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A thesis presented to the School of Kinesiology
Lakehead University

**INJURED ATHLETES' PERCEPTIONS OF AND SATISFACTION WITH THE
SOCIAL SUPPORT PROVIDED BY THEIR COACHES AND TEAMMATES
DURING REHABILITATION**

by
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Advisor: Dr. Jane Crossman

Submitted in partial fulfillment of the requirements
For the Master's of Science Degree
In the School of Kinesiology
Lakehead University

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Abstract

The primary purpose of this study was to assess injured athletes' perceptions of and satisfaction with the social support provided by their coaches and teammates. Seventy-two varsity student-athletes (26 females, 46 males) completed the Rehabilitation Social Support Survey. This instrument, a modified form of the Social Support Survey, was used to determine for each type of social support the athlete's satisfaction, its availability, and its contribution to the athlete's well-being. A MANOVA was used to determine if significant differences existed for the athletes' evaluations of the three variables support (composed of the eight types of social support), effect (composed of the satisfaction, the availability, and the contribution to the athlete's well-being) and source (composed of the coaches and the teammates). The MANOVA analysis determined a main effect of the variable effect, *Pillai's trace*=6.824, $p<.01$, and a main effect of the variable support, *Pillai's trace*=6.824, $p<.01$, on the injured athletes' evaluations of the social support they perceived. The MANOVA analysis also revealed an interaction effect between the support and the effect variables, *Pillai's trace*=2.410, $p<.05$, and an interaction effect between the support and the source variables, *Pillai's trace*=2.866, $p<.05$. Results showed that the benefits of the social support that injured athletes perceived are dependent on the athlete's expectations about the provider, the athlete's satisfaction with the social support provided, and the availability of the social support. The more satisfied the athletes were about the social support provided, the more beneficial it was for their well-being. Similarly, the more the athletes perceived the social support was available, the more satisfied they were. Differences between the coaches and the teammates were found. For seven of the eight types of social support, teammates provided more satisfying

support, their support was also more available and it contributed more to the injured athletes' well-being. The MANOVA, by calculating the mean between the three components of the effect variable (satisfaction, availability and contribution of each type of the social support), also revealed that injured athletes evaluated the listening support as having the highest mean; while they evaluate the tangible support as the lowest mean of all the type of social support.

Keywords: social support, injured athletes, teammates, coaches.

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Injured Athletes' Perceptions of and Satisfaction with the Social Support Provided by their Coaches and Teammates during Rehabilitation

Steve Backley, an English world class javelin thrower, explained to Bull, Albinson, and Shambrook (1996) that he “wouldn’t wish injury on anyone, but you don’t really know what the game’s all about until you’ve experienced it” (p. 125). One can hardly deny that injuries are inherent with participation in any physical activity. As Backley emphasized it is part of the game. No athlete, whatever his or her level of proficiency can be certain to avoid getting injured (Quinn & Fallon, 1999). Henderson and Carrol (1993) showed that 8 out of 10 American athletes are injured at least once during their athletic careers in high school or college. Johnson (1997) demonstrated that this situation was not specific to the North American athletes, as three of four Swedish elite soccer players became injured at least once every season. The injuries they sustained were predominantly traumatic. These studies highlight the fact that sports injuries are almost inevitable for any athlete, regardless of his or her age and skill level.

Despite the development of new sport equipment, facilities, rules, medical treatment, and training methods to increase the athlete’s safety, the number of injuries is constantly increasing (Pargman, 1993; Rendstrom, 1991). Pargman (1993) explained that many factors such as increased participation rates, a greater amount of leisure time, and lucrative professional prospects for the best athletes contribute to this phenomenon.

For decades, the treatment of injured athletes focused only on healing the physical consequences of injuries. However, during the past 15 years, the sport psychology literature relating to sports injuries has been developed extensively to include psychological dimensions (Gould, Udry, Bridges, & Beck, 1997a). Quinn and Fallon

(1999) emphasized that being injured for an athlete is a “traumatic life event with physical and psychological ramification” (p. 210). Gould et al. (1997a) qualitatively investigated the major sources of stress encountered by skiers during their rehabilitation from a season ending injury. They interviewed 21 American elite skiers who expressed that the psychological and social concerns they had to deal with were more stressful than the physical pain associated with the injury.

The psychological effects of an athlete’s injury are multiple (Fallon & Quinn, 1999). Being injured for athletes is comparable to being fired from their job without being warned. Suddenly, all the time they have spent and all the effort they have put forward to accomplish their goals seem fruitless. Now, the time they usually spend practicing is replaced by rehabilitation or other activities. Additionally to this psychological pain associated with an injury, athletes also have to handle the physical pain of their injury on a long-term basis. As Gould et al. (1997a) found, the occurrence of an injury is a life change event for an athlete.

Researchers have found that athletes usually show frustration, depression, and anger at the onset of the injury (Crossman, 1997; Wiese-Bjornstal, Smith, Shaffer, & Morrey, 1998). Crossman (1997) described the panic and the helplessness that some athletes feel when faced with the reality of not being able to play anymore because they were injured. She explained that the athletes’ self-identities, especially professional and elite, are often sport-related, e.g., “I am a basketball player.” Therefore when these athletes are injured, they feel useless and the psychological effects they experience are far more debilitating than the frustration they report when initially injured.

In summary, an injury has an obvious impact on the physical health of an athlete. However, the athlete's reaction to it has an important effect on his or her psychological health as well. An injury for an athlete represents a major negative life change event (Gould, Udry, Bridges, & Beck, 1997a). This life change event leads athletes to feel irritable, miserable, discouraged, and uncomfortable (Crossman, 1997). These potentially damaging psychological ramifications have encouraged sport psychologists and researchers to investigate ways to facilitate and hasten the psychological healing of a sport injury.

Social Support

In their quest for solutions, researchers and sports psychologists have studied many components of sport injuries including: injury predictors (Andersen & Williams, 1988), healing enhancers (Ievleva & Orlick, 1993), and recovery facilitators (Brewer, 2001; Wiese-Bjornstal, Smith, Shaffer, & Morrey, 1998). A number of studies have found that social support is important to an athlete's well-being when rehabilitating (Hardy & Grace, 1993; Hardy, Richman, & Rosenfeld, 1991; Mainwaring, 1999; Udry, 1997). Gould, Udry, Bridges, and Beck (1997b) studied the coping strategies used by 21 members of the U.S. ski team who suffered from a season-ending injury. Eighty-one percent of the athletes reported that the interpersonal resources (having role models, rehabilitating or training with others, physical therapy support, and support from coaches, the team's staff, family, and friends) could facilitate the recovery process. For example, one skier stated that his athletic trainer "was a big motivator...he has kept in touch with me from the beginning. He brought me to the hospital the first time...he was a big help." (Gould, Udry, Bridges, & Beck, 1997b, p. 390)

Definition of Social Support

Durkheim (1952) first studied the psychological influence of social support and found that suicide was related to the number of social interactions individuals had: the higher the number of social ties, the lesser the chance of suicide occurring. Durkheim emphasized that improved well-being is linked to more social interaction.

However, this first definition of social support is too limited to describe the entire phenomenon (Shumaker & Brownell, 1984), which has evolved into a multidimensional construct (Bianco & Eklund, 2001; Udry, 2001). Bianco and Eklund emphasized that social support is determined by three interdependent constructs: structural, functional, and perceptual.

The structural feature refers to the composition and the characteristics of an individual social network. For example, Rosenfeld, Richman, and Bowen (1998) studied the relationship between supportive communication and school outcomes for lower socioeconomic middle school students. They evaluated the perceived social support of 664 students using the School Success Profile. They found differences in the structural feature of these students regarding their risk status of poor school performance. Students at risk and students not at risk of poor performance both emphasized that their parents were the major sources of social support; but unlike students at risk, students not at risk also received support from their teachers and friends.

The functional feature is the relationship existing between the provision of social support and the well-being of an individual. Rosenfeld et al. (1998) showed that social support had, in general, a positive impact on school outcome. They reported that school attendance of students at risk was influenced by the technical appreciation support

(acknowledging and showing appreciation of the recipient's work or efforts) and the reality confirmation support (people who were or are in the same situation as the recipient confirm his or her perspective of the situation) provided by parents and teachers. This will be covered in greater detail later in this chapter.

The perceptual feature is the influence of an individual's perception of social support and its outcome on his or her well-being. Thus, Rosenfeld et al. (1998) determined that the type of social support perceived by students could influence their attendance. Students who perceived some reality confirmation support from their teachers and parents exhibited higher school attendance than the students who perceived technical appreciation support.

Therefore, because of the multidimensional nature of social support, no universal definition has evolved (Rosenfeld & Richman, 1998; Shumaker & Brownell, 1984; Udry, 2001). Shumaker and Brownell (1984) explained that even though a number of investigations have studied social support, very few have tried to define social support. Winemiller, Mitchell, Sutliff, and Cline (1993) emphasized that many of these studies have focused only on one feature of this multidimensional construct. Perhaps the most accepted definition of social support is "an exchange of resources between at least two individuals perceived by the provider or the recipient to be intended to enhance the well-being of the recipient" (Shumaker & Brownell, p. 13). This definition underlines that the outcome of an interaction is not guaranteed and the support may have a positive or a negative impact on well-being depending on the recipient's perception of the support. Social support can involve more than two people and there are costs and benefits for the recipients and providers, in other words, there is an exchange of resources.

Taylor, Sylvestre, and Botschner (1998) felt that social support shouldn't be thought of as a thing that people passively exchanged but as a "dynamic social activity" (p. 5). People are not only receiving or providing support; the process involves several dynamic interactions before and during the provision of support in which both providers and recipients are actively participating. The social support that is provided is continually built through daily interaction. In this perspective, social support appears in a more complex way. Bianco and Eklund (2001) explained that many factors such as the characteristics of the provider and of the recipient, the characteristics of their relationships, and the context in which the social support is provided could influence the outcome of social support.

In summary, no universally accepted definition of social support exists. Some investigations were limited because they studied social support as a unidimensional construct (Rosenfeld & Richman, 1997). However, recent studies (Bianco & Eklund, 2001; Udry, 2001) have shown that the whole concept of social support is determined by interdependent constructs (structural, functional, and perceptual). Today, instead of focusing on only one feature of social support, Bianco and Eklund (2001) feel that future research should appraise social support with a more global and interactive perspective.

Characteristics of Social Support

A number of studies have found that the benefits of social support extend to both physical and mental well-being (Ganster & Victor, 1988; Rosenfeld, Richman, & Bowen, 1998). Researchers have highlighted the positive impact of social support on various types of situations: for example, to enhance school achievement, to manage life stress, crisis, job stress, mental illness, and physical illness (Albrecht & Adelman, 1984; Hardy,

Richman, & Rosenfeld, 1991; Sarason, Sarason, & Pierce, 1990). Likewise, Krompoe, Rijken, Ros, Winnubst, and Hart (1997) explained that so much research has been done that the benefits of social support are common knowledge. Every researcher recognizes the benefits of social support; however the mechanism of this positive effect remains controversial. Two models are proposed, the “main effect” theory and the “buffering” hypothesis (Bianco & Eklund, 2001).

