

## Social support and sport injury recovery: An overview of empirical findings and practical implications

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*SOCIAL SUPPORT AND SPORTS INJURY RECOVERY: AN OVERVIEW OF EMPIRICAL FINDINGS AND PRACTICAL IMPLICATIONS*

KEY WORDS: Social support, Sports injuries, Rehabilitation, Athletes.

ABSTRACT: Epidemiologically-based evidence has demonstrated that a substantial number of athletes and exercisers are injured each year, which can result in physical disability as well as other negative physical, social and psychological consequences. Accumulated research has indicated that the prevalence of sport and physical activity-related injuries varies based on gender, age group, type of sport, level of participation, and role on the team, among other considerations. Although physical causes are the primary contributors to injury, a considerable number of studies have suggested that psychological and social factors also have importance in injury prevention and rehabilitation. Among the psychosocial factors investigated, social support has emerged as a significant buffering and coping resource in the recovery process from athletic injuries. However, research has also indicated that sources of social support tend to be less frequently available to athletes during some stages of rehabilitation and do not necessarily meet the athletes' expectations and needs. Moreover, some studies have suggested that social support may have detrimental effects under certain circumstances. As such, coaches, athletic trainers and health care professionals should be aware of these complex forms of influence and develop and implement injury rehabilitation processes that are based on a holistic approach in order to promote the athletes' recovery and well-being.

Participation in physical activity and sports has consistently been shown to promote many positive health benefits. This evidence has resulted in an increased emphasis on the need to understand the factors, conditions and settings that shape this participation (Saelens et al., 2012) and also highlight the importance of prioritizing the promotion of physical activity and organized sports as part of a public health policy agenda (Woods and Mutrie, 2012). Nevertheless, participation in exercise and sports also involves the risk of suffering an injury which can result in a set of adversities and repercussions for the individual. Epidemiological based evidence from the last decades has demonstrated that a considerable number of athletes and exercisers are injured each year, representing a significant public health problem. Moreover, research has indicated that the prevalence and incidence rates of physical activity-related injuries varies according to several factors, namely gender, age, types of sport, level of participation, and role on the team (Caine, Caine and Maffulli, 2006; Philips, 2000).

The primary causes of sport injuries are physical, physiological, anatomical and environmental factors, such as muscle imbalances, overuse/overtraining, physical fatigue, lack of physical fitness, collisions, and unsuitable sports equipments, surfaces or facilities (Wiese-Bjornstal, 2010). Nevertheless, accumulated empirical evidence has suggested that psychological factors play a significant role in injury occurrence and recovery (Christakou and Lavallee, 2009; Ivarsson, Johnson and Podlog,

2013), which underscores the need for coaches, athletic trainers, fitness and health care professionals to be aware of these complex forms of influence. Moreover, the influence of cognitive and emotional factors on athletic injuries has become an area of great interest and research, not only with elite athletes, but also with recreational exercisers or any other performers (Green and Weinberg, 2001; Levy, Polman, Nicholls and Marchant, 2009).

A considerable number of studies have demonstrated that social support is one of the most important forms of psychosocial influence upon the injury recovery process (Green and Weinberg, 2001; Hardy, Richman and Rosenfeld, 1991; Tracey, 2003; Yang, Peek-Asa, Lowe, Heiden and Foster, 2010). Two principal explanations have been offered for the role of social support on injury recovery processes. The first explanation is known as the "buffering hypothesis" and reflects the belief that the advantages of social support are primarily experienced through distress reduction. In this regard, it has been proposed that the provision of social support enables individuals to more effectively cope with the injury through distress reduction. In this sense, the availability of social support after a sport injury allows individuals to reappraise the injury in a less threatening way. In contrast, the "main-effects hypothesis" posits that social support exerts a direct (positive) effect on the athlete's psychological response (Bianco and Eklund, 2001; Clement and Shannon, 2011; Taylor, 2011). Social support refers to a multidimensional construct that comprises three interdependent dimensions. The

