to the extremely long rehabilitation process. Rees and Hardy (2000) indicate that there is a greater need for support because it is imperative that through the long and tough process, motivation and morale must be retained by providing relevant information and reassuring them that they can return to sport. The athlete’s previous injury history proposes an explanation for the desire for emotional support as well as being a potential limitation of the current study. The issue raised is that this variable was neither measured nor controlled, diminishing the reliability of the findings. In relation to previous findings it is likely that the athletes partaking in the current study have had a long previous history of injury, and if the questionnaire was given to a new set of participants the results may differ depending on their previous injury history. However due to this variable not being measured this may not be the case. With this mind, it is important that in future research this measure is controlled or measured in order to improve the reliability of findings.

It is not surprising that significant interaction effects were found only between esteem and emotional support in relation to feelings of restlessness, isolation and feeling cheated, as these interactions are very similar to those found by Mitchell and colleagues (2013). However the matching of specific stressors to types of social support in relation to the more positive psychological response in both studies contradicted each other. Due to the results of the current study being more contradicting of the typical assumptions, a possible reason for this difference may be due to the available support networks lack of expertise relating to injury, thus providing the injured athletes with poor inadequate sources of support (Rees and Hardy, 2000).

In addition to the buffering effects, research provides evidence in favour of the main effects of social support on health and well-being outcomes (Ryan and Solky, 1996). Therefore it is important to consider the main effects that were found to have significant interactions in the current study. There were significant main effect interactions for esteem and emotional support in relation to restlessness, isolation and feeling cheated (see table 3). Bianco and Eklund (2001) suggested that individuals with high perceived availability of
support would believe that they have the resources to cope with situations, therefore appraising situations as less stressful, thus leading to more favourable outcomes. These findings are in congruent with the current study as the findings propose that high levels of esteem and emotional support were helpful to the athlete in maintaining levels of restlessness, isolation and feeling cheated irrespective of the stress of injury or stressors.

Although main effects were found in relation to social support producing more positive psychological responses, there were also main effects found between stressors and psychological responses, where the stressors had a more negative impact on psychological responses. These findings relate to Wheaton’s (1985) ‘Distress deterrent model’, which identifies that stressors and support have separate and opposite effects on ones psychological responses. In further detail social support is considered to act as an ‘independent distress deterrent’ meaning that it's presence directly counterbalances any negative relationship between stressors and psychological responses. In context to injury the ideal of this model insinuates that the greater the provision of social support the more positive the injured athlete’s response to the injury will be. However this idea is pretentious, as more recent research suggests that too much support or issues such as receiving support from unwanted sources maybe considered impractical and may possibly pose a threat to rehabilitation (Bianco, 2001; Johnston and Carroll, 1998b). With this in mind rather than stressors and support being referred to as separate within injury, the relationship between the two in buffering the negative impact of stressors is more relevant through the rehabilitation process as this is more specific to the needs of the individual to ensure more positive outcomes.

The present study has important implications for sport psychologists and coaches when working with injured footballers. The findings provide clear evidence of the matching hypothesis in order to enhance the buffering effect on responses to injury (Cutrona and Russell, 1990). There were significant interaction effects with esteem and emotional support when matched to the specific stressors, ‘incapacitation’ and ‘loss of confidence’ in relation to feelings of isolation, restlessness and feeling cheated. This highlights the importance of an individual’s perception of available social support when confronting stressors associated with a particular injury. Hence providing sport psychologists and coaches with the knowledge in the nature of injury stressors that an individual may
experience, and how their perception of available social support is imperative in diminishing certain psychological responses that may impede rehabilitation.

Earlier research has tended to explore the role of social support and the psychological responses of injured athletes from a uni-dimensional perspective. Conversely social support is regarded as a complex and multi-dimensional construct (Hardy and Crace, 1993) and should be researched in the same way. Therefore, similarly to Mitchell et al., (2013) a further strength of the current study is that it has accounted for the different types, and the functional and perceptual dimensions of social support through the use of theoretically derived multi-dimensional measures of the perception of available support. Correspondingly, the injured athletes’ psychological responses were measured using population-specific measures. Furthermore the single-measures of injury stressors were significant to the injury and rehabilitation context, and were derived from prior injury literature.

Although the procedure and measures are more advanced than previous research the current study is not without its limitations. The procedure of the study can be deemed as retrospective in scope. When the athletes are completing the questionnaire, they have already been injured and have to recall their rehabilitation. This means that there are possible mediating factors that can affect the way in which the questionnaire is answered. For example it is possible for athletes who have successfully recovered from injury, to respond to the questionnaire with more favourable responses. It is highly likely that due to the positive outcome the individuals may potentially underplay the emotional turmoil that may have occurred during rehabilitation (Bianco et al., 1999; Gould et al., 1997a, 1997b; Udry et al., 1997).