The “main effect” theory views social support as a stable personality characteristic that an individual develops through interactions with other people (Sarason, Sarason, & Pierce, 1990). The perceptions of being supported, developed during early interactions, will help develop some coping strategies in advance of a stressful situation. It appears that individuals who perceived high social support would appraise a situation as less stressful than others because they know that they will have the resources necessary to face the situation (Sarason et al., 1990).

The “buffering” hypothesis suggests that social support has a direct impact on the perceived stress and thus an indirect effect on the well-being of an individual (Hardy, Richman, & Rosenfeld, 1991). The social support received during a stressful situation buffers the perceived stress by enhancing the coping abilities of individuals in these situations (Bianco & Eklund, 2001).

Bianco and Eklund (2001) indicated the two models are “complimentary in a sense that it is through social activities (received support) that individuals came to develop a sense of the availability of the support (perceived support)” (p. 93). Rosenfeld, Richman, and Bowen (1998) supported this complementary view; they highlighted in the scholastic context that social support helped the students to increase their feelings of

control over the school outcomes. Supportive messages assisted them by proposing some alternatives to stressful situations (like studying more before a test), by gaining skills (how to justify their point of view), and by knowing that they can find help if they need it (finding tutors to help with their homework).

Social support therefore is a multidimensional construct highly dependent on the recipient's perception of the situation and on the situation. In other words, the same individual in different situations will require different forms of social support and one particular form of social support will be helpful for some people but not for others. Studies have described three dimensions of social support: emotional, tangible, and informational (Bianco & Eklund, 2001; Rosenfeld & Richman, 1997).

The emotional support is composed of the behaviors that comfort the recipient such as showing empathy, affection, or expressing concerns. The tangible support refers to the behaviors that provide help to the recipient in terms of assistance, services (taping the injured area, driving the athletes to the rehabilitation center), and goods (financial and/or material help). The informational support is formed by the behaviors that give information and advice useful for the recipient.

Udry (1997) explained that there is a need to include motivational support as a fourth dimension of social support. She interviewed 50 athletes who had experienced a knee injury and they reported that they perceived the three dimensions of social support described (tangible, emotional, and informational) and added motivational support. This fourth form refers to the behaviors that help athletes overcome the difficulties they faced and to maintain involvement in their rehabilitation program.

Richman, Rosenfeld, and Hardy (1993), extending previous findings by Pines, Aronson, and Kafry (1981), found that these four broad dimensions of social support can take the form of eight distinguishable behaviors and include: listening support (listening without being judgmental or giving advice), emotional support (showing care and/or comforting the recipient), emotional support challenge (providing challenge help the recipient evaluate his or her attitudes, values and feelings), reality confirmation support (people who were or are in the same situation as the recipient confirm his or her perspective of the situation), task appreciation support (acknowledging and showing appreciation of the recipient's work or efforts), task challenge support (challenging the way the recipient thinks about his or her activity to motivate him or her and increase his or her involvement), tangible support (providing the recipient with financial assistance, products, or gifts), and personal assistance (helping the recipient accomplish his or her tasks providing time, skills, knowledge, or expertise).

Using all forms and all types of social support by the provider does not guarantee that the recipient will benefit. To be helpful, the provider of social support has to make sure that he or she is proposing not only the right type of support but also the right amount and at the right time (Udry, 2001). Respecting these three social support principles will increase the chances that the supportive behaviors will have beneficial effects. For example, if the coach's first reaction to an athlete's injury is to tell the athlete that he or she can be ready for the next game if he or she puts a lot of effort in the rehabilitation (task challenge support), this support will probably not be very effective if the athlete was expecting emotional support. This coach's behavior can increase the frustration experienced by the athlete at the onset of an injury instead of being helpful. In

the same way, Udry, Gould, Bridges, and Tuffey (1997) reported that parents of injured athletes are sometimes over-caring of them and thus these athletes perceive this support negatively. One skier reported, "My mother doted a little too much" (p. 383).

Sport and Social Support

Athletes have to face stressful situations during practice and more importantly during competition. The possible deleterious effects of this stress on the physical performance have led researchers to investigate the benefits that social support could have on sport performance (Chelladurai, 1990; Partington & Shangi, 1992; Rosenfeld, Richman, & Hardy, 1989). Rees and Hardy (2000) explained that in sport there is a need to study "the specific support transactions a sports person might experience with coaches, other players, psychologists, trainers, and friends and family in dealing with stresses and strains of high-level sport" (p. 328).

Rosenfeld et al. (1989) described the social support network of athletes using a modified form of the support functions questionnaire with athletes and they also conducted interviews with athletes and coaches. They found that coaches, teammates, parents and friends were the principal providers of social support as perceived by athletes. Athletes described friends and parents as the major sources of support. Friends provided most of the shared social reality (i.e., reality confirmation), listening support, emotional support, and emotional challenge support. Like friends, parents delivered a wide range of social support [technical appreciation (i.e., task appreciation), listening, emotional and emotional challenge support], but unlike friends, they were not the principal providers of any type of support. Coaches and teammates provided social support that required expertise on the technical aspects of athletes' performance. Coaches

were described as the principal providers of the technical challenge (i.e., task challenge) and technical appreciation support. The technical challenge support was an important part of the social support delivered by teammates. Teammates also provided some shared social reality support. Rosenfeld et al. determined through interviews that coaches and teammates could not provide specific types of social support to athletes for different reasons. For example, coaches did not provide emotional and shared social reality support because they wanted to maintain the emotional distance between themselves and their athletes to avoid privileging any of them. Likewise, the relationship between teammates reflects the competition that exists between the members of a team; consequently teammates did not provide emotional and emotional challenge support.

Rees and Hardy (2000) criticized previous methodologies used when studying athletes' social support. They explained that very little is known about athletes' social support and thus, it was important to determine the specific social support that athletes perceived. The researchers believed this could be accomplished by studying the athletes' specific perceptions of social support without taking models from general psychology and applying them to sport. Researchers need to develop specific models and specific tests to highlight the social support characteristics in sport specific situations.

For this reason, Rees and Hardy interviewed 10 elite athletes with the purpose of building a grounded theory regarding the social support experiences by high performance athletes. Furthermore, they highlighted four dimensions of social support: emotional, esteem, informational, and tangible.

Athletes described the emotional support as the comfort and the feeling experienced from people who care for them when they are faced with difficult situations

(e.g., bad results, injury, and pressure of the competition or career choices). One of the gymnasts they interviewed noted how important it was for him to have someone who listened to him: “I think, it makes me feel better if I talk to people about stuff anyway, even whether they give me advice back or not” (p. 337).

Esteem support was an important part of social support perceived by the athletes. It helped them remain positive about their skills and abilities when they had to deal with particular events (pre-competition doubts, injuries, fitness concerns or slump). A judoka described the special role one of her teammates was playing during competition: “When she was there, I liked having her there, because she’d say, come on, you know you’re better than her, she’s [rubbish], or whatever. And, I’d love, I really liked having her there” (p. 338).

Athletes showed that informational support was helpful when they were seeking advice to resolve a problem, when they lost their confidence, when they needed advice to improve their performance or when they had problems outside of sport. A basketball player described how one of her friends, who was not a basketball player, gave her advice when she lost her confidence: “If I use this other friend who doesn’t play...she can give more constructive criticism, and you know, saying what I should, she’ll always say things I should be thinking about, but I haven’t picked up myself” (p. 339).

In terms of finding the resources, athletes turn to tangible support. Tangible support could make their lives easier by having the money necessary to focus only on their sport performance, by helping them when they were injured or by reducing the stress they had that was not related to the competition. A tennis player explained that the job done by his agents really helped him to play his best: “[My agents] deal with...racket

deals that I have, or clothes deals...they try and make life easy, so I don't have to worry about those sorts of things. I can just play tennis" (p. 341).

Similarly to Rosenfeld et al., Rees and Hardy (2000) found that coaches, parents, teammates or other athletes and friends played a special role in social support as perceived by athletes. However, they also felt that boy or girlfriends, national sport governing body personnel, club members, agents, and physiotherapists were also important providers of social support.

Chelladurai (1990), Price and Weiss (2000), and Rees and Hardy (2000) emphasized the importance and benefits of having social support for athletes. Rees and Hardy emphasized the fact that the old tradition in sport that tends to describe athletes who are seeking social support as weak, is inappropriate. In fact, they promoted social support in sport. In their point of view, athletes should be encouraged to "be proactive" (p. 344) in their use of social support. Furthermore, athletes and coaches should be helped to understand that such behaviors are not signs of weakness.

Moreover, Gould, Udry, Bridges, and Beck (1997) described the deleterious effects that the lack of social support and isolation can have on the performance of an athlete. For example, one of the athletes they interviewed explained when he suffered from a knee injury, the behaviors of the U.S. ski team members made him doubt his willingness to come back:

I felt shut up, cut off from the ski team. That was one of the problems I had. I didn't feel like I was being cared for, basically. Once I got home, it was like they (the ski team) dropped me off at home, threw all my luggage in the house, and were like, 'See you when you get done.' I had a real, real hard time with that.

Because I didn't want to feel cut off from the whole thing... When you are doing your rehab and they shut you off... from the whole ski team and how people are doing, and just keeping in touch with you, you are like: 'Do I really want to go back to that? Do they even want me back? Why am I even doing this?'" (p. 369-370).

Social support in the sport psychology literature has been shown to have several beneficial effects. Researchers have described the relationship that exists between social support and group cohesion (Westre & Weiss, 1991), coping with competitive stress (Crocker, 1992), burnout (Price & Weiss, 2000), injury (Udry, 1996), and leadership style (Chelladurai, 1990). In the study of the relationship between coach and athlete, the effects of social support have been described extensively. Partington and Shangi (1992) found that not only technical expertise, but also interpersonal skills and a caring attitude discriminated successful from unsuccessful Canadian coaches. Likewise, Chelladurai (1990), in a review of literature about leadership, explained that social support was described as a significant contributor to the athletes' satisfactions with their coaches. Moreover, Kenow and Williams (1999) found that athletes viewed their coaches as more compatible when they experienced greater amounts of support and when they evaluated the coaches' communication ability more favorably. In the same way, Price and Weiss (2000) emphasized how social support increased the enjoyment that athletes could experience. They found that athletes who perceived frequent training instruction, social support, and positive feedback reported higher perceptions of competence, enjoyment, and lower perceptions of anxiety and burnout.