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first dimension refers to structural aspects and reflects “who” is able to provide social support. This includes the network of significant others, including family, friends, teammates and coaches. The second dimension pertains to functional characteristics of social support, in this case “how” social support is experienced through an exchange of resources and includes emotional, esteem, tangible, network and informational forms of social support. The third dimension represents a perceptual feature and refers to individuals’ appraisals of the available amount and quality of social support sources (Bianco and Eklund, 2001; Holt and Hoar, 2006). During rehabilitation, the athlete’s social support network should consist of the sport (coaches and teammates) and the medical team, alongside family and friends. However, research findings suggest that athletes report variable satisfaction levels with social support across the recovery phases and athletes frequently report that social support is limited from coaches, sports medicine professionals and teammates (Clement and Shannon, 2011; Corbillon, Crossman and Jamieson, 2008; Johnston and Carroll, 2000; Robbins and Rosenfeld, 2001; Udry, Gould, Bridges and Tuffey, 1997).

The purpose of this paper is to review the research on social support forms of influence on recovery from sport injury and to discuss implications for practice in order to help coaches, athletic trainers and health care professionals facilitate the athlete’s recovery. This review is not exhaustive, but highlights three domains that emerge from the literature: i) the needs and patterns of social support preferred by injured athletes, ii) their perceptions and satisfaction with social support sources and processes, and iii) the psychological process that affects the athlete’s return to sport competition following injury.

### **Social support and sport injury recovery**

#### **The injured athlete’s needs and patterns of social support**

Sport injuries represent a significant form of stress for athletes, disrupt their training and competition and can lead to feelings of separation and isolation from their teammates and coaches (American College of Sports Medicine [ACSM] et al., 2006; Johnston and Carroll, 1998). Injured athletes usually experience negative emotions, including anger, sadness, tension, confusion, hostility, fear, irritability and anxiety and commonly develop negative appraisals regarding their return to sport participation (ACSM et al., 2006; Bianco, 2001; Podlog and Eklund, 2007; Tracey, 2003). However, research has also indicated that the recovery process of injured athletes is highly variable within and across individuals (ACSM et al., 2006; Tracey, 2003), which may reflect the characteristics of the injury (including type and severity), differential access to medical professionals or resources, and differential patterns of interpretation regarding the severity and control over the injury and accessibility to emotional support.

Empirical evidence has demonstrated that social support effects are more beneficial when the provided support is consistent with the needs of the injured athletes (Bianco and Eklund, 2001; Robbins and Rosenfeld, 2001). However, the type and amount of support needed may vary depending on personal, situational and temporal characteristics (Robbins and Rosenfeld, 2001; Wiese-Bjornstal, 2010; Yang et al., 2010). Johnston and Carroll (1998) found that different forms of social support are preferred by athletes at distinct phases of the recovery period. Specifically, injured athletes customarily reported stronger needs for emotional support at the beginning of the rehabilitation

process whereas needs for informational support from the medical team and sport-related help from coaches was more important at the final phases of the recovery process. Additional research has found that athletes would appreciate greater social support from the coaching staff at all phase of the injury recovery process (Robbins and Rosenfeld, 2001).

Injured athletes are not always active in seeking out the social support that they desire, although research on this topic is limited. Research indicates, in general, that the expression of the need for support is likely to be affected by gender, stigmatizing problems (i.e., the athlete’s own use of performance-enhancing drugs), psychological problems, and the intimacy and quality of relationships with possible social support providers (Taylor, 2011). As a consequence, this evidence supports the need to assess and identify athletes’ social support preferences and needs during the rehabilitation process, preferably through sport-specific instruments (Bianco and Eklund, 2001; Holt and Hoar, 2006).

#### **The injured athlete’s perceptions and satisfaction with social support**

Another consideration of interest pertains to individuals’ preferences for social support as these preferences contribute to the injured athlete’s satisfaction and overall well-being. A number of studies have addressed considerations related to the athletes’ satisfaction with different type of providers and variation in the importance of these sources across time.