Additionally the use of self-reported measures creates further issues with how athletes may respond to the questionnaire. The individuals had to respond to questions in relation to their own experience and performances through rehabilitation. These measures are dispositional in nature, and therefore it is possible that this study may have been disposed to negative affectivity bias (Watson & Pennebaker, 1989). This suggests that the individual may respond in a way that they deem the researcher may want them to respond, and therefore not giving a true answer of their experience. It is also possible that the individual may respond in a way that they feel makes them look good. For example in the current study the individual may minimise the impact of the stressors in the questionnaire to what
really occurred because they may not want to be perceived as being weak or vulnerable to the researcher. Therefore despite advancing on previous research, the current study still has implications that need to be maintained.
CHAPTER 6

CONCLUSION
6.0 Conclusion

The current study examined the buffering effect of social support on the negative impact of stressors in relation to psychological responses to injury. More specifically the study assessed the matching hypothesis, which proposes that when specific stressors are matched to particular types of social support it results in more positive psychological responses for footballers who have been injured in the last 12 months.

The data analysis consisted of a moderated hierarchical regression analysis, where significant interactive effects where found for esteem and emotional support on the stressors ‘incapacitation’ and ‘loss of confidence’ in relation to the psychological responses restlessness, isolation and feeling cheated. These interactions provide evidence that social support works as a stress buffer when the types are matched to specific stressors by diminishing the negative psychological responses.

In contrast to earlier research within this domain that has focused on the effects of social support from a one-dimensional perspective, the significant interactions in the current study highlights the importance of the multidimensional construct of social support and further suggests that different types of social support are required to buffer the same stressor and enhance more positive psychological responses.

An injured athlete will show elevated feelings associated with loss of attachments during rehabilitation. It could be suggested that due to the significant effect of an individual’s perception of social support availability and its ability to buffer the negative impact of stressors, this consequence could be explained by the attachment theory (Bowlby, 1982), as the effects could be due to the adult consequence of the attachment experience (Mikulincer & Shaver, 2009). As a result of the secure and responsive attachment figures that are developed at a young age and maintained throughout adulthood, when an individual finds themselves in times of high stress, the impact of these attachment experiences results in the individual presuming that the relevant support will be available if required. Furthermore Evans et al. (2012) suggest that to further strengthen attachments to members of their social network upon their return to sport they must mobilise their social support network, as long-term this enables an enhanced perception of social support. Consequently through the development and maintenance of attachment figures and
mobilising ones support networks, attachment theory may give a plausible explanation for the significant stress-buffering interactions identified in the current study.

The findings in this study have furthered our knowledge of the complex nature of social support and its relevance in rehabilitation. The findings highlight that the nature of the stressors experience by an injured footballer and the availability of social support are important factors in diminishing negative psychological responses. Due to the importance of social support it is crucial that providers of support are educated about this complexed construct, and focus on the quantity and appropriateness of the support available.

Nevertheless, although the findings can aid our understanding about the importance of social support, further research is needed to investigate the stress buffering effects of social support on stressors in relation to psychological responses. Issues such as memory decay, and the effects of successful rehabilitation altering the athlete’s perception of emotional fluctuations in rehabilitation are prevalent because of the current study being retrospective in scope. This reduced the validity of the findings as the individuals may not be recalling what actually happened, thus the study may not have been measuring what it intended to measure. Future research needs to exclude these disputes by requesting the individual to carryout the question from the onset of injury and throughout the process of rehabilitation. If an individual was to complete the questionnaire at each stage of the rehabilitation process, then there could be no memory decay. This limitation could have moderated the effects of a positive recovery, however the suggested advancement would enhance validity as the injury and rehabilitation experience is current. Therefore the individual would not have experienced a positive or negative outcome to rehabilitation and in effect, will prevent hindering their response to the questionnaire. This will enhance the validity of findings by removing memory decay and false recollection of events, as well as providing a temporal aspect to the study. Johnston and Carroll (1998b) highlight the importance of studying the effects of social support through different phases of the rehabilitation process. It is possible that at different stages of rehabilitation, different stressors may be more prevalent and thus different types of social support may be required at these different stages to minimise negative psychological responses. It is also possible that at these different stages of rehabilitation different psychological responses may be experienced. The information that can be derived from these alterations can further enhance our knowledge of social support and rehabilitation and ensure that the
implementation of relevant social support interventions at the correct time will promote an athletes healthy recovery to competitive football.
REFERENCES
References


APPENDICE
Date: March 2014.