In summary, past studies have emphasized the multiple benefits of social support for the athletes' physical and psychological well-being: increased group cohesion, strengthened leadership of coaches, increased sport performance, and reduced injury rehabilitation time, stress, and burnout rate. However, specific knowledge about the type of social support that is provided in the athletic situation is lacking (Rees & Hardy, 2000). Rees and Hardy highlighted four types of social support (emotional, esteem, informational, and tangible) and several significant providers (coaches, teammates, friends, agents, physiotherapists, and national sport governing body personnel). Nevertheless, Rees and Hardy's study should be replicated to investigate social support perceived by other types of athletes and future studies should aim to determine the satisfaction of the athletes concerning the social support provided.

Athletic Injuries and Social Support

Stress usually accompanies a sports injury. The stress athletes experience at the onset of the injury is quickly followed by many other possible stressors during all the recovery process such as the uncertainty of the seriousness of the injury, the diagnosis of the physician, surgical interventions, and the possible recovery setbacks. Gould, Udry, Bridges, and Beck (1997a), studying the specific stress sources encountered by skiers who suffered from a season ending injury, reported that skiers from the U.S. ski team were experiencing seven major sources of stress when they were injured: psychological, social, physical, medical and rehabilitation, financial, career, and missed non-ski opportunities. Surprisingly, the psychological (reported by all skiers interviewed) and the social concerns (reported by 81% of athletes) were viewed as the two major sources of stress. Similarly, Mainwaring (1999) explained that an injury and the following

rehabilitation process have not only physical consequences but also psychological and social consequences. An injury separates the athlete from his or her teammates, and coaches, even though the athlete tries to maintain the contact. This leads athletes to feel isolated during the rehabilitation process: “Suddenly, you’re no longer part of the team” (p. 149), “it kind of makes me sad; I missed all my buddies and I can’t talk to anybody about it because nobody knows them [teammates]” (p. 149).

Over the last decade, researchers have advocated the use of psychosocial interventions to assist injury rehabilitation; more specifically that injured athletes could take advantage of the psychological and physical benefits that social support has on the recovery of non-sport populations (Bianco, 2001). Thus, more recent studies have shown that social support has beneficial effects on the physical and psychological well-being of injured athletes by helping them manage the stress they experience (Udry, 1997), by increasing their confidence (Maggyar & Duda, 2000) and by improving their motivation and adherence to a rehabilitation program (Duda, Smart, & Tape, 1989).

Social support is often used as a coping strategy by injured athletes (Udry, 1997). Gould, Udry, Bridges, and Beck (1997b) interviewed 21 U.S. skiers who reported that they cope with their injuries utilizing four strategies: driving through, distracting self, managing emotions and thoughts, and seeking and using social resources. Injured skiers used social support in different ways. They sought others to have fun and forget about their injury for a moment. They also used other athletes who were injured as role models to motivate themselves and to learn how to successfully recover. One athlete explained the influence of such role models on his recovery: “I looked at other people who came back and I knew I could do it” (p. 388).

Ford and Gordon (1998) found that according to the sport trainers' and athletic therapists' points of view, athletes who ask questions, heed instructions and seek support coped more effectively with injury. They accept the injury earlier in the treatment and as a consequence are more likely to have a successful rehabilitation. In this coping process, Udry (2001) highlighted that social support for an injured athlete has three purposes: to increase the emotional adjustments when coping with health-related stressors, to facilitate the psychological adjustments of injured athletes through the information that is communicated about the nature of the health-related stressors, and to increase the motivation of injured athletes. This will facilitate psychological functioning and lift the feelings of depression that may follow a severe injury.

In addition, Magyar and Duda (2000) showed that social support might influence the confidence of injured athletes. They found that athletes who perceived that they were receiving more social support were more likely to take into consideration the information given to them by the athletic trainer to improve their self-confidence. For example, Evans, Hardy, and Fleming (2000) described how a physician helped a rugby player to regain his confidence in his future recovery by informing him that the broken bones he was suffering from were finally healed and that he would be able to return to the field very soon: "Appointment today went well. [Consultant] said that it would be between 6-8 weeks before I could play again. I was glad to see that the bones have now healed. He also said it would be okay to start training with my local team. A good day" (p. 200).

Another area of interest for researchers studying social support is its beneficial effect on the rehabilitation adherence and treatment (Duda, Smart, & Tape, 1989; Ievla & Orlick, 1991; Udry, 1997, 2001). When an athlete is injured, he or she is frustrated,

which may affect motivation. Researchers have hypothesized that a warm and resourceful environment will help the rehabilitation process by increasing the motivation of athletes to attend their session (Udry, 2001). Thus, social support has been viewed as a variable that can influence the outcome of an injury by increasing the adherence and the attendance of an athlete to his or her rehabilitation program. However, the findings from past studies have been equivocal. Duda et al. (1989) found that student athletes, who perceived they were receiving social support during rehabilitation, displayed a higher adherence to their rehabilitation program than athletes who did not perceive any support. In the same way, Fisher, Domm, and Wuest (1988) found that social support was the most discriminating factor between athletes who adhere to their program and those who did not. Other studies however have found that social support does not have a significant influence on rehabilitation adherence (Fields, Murphey, Horodoski, & Stopka, 1995; Udry, 1997). Differences between these studies could be related to the way that social support is measured (Bianco, 2001; Udry, 2001). The studies reporting beneficial effects of social support used sport specific or rehabilitation specific assessment of social support, in contrast to studies that showed no effects which used more general tests.

Social support can have a positive impact on the psychological and physical well-being of injured athletes. To be beneficial, the providers should meet the athletes' needs and expectations (Robbins & Rosenfeld, 2001; Udry, 2001). Few studies have investigated the athletes' satisfaction with the social support they received (Bianco, 2001).

Studies generally described five different providers: family members, friends, medical professionals (physicians, physiotherapists, and sport therapists), coaches, and

teammates (Hardy & Grace, 1993; Udry, 2001). Recently Bianco (2001), explained that the investigation of injured athletes' social support should be more specific to the particular situation and the phases of the injury that the athlete is going through. She explained that there are three kinds of social networks for injured skiers: the team, the home, and the treatment network. Bianco showed that injured athletes move through three phases (the injury phase, the rehabilitation phase, and the return to full activity phase) and during each phase different networks interact predominantly with the skier.

She interviewed 10 Canadian national ski team members and noted that the home network composed of family members, friends, and retired skiers (from the same geographical area as the injured skier) played an important role during the first and second phases of the injury. In the second part of the injury phase (the period between the occurrence of the injury and the beginning of the treatment when the skier left the team to go back home) the home network became the primary source of social support. At this time, the family and friends provided some emotional support by listening to the athlete and offering unconditional support. Retired skiers may also visit and provide some emotional support by offering encouragement and some informational support by sharing their experiences and offering advice. During the rehabilitation phase, (the period during which the skier followed the medical treatment in his or her hometown), the family and the friends of the skier were an important source of emotional support by listening, encouraging, and offering emotional comfort. They were also involved in the informational support by acknowledging the athlete's efforts and they provided tangible support such as providing transportation. Studies have reported that athletes view the social support given by family and friends as a vital contributor to their recovery (Gould,

Udry, Bridges, & Beck, 1997b; Udry, 2001). Gould, Udry, Bridges, and Tuffey (1997) found that 100 percent of the skiers felt that family members and friends had a positive influence on their recovery. One of the skiers interviewed by Bianco (2001) stated that: “The people who are close to you-your family and friends-they’re the ones who support you the most that makes everything a lot easier” (p. 383).

Previous studies have found that athletes often perceive athletic trainers and physiotherapists as the persons providing the most effective social support (Gould et al., 1997b, Rees & Hardy, 2000). Bianco showed that the treatment network composed of physicians, physiotherapists, and other patients was a constant source of support during the rehabilitation phase. The physicians provided the important informational support for the athlete by accurately diagnosing the injury. They also delivered emotional (they offered hope in the recovery) and tangible support (they recommended and organized the physiotherapy).

The physiotherapists were involved in all the phases of the injury after the skier came back home. During the rehabilitation phase, they primarily provided emotional support by delivering, encouraging, and showing empathy and concern. They also delivered some tangible support by being flexible with the appointments they had with the skier and informational support by giving feedback, advising, pushing the athlete to work harder, and acknowledging his or her efforts. During the return to the full activity phase (beginning when the skier returned to training and competition and ending when fully recovered), the physiotherapists delivered emotional support by reassuring the skier about the success of the recovery and informational support by giving specific instructions to follow. Other patients of the physiotherapists were another source of social

support. They provided emotional support by listening, encouraging the skier, and helping him or her stay positive and also informational support by sharing their experiences, and challenging and pushing the athlete in his or her rehabilitation.

Past studies have highlighted the positive influence of support that medical professionals provided to injured athletes (Ford & Gordon, 1998; Hardy & Grace, 1993). Robbins and Rosenfeld (2001) studied the perception of social support of 35 student-athletes using a modified form of the social support survey. They found that the athletic trainers were perceived to deliver more social support than their coaches. Furthermore, athletes were more satisfied with the social support provided by their athletic trainers than by their coaches. Athletic trainers are in the most frequent contact with an injured athlete during his or her rehabilitation, which contributes to a strong relationship between the two. As one injured athlete explained: "We had the best relationship. He knew what I was thinking. He knew what I was going through. He was a moral supporter, a helper, and a psychologist. He was pretty much everything for me" (Bianco, 2001, p. 382).

Evans, Hardy, and Fleming (2000) believed that sport psychologists can also deliver social support. To show this, they followed three rugby players during the duration of their rehabilitation. Using an action research design, they provided sport psychology sessions to each participant every week until they were fully recovered. One athlete said about his sport psychologist who listened to and advised him: "Lynne (the sport psychologist) visited again tonight. Enjoyed our discussion and found it really helpful. I've found a definite benefit to having another person's viewpoint on my training schedule and my recovery, particularly the way we are able to structure it" (p. 199).

According to Bianco (2001), the third network that could have an influence on the injured athlete is the team. In this network, teammates and coaches can play an important role in the facilitation and in the adherence to the rehabilitation process (Schelley & Hanschen, 1995; Vergeer & Hogg, 1999). Just after the onset of the injury, the members (ski administrators, coaches and teammates) delivered tangible support by arranging the first medical care, transporting the skier to the airport, and packing the skier's bag and gear. Coaches and teammates also provided emotional support by consoling the athlete and encouraging him or her, and some informational support by sharing their injury experiences. During the rehabilitation phase, the support delivered by the ski team network, even though all athletes did not perceive it, appeared to be fundamental for the skiers to stay positive about the future of their skiing career. All the members of this network provided primarily informational support, i.e., the administrators informed the skier that he or she had time to come back, the coaches did not pressure him or her to return, the teammates offered advice, acknowledged the efforts he or she made and provided feedback. Coaches and administrators also provided tangible support by arranging and following the medical care and by maintaining the contact with the skier. In addition, coaches and teammates also were involved in the emotional support perceived by the injured athlete by offering encouragement and showing empathy. When he or she returned to full activity, the coaches and the teammates also provided emotional support and informational support, i.e., the coaches reassured the skier they had confidence in his or her recovery and the teammates and the coaches offered encouragement. The coaches also delivered some tangible support by

working individually with the skier and by letting him or her progress at his or her own pace.