Family and friends have been identified as the primary sources of social support for adult male and female athletes, both prior to, and following, the occurrence of an athletic injury (Yang et al., 2010). However, during the rehabilitation process, athletes have reported that they tend to rely extensively upon the social support provided by coaches, athletic trainers, and physicians (Robbins and Rosenfeld, 2001; Yang et al., 2010), which makes it important to examine their satisfaction levels in relation to the support given by these providers. Several studies have found that injured athletes tend to be more satisfied with the social support provided by certified athletic trainers than by their coaches and report that the support from athletic trainers contributes more substantially to their well-being and recovery (Clement and Shannon, 2011; Robbins and Rosenfeld, 2001). The greater availability of social support provided by the medical team in combination with feelings of distance from the team and coaching staff during the rehabilitation process have been proposed as possible justifications for the relative importance of social support as provided by the medical team (Johnston and Carroll, 1998; Robbins and Rosenfeld, 2001). However, when compared the athletes’ perceptions of the social support provided by coaches and teammates, results indicated that injured athletes were more satisfied with task appreciation and task challenge support provided by coaches and reported to contribute more significantly to their overall well-being. Corbillon and colleagues (2008) found that although athletes reported significantly greater availability of emotional support from teammates, listening support and task appreciation were the types of support that made the greatest contribution to their well-being. In addition, research has also suggested that other injured athletes, especially those with similar injuries, represent a significant source of informational support satisfaction and serve as models of successful rehabilitation (Johnston and Carroll, 1998; Tracey, 2003).

Research has examined additional contributors to social support satisfaction. A limited number of studies have suggested that women tend to be more satisfied than men with practical and emotional types of social support (Corbillon et al., 2008; Johnston and Carroll, 2000), whereas nonstarters, those with a greater history of injury, and those with more years of experience in their sports report less availability and satisfaction of social support from their coaches and teammates (Corbillon et al., 2008). Regarding levels of social support satisfaction prior to and following injury, mixed results have been found in American collegiate athletes participating at the NCAA Division I level. Robbins and Rosenfeld (2001) obtained no significant differences between pre and post-injury phases with the support provided by the head coaches and athletic trainers, while Yang et al. (2010) showed that athletes demonstrated higher post-injury levels of satisfaction with the social support received by coaches, athletic trainers and physicians. These apparent discrepancies may be explained by the use of different measures or by a cohort effect. Nevertheless, these results highlight the need for further investigation concerning the correlates of social support satisfaction.

Although social support interactions (messages and activities) are usually well-intentioned, they may unintentionally result in negative/adverse consequences for the injured athlete (Bianco and Eklund, 2001). The negative aspects of relationships need to be considered in the context of social support processes since they represent additional sources of distress and mood disturbance (Taylor, 2011). As previously stated, some athletes perceive their coaches' types and amount of social support as inappropriate and insufficient during their injury recovery (Bianco, 2001; Clement and Shannon, 2011; Robbins and Rosenfeld, 2001). This "matching hypothesis" posits that in order for athletes to positively perceive the social support processes, the correct type, timing and quantity must be provided by the expected/preferred providers. For example, sixty-seven percent of the skiers in the sample interviewed by Udry et al. (1997) perceived their coaches as distant, insensitive to the injury, provided insufficient rehabilitation guidance and demonstrated a lack of belief in them/their recovery. Moreover, pre-injury coach/athletes relationships should be accounted for, since injured athletes are unlikely to seek or expect support from coaches whose relationship has been marked by conflicts or have not previously provided support, appeared to not care, and ridiculed him/her in the past (Bianco, 2001; Bianco and Eklund, 2001).

### **The return to sport competition following injury**

The return to competition following an athletic injury constitutes a key phase in the athlete's rehabilitation program and is usually accompanied by the athlete's recognition of difficulties and uncertainties. However, this phase of the injury process has received limited attention in the literature. One important concern is that many athletes feel pressured to return to competition following an injury (Bauman, 2005), leading to premature returns and a higher probability of re-injury. Although coaches, teammates and family are primarily responsible for this pressure, research has also indicated that pressures are sometimes self-induced and attributable to the athletes' own unrealistic expectations (Bauman, 2005; Podlog and Eklund, 2007). Research has indicated that the need for informational support from coaches and the medical team is the most important dimension of social support in order to avoid a premature return