To: Sam,

Project reference number: 13/05/092U

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, 26th June 2013, 24th July 2013, 16th October 2013, 27th November 2013].

Yours sincerely

[Signature]

Supervisor
APPENDIX B

PARTICIPANT INFORMATION SHEET

Stress, Social Support and the Recovery Process of Injured Footballers.

Name: ………………………… Age: …………………………

Gender: Male/ Female Sport: Football

Level: Recreational/ Semi-professional/ Professional

Date of Injury Occurrence: ………………………………………

Expected Date of Recovery: ……………………………

Background information

The current study is completely voluntary and as a participant you are entitled to withdraw at any point. The aims of the study are to enhance researcher knowledge on the relationship of stressors and social support on the return from injury to competitive sport in footballers. The results from this research will provide assistance for athletes, coaches, sport psychologists and physiotherapists in dealing obstacles within performance and promote effective recovery from injury.

What is required of you?

As a participant you will be required to complete a three part questionnaire in one sitting. It is a short questionnaire but requires full concentration and asked to complete in isolation. Further more specific instructions are provided within the booklet.

Why have you been asked?

You have been asked to complete this questionnaire because you meet the criteria. You are a football player who has been injured within the last year – 6 months.

Privacy protection

All data gathered within this study will be private and only the researcher and the supervisor will able to view the booklet. Participants name will not be used; rather they will be identified with letters (E.g. Participant A, Participant B etc.).

Further enquiries

If you have any further questions or worries about the current research then please do not hesitate to contact me.
Researcher details:
Sam Dawkins  st20007749@outlook.cardiffmet.ac.uk
**APPENDIX C**

**STRESSORS MEASURES**

List of Stressors

To what extent are these an issue for you as an injured athlete?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>somewhat</th>
<th>a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Slowness of progress</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2) Fitness concerns</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3) Pressure to return to sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4) Incapacitation</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5) Feeling isolated</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6) Inability to train/play</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7) Loss of confidence</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8) Financial issues</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9) Transport issues</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10) Personal problems</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
APPENDIX D

MEASURE OF PERCEIVED AVAILABLE SUPPORT

Below is a list of items referring to the types of help and support you might get from others whilst injured. Please indicate to what extent these relate to you, by circling your response to each question on the numbered scale shown below. Please make sure that only one number is circled and that there are no circles between any two numbers.

1 = not at all
2 =
3 = somewhat
4 =
5 = a lot.

<table>
<thead>
<tr>
<th>To what extent do you have someone…</th>
<th>Not at all</th>
<th>somewhat</th>
<th>a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Who gives you moral support when you’re feeling down?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) Who helps with transport?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3) Who is always there for you?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4) Who lifts your morale when it’s down?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5) To whom you can always turn?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6) Who tells you, you can do it?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7) Whom you turn to for advice about life direction issues?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8) Who helps plan training to deal with injury problems?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9) Who helps you make decisions?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10) Who would give you financial help for injury treatment?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11) Who helps you solve problems in training?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12) Who motivates you?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13) Who listens to your concerns?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14) Who reassures you?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15) Who helps setting sessions in training?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16) Who helps you consider your options regarding your future?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX E

PSYCHOLOGICAL RESPONSE MEASURES

Read each statement and indicate by circling the relevant point on the scale, the extent to which the statement reflects how you presently feel. If you strongly agree, circle 1; if you strongly disagree, circle 5—and points between as to the extent of your feelings. Please make sure that you answer all questions and that you only circle one number per question—do not place a circle between any two numbers.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th></th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I am unable to enjoy myself.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2.</td>
<td>I can’t help but feel bitter.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>I have difficulty accepting that I am injured.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4.</td>
<td>Team-mates seem to have lost interest in me.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5.</td>
<td>I am feeling mentally stronger.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6.</td>
<td>I feel isolated.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7.</td>
<td>I am devastated by the injury.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8.</td>
<td>I am unable to relax.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9.</td>
<td>I am unusually anxious.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10.</td>
<td>I cannot work out why my injury happened.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11.</td>
<td>My world has fallen apart.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>12.</td>
<td>Socially I feel like an outcast.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>13.</td>
<td>I have been cheated.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>14.</td>
<td>I am beginning to feel like myself again.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>15.</td>
<td>I feel frustrated by my injury.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>16.</td>
<td>I have much more confidence in myself.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>17.</td>
<td>I experience a feeling of emptiness.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>18.</td>
<td>I don’t feel like mixing with other performers</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>19.</td>
<td>I feel as if I have been cheated by being injured</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>