Bianco's study underlined the importance for athletes to maintain contact with their team. However, this link is often severed. Studies have reported that injured athletes usually feel isolated and cut off from their team (Gould et al., 1997b; Udry et al., 1997). Gould et al. (1997b) found that 66.6% of the skiers they interviewed described a feeling of intense isolation following their injury. One of them reported that: "You don't hear from anyone anymore (teammates and coaches) and you feel like you are forgotten" (p. 369). This situation is often problematic (Schelley & Henschen, 1995) and has individual (for the injured athletes) and collective (for the whole team) repercussions: "each time a member of a team is added or lost, the dynamics of the group change" (p. 133).

Even though injured athletes feel isolated from their team, they perceive that the social support provided by their teammates is different than the support delivered by their coaches. The lack of attention from their teammates was more acceptable. Previous studies have shown that teammates' social support is generally perceived positively (Bianco, 2001; Udry et al., 1997). Bianco found that injured skiers usually understood why their teammates did not interact with them and that is because they had been in the same situation. They knew that their teammates primarily focused on themselves and did not expect them to keep in contact. When some did, it was very helpful; as one skier described: "Certain teammates were there through the injury...They would fax me from wherever they were and let me know what the team was doing. That was really cool. But definitively only some teammates...but I wouldn't expect it from others. It is really hard

when you're competing, and I understand that. I did that, too-you're so focused. I totally understand" (Udry et al., 1997, p. 382).

On the other hand, studies have shown that athletes tended to view their coaches' social support as inappropriate and insufficient during their rehabilitation (Bianco, 2001; Robbins & Rosenfeld, 2001; Udry et al., 1997). Sixty-seven percent of the skiers interviewed by Udry et al. reported that their coaches had a negative influence on their recovery. In this study, athletes described their coaches as distant, insensitive to the injury, and lacking in belief of the athlete. In a same way, Macchi and Crossman (1996) interviewed 26 professional ballet dancers and found that some teachers had negative reactions to their injury. One teacher explained to an injured dancer that she was "fed up" (p. 229) with her. Another dancer was asked "Why are you injured again?" (p. 229).

Robbins and Rosenfeld (2001) investigated the athletes' perception of social support by their head coach, assistant coach and athletic trainer. Thirty-five injured student athletes from different sports responded to a modified form of the Social Support Survey. The researchers also interviewed a random selection of athletes and coaches. Significant differences between the providers and the impact of their social support were found. The athletic trainers (physiotherapists) were perceived as providing more social support than assistant coaches and head coaches. Athletes were also more satisfied with the social support that the athletic trainer provided. During the rehabilitation, athletes perceived that the athletic trainer had greater influence on their well-being than the assistant coaches and the head coaches. Some differences were also found in the amount of social support provided by the assistant coaches and head coaches before and during the rehabilitation. Indeed, the assistant coaches provided more task challenge support

before the injury than during the athletes' rehabilitation. Some athletes explained that their coaches expected them to receive the social support they needed from the athletic trainers and not from them. Moreover, the assistant coaches mentioned that their job was to advise athletes in practice not when they are injured. The athletes reported however that they would have liked to receive support from their coaches.

In summary, past studies investigating the relationship between sport injuries and social support showed that three networks provided social support to injured athletes at different phases of the injury. Athletes usually perceived the home network (family and friends) and the treatment network (physician, athletic trainers and their patients) as beneficial sources of social support. On the contrary, a number of studies have highlighted the fact that injured athletes feel isolated and ostracized by their coaches and teammates. Athletes tended to view these behaviors by the members of their team as deleterious factors for their recovery.

These findings however have several limitations. The number of sports studied has been limited. Most of the studies have interviewed skiers, thereby limiting the generalization of the findings. In addition, the methodology used to investigate social support has been problematic. Past studies focusing on the overall perception of social support did not take into account that the perceptions and the satisfaction of the athletes could change over the time.

Little is known about roles of the coaches and teammates in providing social support to injured athletes (Bianco, 2001; Robbins & Rosenfeld, 2001). Previous studies have found that the social support that injured athletes received from their team (coaches and teammates) did not satisfy their needs. Robbins and Rosenfeld's study attempted to

show this quantitatively but their results are limited because the method they used did not permit them to compare the satisfaction of social support at the different phases of the injury.

Researchers and sport psychologists have tried to develop some sets of guidelines that coaches should follow to support injured athletes effectively. However, these strategies have been anecdotal in nature and based on the sport psychologists' practices with little or no empirical references. The limitations in the literature on social support raise several questions. What types of social support do injured athletes receive from their coaches and teammates? What is the most beneficial type of social support for their well-being? How satisfied are they with the social support they perceive from their coaches and teammates? What are the implications for coaches and teammates? How can coaches and teammates improve athletes' well-being? The purpose of this study is to assess injured athletes' perceptions of and satisfaction with the social support provided by their coaches and teammates. To answer these questions a modified form of the *Social Support Survey* (Richman et al., 1993), the *Rehabilitation Social Support Survey* will be used. This questionnaire allows an evaluation of more than one component of the social support, it evaluates the satisfaction, the perception and of the contribution of the social support provided. All the student-athletes from a Canadian University will be surveyed. The athletes will be asked to evaluate the social support that was provided by their coaches and teammates during past injuries. This will ensure to involve athletes participating in different sports to generalize the findings. To determine guidelines for the coaches and the teammates, interviews with athletes will be used. The athletes will be

selected with different injuries and at different periods of their rehabilitation to take into account the possible fluctuations in social support.

Method

Participants

Participants were 72 student-athletes (26 females, 46 males) from eight Lakehead University varsity teams. The athletes' ages ranged from 18 to 29 years old ($M=21.35$, $SD=2.01$). The number of years participants had competed in their sport ranged from 2 to 20 years ($M=10.14$, $SD=4.84$). In the sports that differentiated starters and non-starters, 59.7% of the athletes surveyed considered themselves as starters. Finally, the majority of the participants (56.9%) reported that they had had between 0 and 5 injuries during their athletic career. Twenty-two percent of the athletes had between 6 and 10 injuries, 5.6 % had between 11 and 15, and 15.3 % revealed that they had more than 15 injuries during their career.

Table 1

Demographic Characteristics of the Participants

Variable	<i>n</i>	%
Gender:		
Male	46	63.9
Female	26	36.1
Total	72	100
Status in the team:		
Starter	37	59.7
Non-starter	25	40.3
Total	62	100
Number of injuries:		
Between 0 and 5	41	56.9
Between 6 and 10	16	22.2
Between 11 and 15	4	5.6
More than 15	11	15.3
Total	72	100

To gain an in depth understanding of the social support they perceived, all athletes who were injured during the 6 month course of this study were interviewed. An athlete was considered to be injured if he or she did not participate in his or her athletic activity (practice and competition) for at least consecutive days (Van Melchen, 1993). Robbins and Rosenfeld (2001) used this same time criterion [as based on Powell's work (1991)]. "The time lost from participation" (Robbins & Rosenfeld, p. 210) is the most popular procedure for developing an objective definition of injury. A total of only three athletes met that criterion.

Instrument

The Rehabilitation Social Support Survey (RSSS) was used to assess the athletes' perceptions and satisfaction with the social support provided by coaches and teammates when they were injured in the past during their athletic career. The RSSS is a modified form of the Social Support Survey (Richman et al., 1993). To study the perception of injured varsity athletes about the social support delivered by their coaches and teammates, several changes were made to the Social Support Survey (SSS) that aimed to determine the relationship between loneliness and social support of undergraduate students (Appendix A).

First, the RSSS contrary to SSS assesses the social support survey in a retrospective manner. The participants evaluate the social support they received in the past. Then, the RSSS studies the social support provided by coaches and teammates during an athlete's injury as the SSS assesses the social support individuals perceived in general. Finally, the participants responding to the SSS are asked to write the initials of all the individuals who provide the participant with the type of social support evaluated.

In my study, to ensure the anonymity of the participants, the respondents indicated the relationship they had with the people providing them the type of social support evaluated (coach, father, friends, etc.).

The purpose of the RSSS is to assess the eight types of social support as defined by Richman et al. (1993) (listening support, emotional support, emotional support challenge, reality confirmation support, task appreciation support, task challenge support, tangible support, and personal assistance), by determining: 1) the athlete's providers of the particular form of social support ("Indicate the relationship you had with each person who provided you with this particular type of social support when you were injured"), 2) the athlete's satisfaction about the particular type of social support provided by their coaches and teammates ("In general, how satisfied were you with the overall quality of type of social support you received?"), 3) the difficulty for the athlete to obtain more support ("How difficult would it have been for you to obtain more type of social support?"), and 4) the perceived effects of the coaches and teammates social support on the athlete's well-being ("How much do you think the type of social support contributed to your overall well-being?"). The athlete's satisfaction, the difficulty in obtaining more support, and the contribution of the social support to the overall well-being were evaluated using a 5-point likert scale. The higher number indicates greater satisfaction for the athlete's satisfaction, greater ease for the difficulty in obtaining more support, and greater importance for the contribution of the social support to the overall well-being. The participants were asked to evaluate first their coaches then their teammates. The survey has 32 questions. The time required to complete it is about 15 minutes.

Previous studies have demonstrated the validity and the reliability of the Social Support Survey in its original form and also in the modified forms (Rosenfeld, Richman, & Bowen, 1998; Robbins & Rosenfeld, 2001). Richman et al. (1993) tested the content validity of the SSS. They established the validity of the forms of social support and of the specific questions asked through content analysis of the literature on social support. After undergraduates students and student-athletes ($N=151$) completed the SSS, Richman et al. also established the structural validity of the SSS calculating correlations matrices across the four questions for each type of support and across the eight support forms. They concluded from this structural validity evaluation that the SSS was more inclusive than others measures of social support because the results showed that the four questions for each type of social support measure distinct aspects of each form of support, and that the number of providers remained relatively stable across the eight forms of support whereas this answers to each of the other three questions were not consistent. Richman et al. also determined the concurrent validity of the SSS using the Marlowe-Crowne Measure of Social Desirability, the Norbeck Social Support Questionnaire (NSSQ), and the Social Support Questionnaire-6 (SSQ-6). They used the Pearson's correlation to correlate the variables, test the concurrent validity of the SSS, and evaluate the social desirability. The concurrent validity was established for the number of providers and satisfaction variables analyzing the results of the SSS and the SSQ-6. The validity for emotional support, personal assistance, and tangible assistance was also supported through the correlations between the SSS and the NSSQ. However, the reality confirmation had a limited support for concurrent validity. Finally, Richman et al. established the construct validity of the SSS analyzing the results of 28 undergraduate

students on the SSS and the Revised UCLA Loneliness Scale. Results support other studies findings demonstrating that the individual's perception of the quality of support received has a greater impact on loneliness than the quantity of people supporting him or her.