to sport and to better cope with the related difficulties during this transition (Bianco, 2001; Johnston and Carroll, 1998). However, athletes have reported insufficient and inappropriate types of social support during this period of time (Johnston and Carroll, 1998; Udry et al., 1997). In a qualitative study involving professional coaches (Podlog and Eklund, 2007), it was found that coaches felt that an important part of their role during the athlete's return to sport following a serious injury was to met the athletes' social support needs. Podlog and colleagues (2010) highlighted this consideration further through the finding that the satisfaction of athlete relatedness needs by coaches, such as through the provision of social support, was positively associated with higher self-esteem and vitality levels which, in turn, diminished the athlete's concerns about their return to sport as typically manifested through worries about competitive readiness and re-injury.

### **Implications for practice**

The present review of findings demonstrate that it is essential for coaches, athletic trainers and health care professionals to consider the athletes' satisfaction with the support that they receive and to determine if athletes' preferences and expectations are met within the available social support network. The importance of social support satisfaction to rehabilitation adherence is now well documented (ACSM et al., 2006; Christakou and Lavalley, 2009; Clement and Shannon, 2011; Johnston and Carroll, 2000; Levy et al., 2009; Yang et al., 2010). Since sports medicine professionals occupy a mediating role between athletes and coaches during rehabilitation (Robbins and Rosenfeld, 2001), it is of great importance that interventions include psychological support services consistent with the athlete's characteristics and preferences and stage of rehabilitation (ACSM et al., 2006; Christakou and Lavalley, 2009; Mann, Grana, Indelicato, O'Neill and George, 2007). For these purposes, it is essential that topics on counseling and social support skills are included and taught in athletic training/sports medicine education programs (Stiller-Ostrowski and Ostrowski, 2009).

Based on these findings, at least three interdependent phases should be considered regarding the inclusion of social support in the design of the rehabilitation program. Immediately following the occurrence of injury, it is important to assess and understand possible problematic emotional responses and to provide emotional support according to the athlete's needs and preferences. Sports medicine professionals should inform and educate athletes, coaches, family and friends regarding the type and severity of the injury and facilitate the provision of psychological support services when needed (ACSM et al., 2006). The involvement of a sport psychologist on the rehabilitation team should be considered as part of a holistic recovery program that includes physical, social and psychological techniques and interventions, although sports medicine professionals have tended to be reluctant to address psychological concerns (Mann et al., 2007). During the athletic injury recovery and depending on its duration, more attention should be given to the issues that influence the athlete's compliance and adherence to the rehabilitation program. The medical team is an important source of informational support, providing information and abilities to help the athlete cope with the pain and the progress of recovery, fostering the use of specific stress coping skills and encouraging the athlete's efforts and positive beliefs (Christakou and Lavalley, 2009). For these purposes, self-referencing strategies and

measures of comparison are essential to inform the athlete about his progress and to promote self-control and responsibility for their recovery. Moreover, it is essential that athletes continue to attend practices and competitions in order to avoid a sense of isolation and alienation from the team. Furthermore, rehabilitation should be reframed as a challenge to the athlete in which healthy and realistic short-term recovery goals are established. It is also important that such supportive relationships are available and to avoid the unsupportive and negative social interactions that serve as additional sources of stress and disturbance (Christakou and Lavallee, 2009; Wiese-Bjornstal, 2010). Finally, during the return to sport transition phase after injury athletes tend to report concerns about their athletic abilities, the possibility of re-injury and pressures to return to competition. As such, sports medicine professionals should be aware of possible pressures and only allow the return to competition after an injury when athletes demonstrate physical and psychological readiness (Podlog, Dimmock and Miller, 2011). Additionally, coaches should continue providing encouragement, positive feedbacks and sport-specific advices during this transition phase, especially

when athletes perform poorly or have an injury-related setback (Podlog and Eklund, 2007).