Richman et al. assessed the reliability of the SSS analyzing the results of 27 participants who completed the SSS twice. Sixteen of them completed the survey with a two-week interval and the other 11 with a five-week interval. Between time 1 and time 2, the results revealed that all but four of the 32 correlations were significant. Significant correlations ranged from low .44 ($p < .01$) to a high .87 ($p < .001$). Richman et al. explained that lower than acceptable correlations between the two results were expected because the small sample size and items-by-items analyses tend to depress correlation. Schaeffer, Coyne, and Lazarus (1981) showed that when the time-between-testings is longer than a week reliability of measure of social support is lower than other types of measures. Therefore, the results that Richman et al. obtained showed that the subscales of SSS are reliable measures of social support.

In addition to the RSSS, the athletes were asked demographic questions which included gender, age, sport, number of years in the team, and status on the team. The researcher also conducted semi-structured interviews with athletes who were injured during the course of the study. The purpose of the interviews was to gain in-depth understanding of the injured athletes' perceptions of the social support they received from the coaches and teammates. Injured athletes were interviewed in the Lakehead University's sport psychology laboratory. The length of the interview was about 30 minutes. Athletes were asked to explain the type of injury they sustained, the length of

their rehabilitation, and the medical treatment needed. Then they were asked to describe the behavior of their teammates and coaches at the onset of the injury, and at the present time when they were injured in practice (if they were going to), in competition (if they had to follow their team to competitions) and outside practice. They also explained how they felt about their coaches' and teammates' behavior, what they would have like them to do differently, and how the coaches and teammates should change their behavior. However, because there were few athletes injured, there were few interviews conducted ($N=3$). It was decided to use the information obtained from the interviews as social validation measures.

Procedure

Approval to complete the study was obtained from the Lakehead University's Ethics Advisory Committee, and permission to survey student-athletes was obtained from the Lakehead University Athletic Department. Following that, athletes were asked to participate in this study. At the beginning of the school year, all varsity team athletes at Lakehead University were asked to respond to the Rehabilitation Social Support Survey (RSSS).

Data Analysis

Independent t-tests were used to study the variables gender and status in the team. One-way ANOVAs were used to determine whether or not significant differences existed between athletes related to their age, experience, or number of injuries. To determine which groups significantly differed from others, the Bonferroni post hoc test was used. This test is used to examine the bivariate comparisons limiting the Type I error (Howell, 1999).

An 8 (support) x 3(effect) x 2 (source) randomized block multivariate analysis of variance (MANOVA) was used to determine if significant differences existed for the athletes' evaluations of the three following variables (support, effect and source). This MANOVA analysis allowed the study of the main effect of each variable and also the interaction effects of the combination of the variables. To compare the pairwise differences, the Bonferroni test was used.

Table 2

Constitution of Each Variable

Support	Effect	Source
Listening support	Satisfaction	Coaches
Task appreciation	Availability	Teammates
Task challenge	Contribution	
Emotional support		
Emotional challenge		
Reality confirmation		
Tangible assistance		
Personal assistance		

Results

Preliminary Analyses

Independent t-tests were conducted to determine if significant differences existed between groups for gender and status. The series of independent t-tests regarding gender showed no significant differences between males and females in any type of social support and with coaches teammates.

In a same way, the t-tests analyses between starter and non-starter revealed no significant differences except on the teammates' listening support availability, $t(60)=10.287, p<.05$. The starters ($M=4.48, SD=.79$) reported having more listening support available from their teammates than the non-starters ($M=3.48, SD=1.29$).

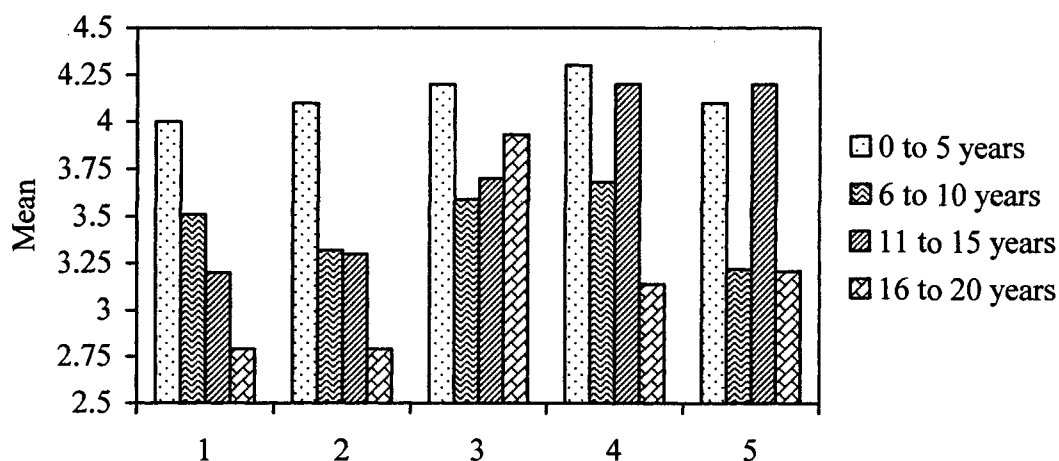
One-way ANOVAs were used to reveal whether differences existed between groups for the variables age, number of injuries and number of years of experience in the sport the athletes practiced. The ages of the participants were divided in three categories: 18 to 20 years old ($n=27$), 21 to 23 years old ($n=36$), and more than 24 years old ($n=9$). No differences were found on any type of social support and for any of the providers (coaches or teammates) except for the contribution of the coaches' emotional challenge to the injured athletes' well-being, $F(2,69)=4.368, p<.05$. The Bonferroni post hoc tests showed that the participants aged from 18 to 20 years old ($M=3.63, SD=1.24$) had a higher evaluation of the contribution of their coaches' emotional challenge to their well-being than the participants aged from 21 to 23 years old ($M=2.69, SD=1.33$).

Before performing the one-way ANOVAs, the years of experience were categorized as follows: 0 to 5 years ($n=10$), 6 to 10 years ($n=36$), 11 to 15 years ($n=11$), and 16 to 20 years ($n=14$).

Table 3

Items Resulting in Significant Differences in the Years of Experience ANOVA Tests

	<i>F</i>	<i>df</i>	<i>p</i>
Satisfaction with the coaches' emotional challenge	2.862	70 (3,67)	.038
Satisfaction of the teammates' emotional challenge	2.834	70 (3,67)	.045
Satisfaction with the coaches' reality confirmation	3.217	70 (3,67)	.029
Satisfaction with the teammates' reality confirmation	3.182	70 (3,67)	.030
Contribution of the teammates' reality confirmation	4.175	70 (3,67)	.012



- 1- Satisfaction with the coaches' emotional challenge
- 2- Satisfaction with the teammates' emotional support
- 3- Satisfaction with the coaches' reality confirmation
- 4- Satisfaction with the teammates' reality confirmation
- 5- Contribution of the teammates' reality confirmation

Figure 1. Results for each category of years of experience for the items with significant differences.

The statistical analysis highlighted significant differences on the satisfaction with the coaches' emotional challenge, $F(3,67)=2.862$, $p<.05$. The Bonferroni post hoc tests

showed that the participants with 0 to 5 years of experience ($M=4.00$, $SD=1.05$) were more satisfied with the coaches' emotional challenge they received than the participants with 16 to 20 years of experience ($M=2.79$, $SD=1.05$).

Statistical differences were found on the satisfaction with the teammates' emotional challenge, $F(3,67)=2.834$, $p<.05$. The Bonferroni analysis revealed that participants who had 0 to 5 years of experience ($M=4.10$, $SD=.99$) were more satisfied with their teammates' emotional challenge than the participants who had between 16 to 20 years of experience ($M=2.79$, $SD=1.12$).

The analysis of the satisfaction with the coaches' reality confirmation showed significant differences, $F(3,67)=3.217$, $p<.05$. The post hoc tests revealed that participants who had 16 to 20 years of experience ($M=2.93$, $SD=1.07$) felt less satisfied with the coaches' reality confirmation than the participants with 0 to 5 years of experience ($M=4.20$, $SD=.63$).

Similarly, significant differences were found on the satisfaction with the teammates' reality confirmation, $F(3,67)=3.182$, $p<.05$. The post hoc comparisons didn't show any significant differences between the groups, however, the participants with 16 to 20 years of experience ($M=3.14$, $SD=1.10$) were less satisfied with their teammates' reality confirmation than the participants with 0 to 5 years of experience ($M=4.30$, $SD=.67$).

Finally, the one-way analysis of the athletes' experience revealed a significant difference regarding the contribution of the teammates' reality confirmation, $F(3,67)=4.175$, $p<.01$. The Bonferroni tests revealed no significant differences between the groups but the participants with 11 to 15 years of experience ($M= 4.20$, $SD=.92$)

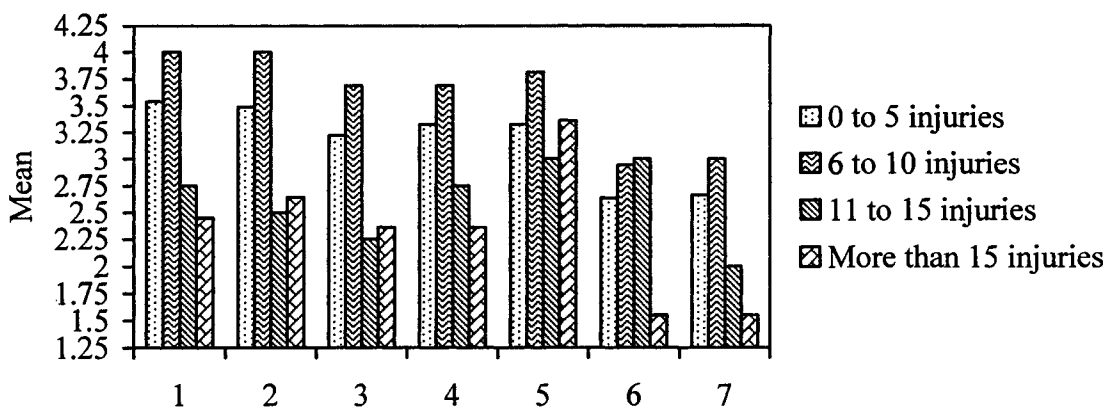
evaluated the contribution of their teammates higher than the participants with 6 to 10 years of experience ($M=3.22$, $SD=.98$).

In summary, the results showed that the athletes with the least experience were more satisfied with the coaches' and teammates' emotional challenge and reality confirmation than the athletes with more experience.

One-way ANOVAs determined the influence of the number of injuries sustained by the athletes over their careers on their perception and satisfaction with the social support they received. The number of injuries was categorized as follows: 0 to 5 injuries ($n=41$), 6 to 10 injuries ($n=16$), 11 to 15 injuries ($n=4$), and more than 15 injuries ($n=11$).

Table 4
Items Resulting in Significant Differences in the Number of Injuries ANOVA Tests

	<i>F</i>	<i>Df</i>	<i>p</i>
Contribution of the coaches' emotional support	3.931	71 (3,68)	.011
Contribution of the teammates' emotional support	3.966	71 (3,68)	.012
Contribution of the coaches' emotional challenge	2.960	71 (3,68)	.038
Contribution of the coaches' reality confirmation	3.744	71 (3,68)	.015
Satisfaction with the teammates' tangible assistance	3.563	71 (3,68)	.019
Contribution of the coaches' tangible assistance	3.031	71 (3,68)	.035
Contribution of the teammates' tangible assistance	3.359	71 (3,68)	.024



- 1- Contribution of the coaches' emotional support
- 2- Contribution of the teammates' emotional support
- 3- Contribution of the coaches' emotional challenge
- 4- Contribution of the coaches' reality confirmation
- 5- Satisfaction with the teammates' tangible assistance
- 6- Contribution of the coaches' tangible assistance
- 7- Contribution of the teammates' tangible assistance

Figure 2. Results for each category of number of injuries for the items with significant differences.

Significant differences were found on the contribution of the coaches' emotional support, $F(3,68)=3.931, p<.05$. The Bonferroni post hoc tests showed that the participants who had more than 15 injuries ($M=2.45, SD=1.21$) evaluated the contribution of their coaches' emotional support to their well-being lower than the ones who had 6 to 10 injuries ($M=4.00, SD=.89$).

A one-way ANOVA revealed differences regarding the contribution of the teammates' emotional support, $F(3,68)=3.966, p<.05$. As the post hoc tests showed, the participants who had more than 15 injuries ($M=2.64, SD=1.29$) rated the contribution of their teammates' emotional support to their well-being lower than those who had between 6 and 10 injuries ($M=4.00, SD=.89$).

Statistical differences were also found on the contribution of coaches' emotional challenge, $F(3,68)=2.960, p<.05$. The Bonferroni tests didn't show any significant differences between the groups, however the athletes who had 6 to 10 injuries ($M=3.69, SD=1.26$) felt that the contribution of their coaches' emotional challenge to their well-being was higher than the participants who had more than 15 injuries ($M=2.36, SD=1.36$).

A one-way ANOVA showed that significant differences existed on the contribution of the coaches' reality confirmation, $F(3,68)=3.744, p<.05$. The participants who had more than 15 injuries ($M=2.36, SD=1.21$) evaluated the contribution of their coaches' reality confirmation to their well-being lower than the athletes who had 0 to 5 injuries ($M=3.32, SD=1.25$) and the ones who had 6 to 10 injuries ($M=3.69, SD=1.08$).

One-way ANOVA analyses reported significant differences on the satisfaction with the teammates' tangible assistance, $F(3, 68)= 3.563, p<.05$. The athletes with more than 15 injuries ($M=2.36, SD=1.12$) were less satisfied with their teammates' tangible assistance than the participants who had 6 to 10 injuries ($M=3.81, SD=.91$).

Likewise, significant differences were also found on the contribution of the coaches' tangible assistance, $F(3,68)=3.031, p<.05$. The participants who had more than 15 injuries ($M=1.55, SD=1.04$) felt that their coaches' tangible assistance contributed less to their well-being than the athletes who had 6 to 10 injuries ($M=2.94, SD=1.18$).

Finally, significant differences were revealed on the contribution of the teammates' tangible assistance, $F(3, 68)=3.359, p<.05$. The participants with more than 15 injuries ($M=1.55, SD=1.04$) evaluated the contribution of their teammates' tangible assistance to their well-being lower than the athletes who had 6 to 10 injuries ($M=3.00, SD=1.15$).

In summary, the athletes with the greater number of injuries evaluated the contribution of the coaches' and teammates' emotional support, reality confirmation and tangible assistance to their well-being as lower than the athletes who sustained fewer injuries. The athletes with a greater number of injuries also revealed a lower satisfaction with teammates' tangible assistance.

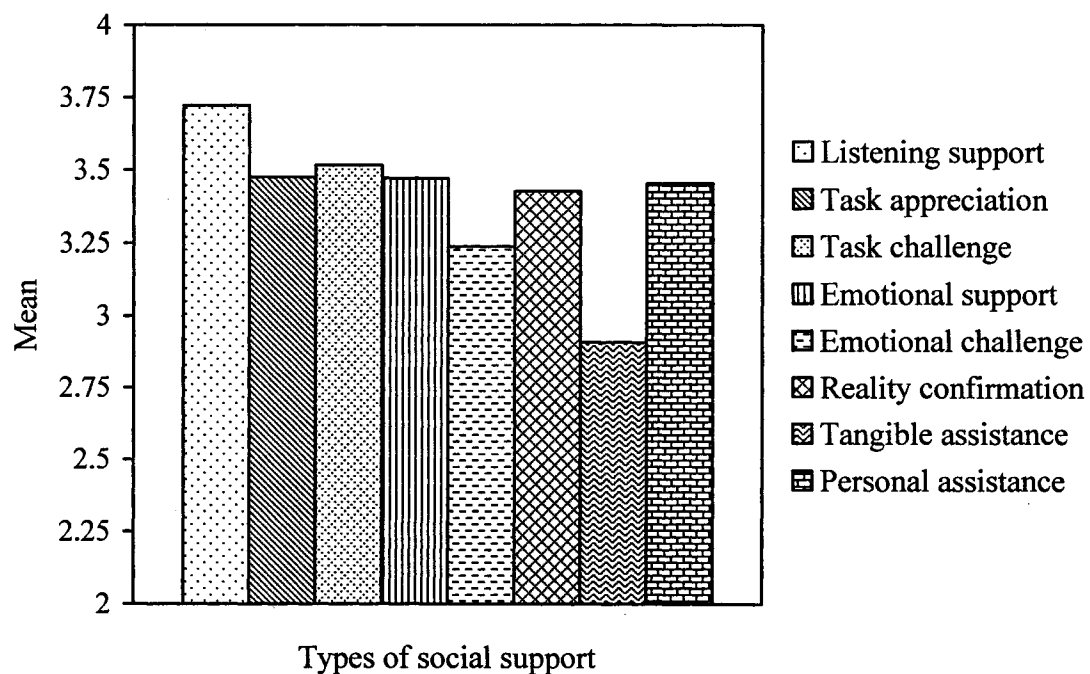
MANOVA analysis of the athletes' perceived social support

An 8 (support) x 3 (effect) x 2 (source) repeated measure multivariate analysis of variance was conducted to study the main effect and the interaction effects for the athletes' evaluation of the social support on support, effect and source. The support variable represented the eight different types of social support that were assessed (listening support, task appreciation, task challenge, emotional support, emotional challenge, reality confirmation, tangible assistance and personal assistance). The effect variable was composed of the three components of each type of social support that the athletes' evaluated (availability, satisfaction and contribution to the well-being). Finally, the source variable corresponded to the two possible providers (coaches and teammates). The MANOVA analysis (Table 5) found that there were a main effect of the support variable, *Pillai's trace*=11.621, $p<.001$, and a main effect of the effect variable, *Pillai's trace*=6.824, $p<.01$.

Table 5

Results of the MANOVA Analysis of the Athletes' Perceived Social Support

	<i>Pillai's trace</i>	Hypothesis <i>df</i>	Error <i>df</i>	<i>p</i>
Main effect:				
Support	11.621	7	65	.000
Effect	6.824	2	70	.002
Source	0.161	1	71	.690
Interaction effects:				
Support x Effect	2.410	14	58	.010
Support x Source	2.866	7	65	.011
Source x Effect	0.380	2	70	.685
Support x Source x Effect	1.094	14	58	.382

*Figure 3.* Mean of the different types of social support.

The Bonferroni post hoc tests revealed that many significant differences existed in the athletes' evaluation of the different types of social support. The participants perceived that the listening support they received ($M=3.722$, $SE=.092$) was better than the

emotional challenge ($M=3.238$, $SE=.108$) and the tangible assistance ($M=2.907$, $SE=.121$) that their coaches and teammates provided. Likewise, the emotional challenge ($M=3.238$, $SE=.108$) was reported as significantly lower than the task challenge ($M=3.516$, $SE=.106$). Finally, the athletes felt that the tangible assistance they received ($M=2.907$, $SE=.121$) was lower than the task appreciation ($M=3.475$, $SE=.105$), the task challenge, the emotional support ($M=3.470$, $SE=.111$), the reality confirmation ($M=3.428$, $SE=.099$) and the personal assistance ($M=3.454$, $SE=.127$).

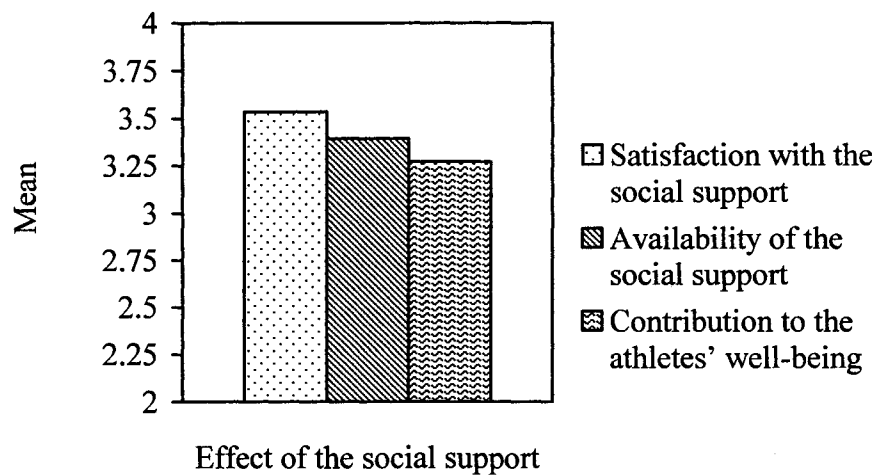


Figure 4. Mean of the different effects of social support.

The Bonferroni post hoc tests found significant differences on the assessment of the effects of social support. The evaluation of the athletes' satisfaction with the social support perceived from their teammates and coaches ($M=3.536$, $SE=.089$) was higher than the availability of the social support ($M=3.395$, $SE=.094$) and than the contribution of social support to the athletes' well-being ($M=3.273$, $SE=.099$).

Finally, a MANOVA analysis revealed interaction effects between the support and the effects variables, *Pillai's trace*=2.410, $p<.05$, and between the support and the source variables, *Pillai's trace*=2.866, $p<.05$.