In conclusion, social support has increasingly been recognized in the medical and health-related literature as an integral component of the healing process. In relation to those injuries incurred in sport and physical activity settings, a variety of forms of social support may be available to the individual. Social support will be most beneficial when it matches the personal needs of the individual athlete. Such social support needs may entail emotional support, task appreciation and task challenge support, and informational support. As a consequence of individual difference factors and differences in injury severity and injury history, preferred forms of social support will also vary. In addition, athletes tend to have a preference for different forms of social support at different phases of the recovery process. It is essential that athletes remain involved in regular practices and team functions to avoid the sense of isolation that can accompany a prolonged separation from the team due to the injury and its treatment.

#### *APOYO SOCIAL Y LA RECUPERACIÓN DE LAS LESIONES DEPORTIVAS: UNA REVISIÓN DE LAS EVIDENCIAS EMPÍRICAS Y SUS IMPLICACIONES PARA LA PRÁCTICA*

**PALABRAS CLAVE:** Apoyo social, Lesiones deportivas, Rehabilitación, Atletas.

**RESUMEN:** Los estudios epidemiológicos han demostrado que, cada año, un número considerable de atletas y de practicantes de actividad física sufre una lesión causante de discapacidad y de otras repercusiones negativas para el bienestar físico, psicológico y social. Además, las investigaciones actuales revelan que la prevalencia de las lesiones asociadas a los deportes varía según el género, la edad, el deporte, el nivel competitivo, la posición en el juego, entre otros. Aunque los factores físicos constituyen las principales causas de las lesiones más comunes, varios estudios han sugerido que los factores psicológicos y sociales también ejercen un efecto significativo en la prevención y rehabilitación de las lesiones deportivas. Entre los factores psicosociales estudiados, el apoyo o soporte social percibido por el propio deportista se ha destacado como un importante mecanismo para controlar el distrés emocional y afrontar mejor las dificultades inherentes al proceso de recuperación de las lesiones deportivas. Sin embargo, la investigación también indica que las fuentes de apoyo social tienden a no satisfacer las expectativas y necesidades de soporte social de los atletas, siendo insuficientes en determinadas fases de la rehabilitación. Igualmente, algunos estudios han sugerido que el apoyo social puede inducir efectos perjudiciales en determinadas circunstancias. Por lo tanto, los entrenadores y profesionales de la salud (médicos, fisioterapeutas, psicólogos, etc.) deben tener conocimiento de estos factores influyentes y implementar intervenciones desde un punto de vista más integral con el fin de promover la recuperación de los atletas y mejorar su bienestar.

#### *SUPORTE SOCIAL E A RECUPERAÇÃO DAS LESÕES DESPORTIVAS: UMA REVISÃO DAS EVIDÊNCIAS EMPÍRICAS E SUAS IMPLICAÇÕES PARA A PRÁTICA*

**PALAVRAS-CHAVE:** Suporte social, Lesões desportivas, Reabilitação, Atletas.

**RESUMO:** Os estudos epidemiológicos têm demonstrado que, cada ano, um número considerável de atletas e de praticantes de actividade física sofre uma lesão causadora de incapacidade e de outras repercussões negativas para o bem-estar físico, psicológico e social. Adicionalmente, as investigações actuais revelam que a prevalência de lesões associadas à prática desportiva varia segundo o género, idade, modalidade, nível competitivo, posição de jogo, entre outros. Embora os factores físicos constituam as principais causas das lesões mais comuns, vários estudos têm sugerido que os factores psicológicos e sociais também exercem um efeito significativo na prevenção e reabilitação das lesões desportivas. Entre os factores psicossociais estudados, o apoio ou suporte social percebido pelo próprio desportista tem-se destacado como um importante mecanismo para controlar o distress emocional e enfrentar melhor as dificuldades inerentes ao processo de recuperação das lesões desportivas. Contudo, a investigação indica também que as fontes de suporte social tendem a não satisfazer as expectativas e necessidades de suporte social dos atletas, sendo insuficientes em determinadas fases da reabilitação. De igual modo, alguns estudos têm sugerido que o suporte social pode induzir efeitos prejudiciais em determinadas circunstâncias. Portanto, os treinadores e os profissionais da saúde (médicos, fisioterapeutas, psicólogos, etc.) devem ter conhecimento destes influentes factores e implementar intervenções desde um ponto de vista mais global, visando promover a recuperação dos atletas e a melhoria do seu bem-estar.

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