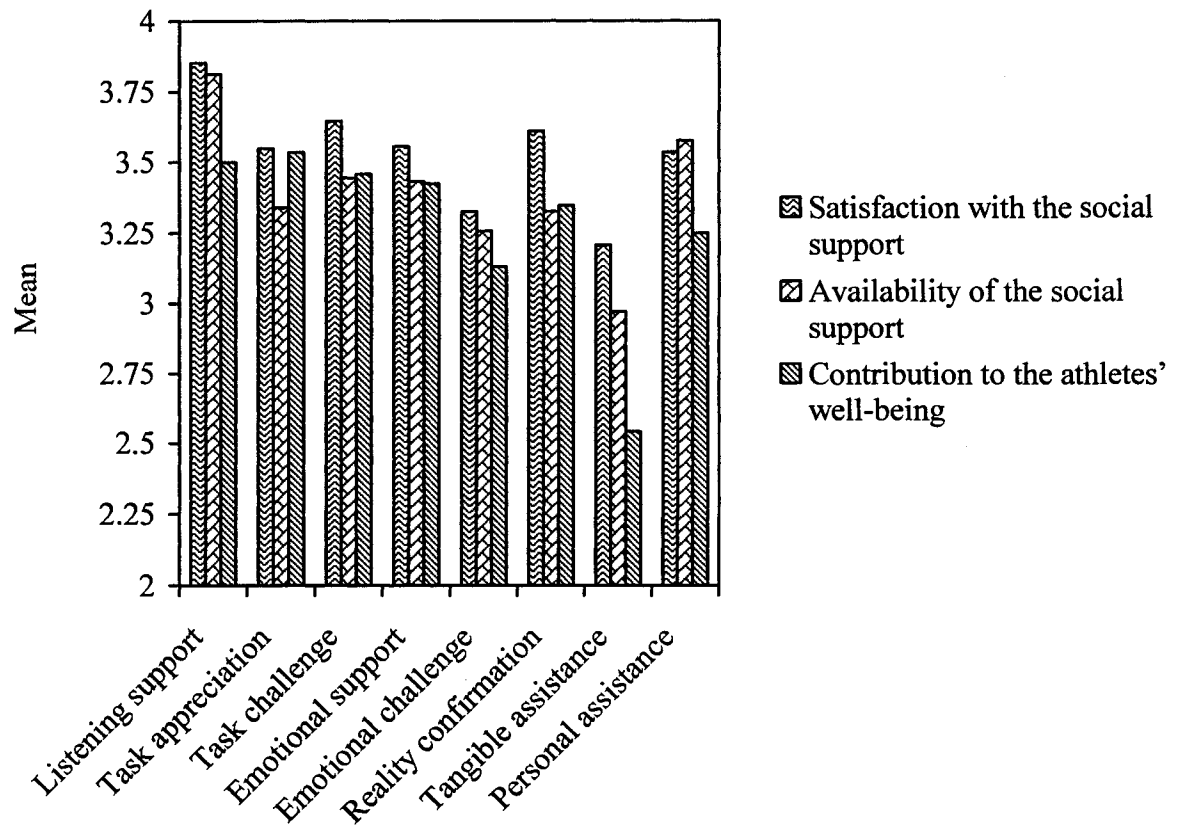


Figure 5. Interaction effect of the variables support and effect.

The significant interaction effect between the support and the effects variables are shown in Figure 5. The main difference on the impact of the different sources of support on the three types of effect is that the task appreciation had the largest contribution to the athletes' well-being, while the tangible support had the weakest. Athletes had the highest satisfaction with the listening support and the lowest with the tangible assistance. Finally, it appeared that the listening support had the highest availability, while the tangible support had the lowest.

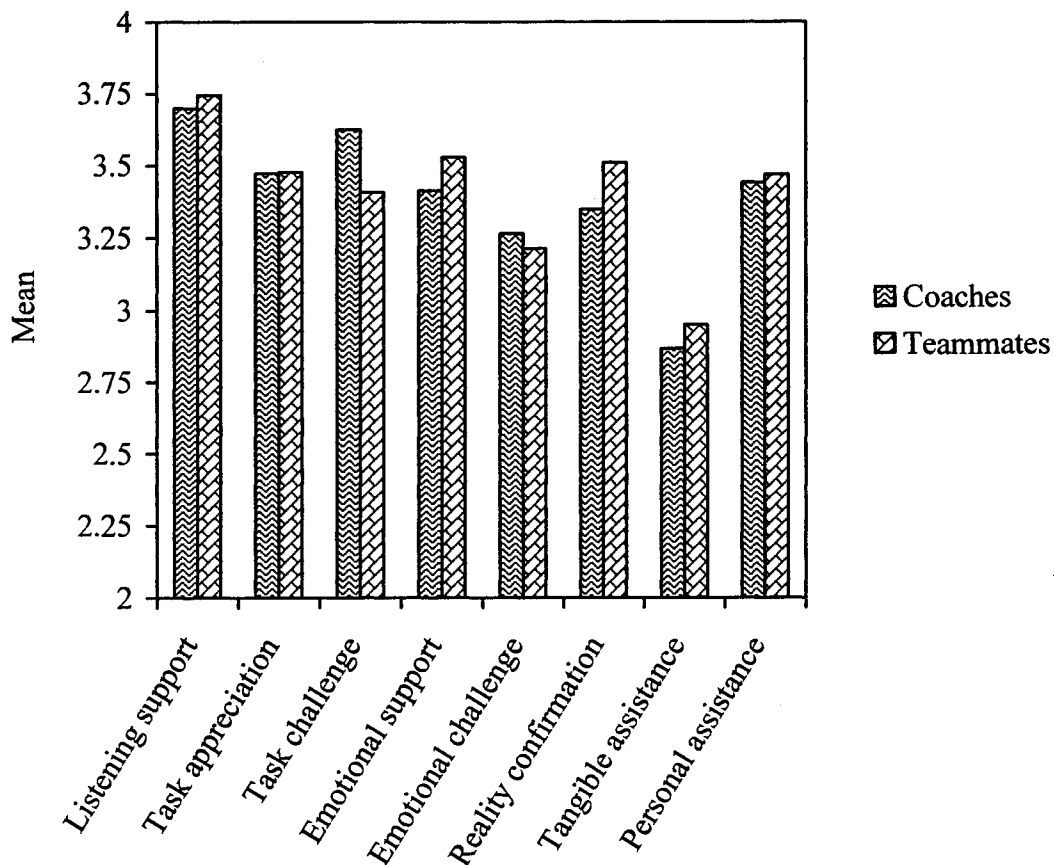


Figure 6. Interaction effect of the variables support and source.

The significant interaction effect between the support and the source variables are shown in Figure 6. The main differences between the patterns of support received from coaches and teammates is that the teammates provided better listening support, task appreciation, emotional support, reality confirmation, personal assistance, and tangible assistance; while coaches provided better task challenge and emotional challenge.

In summary, the MANOVA calculating the mean of the variable support (satisfaction plus availability plus contribution) for each type of social support revealed that the listening support had the highest mean while the tangible support had the lowest mean. The MANOVA calculating the mean of the satisfaction, the availability and the

contribution of the social support for all types of social support, showed that the satisfaction with the social support was evaluated higher than the availability or the contribution of the social support. It was also revealed that differences existed between the different types of social support on the athletes' evaluation of the satisfaction, availability and contribution of the social support. Thus, the task appreciation had the largest contribution to the athletes' well-being, while the tangible support had the weakest. The listening support had the highest satisfaction and the tangible assistance the lowest. The listening support had the highest availability, while the tangible support had the lowest. Finally, the MANOVA showed that differences existed between the social support provided by the teammates and the coaches when comparing the mean of the addition of the satisfaction, plus the availability and the contribution of the social support. It was found that the teammates provided better listening support, task appreciation, emotional support, reality confirmation, personal assistance, and tangible assistance; while coaches provided better task challenge and emotional challenge.

Discussion

The primary purpose of this study was to determine what types of social support injured athletes perceived they were receiving from their coaches and teammates. First, no differences were found on the availability of the social support between coaches and teammates. Overall, when calculating the mean of the variable support (satisfaction plus availability plus contribution) for each type of social support, it appeared that athletes evaluated the listening support as the highest support they perceived while injured and the tangible support as the lowest. The teammates were described as the best providers of listening support, emotional support, reality confirmation, tangible support, and personal assistance. The coaches provided the best task challenge and emotional challenge support. The teammates and the coaches were evaluated as equally efficient in their provision of task appreciation. Previous studies (Bianco & Eklund, 2001; Rosenfeld, Richman, & Hardy, 1989) showed that differences observed between the social support provided by the teammates and the coaches could be explained by sociocultural factors, interpersonal factors and by the types of interaction teammates and coaches have with the athletes. Bianco (2001) explained the injured athletes' providers of social support preferences are influenced by different factors: "(a) the provider's level of expertise in a given area, (b) the level of intimacy with the support provider, (c) the quality of the relationship shared with the provider" (p. 385). Consistent with Rosenfeld et al. who found that healthy athletes recognized their coaches as the main provider of the technical aspect of social support, the present study revealed that the coaches were the best providers of task challenge support. Proposing tasks to achieve is one of the coaches' activities. One interviewee in this study mentioned that coaches shouldn't stop coaching

when one of their athletes gets injured. His coach explained to him that it wasn't a bad time to be injured and he "can do other things, watching tapes and stuff."

Similar to past studies showing that individuals who have an understanding of the injured athletes' situation are better able to provide the social support needed in this particular event (Bianco & Eklund, 2001), this study found that the teammates were viewed as better providers than the coaches in most of the non-technical supports. Likewise, Udry, Gould, Bridges, and Tuffey (1997) found in a qualitative study of elite skiers that most of the athletes have been injured at some point in their careers so that they know exactly what the injured teammate is going through and what he/she is expecting in terms of social support. The athletes in this study shared less emotion with the coaches but more with their teammates. As Rosenfeld et al. explained, the coaches are willing to maintain the emotional distance between themselves and their athletes to avoid privileging any of them. Other studies (Bianco, 2001; Udry et al., 1997) showed that the athletes are expecting less social support from their teammates than from the coaches. Thus, they are likely to value the teammates' social support more because as Barnes and Duck (1994) explained, the individuals develop expectations about other's social support through their daily interactions with the possible providers. In this way, one of the interviewees reported "Maybe they (the teammates) are busy. I don't expect people to come over, you know, hang out. People have their own life."

The second purpose of this inquiry was to examine the availability of the teammates' and coaches' social support. The teammates' and coaches' results in this study contradict previous studies (Bianco, 2001; Udry et al., 1997) because the athletes didn't feel isolated from the team when they were injured. The availability of the

listening support, emotional support and reality confirmation demonstrated that the teammates and coaches were available and willing to interact with the athletes. The only type of social support that appeared not to be available to the athletes was the tangible assistance. This lack of tangible support was expected especially from the coaches because their activities are regulated by the CIS rules which forbid the coaches to provide this type of assistance. The pattern for the availability of the social support was similar to the pattern for the satisfaction. This indicated that the more the athletes perceived the social support was available, the more satisfied they were. The main difference between this study and the previous studies is that the participants in the Bianco and the Udry et al. studies were athletes performing at a higher level and involved in individual sports (Canadian and American members of the National Ski Team). This study focused on varsity athletes playing in individual as well as team sports. The difference between the populations had a direct impact on the rehabilitation of these athletes. In this study, the athletes were rehabilitating in the university's sports medicine clinic in the same building where most of the teams were practicing. However, the skiers were sent back home away from the team to rehabilitate while the team was traveling around the world to compete. This created a sense of isolation for the skiers.

The third goal of this investigation was to study the injured athletes' satisfaction with the social support they perceived. The statistical analysis in this study allowed the researcher to investigate the differences between the general satisfaction, the availability and the contribution to the athletes' well-being of the social support. This statistical procedure wasn't done in Robbins and Rosenfeld study (2001). The MANOVA procedure used in this study determined that the athletes felt that their satisfaction with

social support was higher than its availability and its contribution to their well-being. Furthermore, the pattern for the contribution of the social support to the athletes' well-being was similar to the pattern for the satisfaction with the social support. This finding supports previous studies (Bianco & Eklund, 2001; Lakey & Heller, 1988) and is important because studies showed that the benefits of social support are dependent on the recipient's satisfaction. Coaches, teammates and the people forming the athletes' social network have to ensure that they continue interacting with injured athletes and are aware of the athletes' needs and expectations for social support. As Udry (2001) explained, the providers of social support have to make sure that they are proposing the right type of social support at the right time for the particular individual. Likewise, one of the athletes interviewed explained that he preferred not to go see his coach knowing that his reaction would not be supportive because he sustained an injury playing another sport.

For Bianco, the support needed is influenced by the nature and degree of stress the athlete is experiencing. One of the skiers she interviewed mentioned that sometimes being a beneficial provider means not providing social support: "The coach represents performance, good results, skiing, and happiness. I didn't want to talk to the coach because I was injured, I was not performing. Everything the coach represented, I was not" (p. 382). Bianco showed that the members of the athlete's social network have to understand that the quality of the relationship they shared with the athlete has an influence on his or her satisfaction with the social support he or she perceives when injured. As one of the athletes interviewed reported: "Couple of them (teammates) are closer to me. We are friends on everyday basis whereas other as just acquaintances who happened to be teammates so those people wouldn't be as concerned as supportive as my

actual friends.” It is also important that the possible providers of social support realize that their intervention could have harmful effects if it doesn’t respect the athlete’s needs. Coyne and Delongis (1986) showed that the support behaviors will more than likely be deleterious if conflicts already exist in the relationship.

The results of this study show that athletes were mostly satisfied with the different types of social support even though teammates and coaches have still to improve the social support they provide. This finding supports the results of previous studies. Robbins and Rosenfeld reported that injured athletes’ satisfaction with the listening, task appreciation, task challenge, emotional, emotional challenge, and reality confirmation of their head coaches diminished during the rehabilitation compared to the support the injured athletes perceived prior to their injury. However, the means for each type of social support are generally higher than the ones obtained in this study. In the Robbins et al. study, 35 injured athletes from an American university completed a modified version of the Social Support Survey. The version was similar to the one used in the present study except that the tangible and personal assistance were removed by the researcher as they didn’t appear to be applicable to the population surveyed because of the NCAA rules. The athletes, injured at the time they participated in the study, were asked to evaluate the social support that was provided to them by the assistant coaches, head coach, and athletic trainer prior to and during their rehabilitation.

Contrary to the results of these two quantitative studies, the results of the qualitative studies are more equivocal concerning the satisfaction of the injured athletes with the social support provided. Udry et al. showed that 57 percent of the 21 American skiers they interviewed, referred to the coaches’ positive themes but they also reported

that 66.6 percent of the skiers cited the coaches' negative influence themes. The skiers explained that they were ignored by the coaches when they were injured. The coaches only helped the skiers when they were allowed to be back on snow. They also reported that they didn't trust their coaches because of the behavior they had during rehabilitation. Similarly, Bianco (2001), without providing any percentage, explained that the injured skiers were generally satisfied with the coaches' social support but some noted that they would have preferred more support. The qualitative data allowed for an in-depth understanding from a small sample of individuals. The difference in the data collected and the population studied may explain the differences observed between the two types of studies. Another possible explanation is the different goals of the coaching staff. The national team coaches are primarily focused on developing future champions and the varsity coaches' main purpose is to educate individuals through the practice of a sport. Bianco found that coaches who work with higher level athletes treat them differently when they are injured than the lower level athletes, "It's pretty harsh. If you're a marquee [top] athlete, they're going to do everything they can for you. But if you're a developing athlete, your value takes a big nosedive when you get hurt, because you haven't proven yourself" (p. 382).

Finally, another purpose of this study was to gain in-depth understanding of the injured athletes' perceptions of the social support so that guidelines could be developed for coaches and teammates. That goal was unattained because of an insufficient number of injured athletes to interview. One major problem for research in the area of sport injuries is that the researcher relies on an unknown parameter, the number of athletes who will sustain an injury. To overcome this potential problem, the participants were asked to

evaluate the attitudes and behaviors of their coaches and teammates during a previous injury. In other words, the athletes didn't have to be injured to be involved in the study. Furthermore, the researcher speculates that some coaches showed a lack of cooperation in this part of study because of possible implications to their employment status. While, the coaches felt safe to let their athletes participate in the completion of a questionnaire where they were assured that their identity would remain anonymous and be preserved, coaches were less eager to let the athletes be interviewed. It is possible that the interview was believed to be a situation where athletes could verbalize more negatively about their coach regarding the issue at hand.

Limitations

The first limitation pertains to the procedure used to collect information about the athletes. Athletes were asked to evaluate their coaches' and teammates' social support on the basis of what they remembered from past injury. This relies on the athletes' recollection and interpretation of the past behavior of their coaches and teammates. As Bianco (2001) suggested, the results of this type of study must be interpreted with caution because of the memory decay for factual details and possible memory distortion (retrospective contamination).

Another limitation is the length of the survey. This survey examined the structural and the perceptual features of each type of social support and involved a large number of questions (48) formulated in a repetitive manner. Thus, some athletes lost interest in the survey after answering a few questions. When the coaches elected to distribute the questionnaires themselves, very few were returned.

Recommendations for Future Research

To ensure that the findings of the study could not be used as an evaluation of the coaches' job, the researcher was asked by the Lakehead University Ethics Committee not to differentiate sports so that coaches couldn't be identified. This restricted the interpretation of the findings. Thus, further research efforts could examine the possible differences in the social support provided by successful and unsuccessful teammates and coaches (members of winning or losing teams) and the differences between team and individual sports.

Little research has been conducted on injured athletes' perception and satisfaction with the social support they received. Studies (Bianco, 2001; Mainwaring, 1999; Udry et al., 1997) have primarily used elite skiers in a qualitative approach, but little is known about other athletes. Thus, it will be helpful to conduct future investigations on the topic at every level of performance from elite to recreational.

Few studies have explored the fluctuation of social support over time. Therefore, future studies should examine the differences in social support prior to the injury and during the different phases of the injury (the onset, the rehabilitation and the return to the field). This could be done by using a longitudinal research design with athletes involved in various sports, with diverse injuries, and varying recovery periods. Studying athletes who are actually injured will eliminate problems associated with retrospective contamination.

Previous studies have primarily focused on the injured athletes' point of view about the social support they perceived. However, research should also investigate the providers' perceptions about the social support they gave. As previously shown, coaches

could have a beneficial impact on the recovery process of the athlete. Athletes in previous studies (Bianco, 2001; Udry et al., 1997) mentioned that the coaches provided different social support to athletes according to their performance level. Many other determinants might influence the coaches' reaction such as the style of coaching used (democratic, autocratic), the way the athlete sustained the injury (while practising his or her sport or not), the extent of the injury (and thus the length of the rehabilitation), the timing of the onset of injury (beginning of the season, during the playoffs, etc.), and the team standings. Future efforts could also determine whether the support that coaches provided meets the athletes' expectations.

Finally, once the literature on injured athletes and social support is more developed, future studies could focus on developing, implementing, and assessing interventions in an attempt to offer guidelines to the providers. For example, conducting action research projects with coaches might be a way to achieve this. Action research refers to a research design that facilitates "the reflection on action and is intended to produce changes in working procedures" (Gilbourne, 2001, p. 175). This type of research would direct coaches toward seeking help with their injured athletes so that they would be able to "manage their own change in their own way" (Gilbourne, 2001, p. 175). The satisfaction of social support is highly dependent on individual characteristics and hence strategies geared to assisting individuals are most appropriate. Action research typically involves the following steps (Gilbourne): 1) in depth review of the current problem (how to support this athlete), 2) the possible coaches' interventions and its planning, 3) implementation and monitoring of the coaches' interventions, 4) evaluation of the interventions, and if necessary 5) further review and further interventions. The benefits to

the injured athlete's psychological state and recovery could then be assessed to evaluate the benefits of the coaches' interventions. By using this type of research design, the researcher would be able to reveal the coach's actions, behaviors, and interactions that are most appropriate for a particular injured athlete. Even though these findings are based on one individual, replication of these action research studies may provide explanations for their behaviors and reveal useful interventions for coaches.

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APPENDIX A

Dear Participant:

Thank you for volunteering to participate in a study concerning the social support provided to injured athletes by their coaches and teammates.

I am a graduate student in the School of Kinesiology at Lakehead University and my thesis advisor is Dr. Jane Crossman.

The primary purpose of this study is to assess injured athletes' perceptions of and satisfaction with the social support provided by their coaches and teammates. A secondary purpose is to determine guidelines for coaches and teammates concerning ways to provide beneficial social support to an injured athlete. The results of the investigation could lead to various applications for athletes, coaches, and sport psychologists.

In order to carry out this study, I will ask you to complete a survey which will take approximately 20 minutes of your time. It is important that you answer each question honestly.

Should you become injured during the season, I might ask you if you agree to be interviewed. The information emerging from these interviews will assist us to determine what coaches and teammates are really doing to help athletes during their rehabilitation. The interviews will take approximately 20 minutes.

All information you provide will remain confidential and securely stored at Lakehead University for seven years. No individual will be identified in any report of the results. You may withdraw from the study at any time. The findings of this project will be available to you at your request upon the completion of the project.

Thank you for your cooperation.

Sincerely,

Fabien
E-mail:
Phone:

Rehabilitation Social Support Survey

This survey is intended to examine social support among injured athletes.

Demographics:

Age: _____

Gender:

Male

Female

Number of year of experience in your sport: _____

Status on the team (if applicable):

Starter

Non-starter

Number of injuries you had during your athletic career:

Between 0 and 5

Between 6 and 10

Between 10 and 15

More than 15

The following questions focus on individuals in your environment who provided you with help and/or support when you were injured. Read the definition of the type of social support being considered and respond to the questions that follow it. Please answer all the questions as best you can. There is no right or wrong answer. All your responses are strictly confidential.

Listening support: People who listened to you without giving advice or being judgmental when you were injured.

1. Indicate the relationship you had with each person who provided you with listening support when you were injured (for example, friends within your sport, friend not within your sport, coach, assistant coach, fitness trainer, team/squad manager, sport psychologist/counsellor, spouse/partner, parent, grandparent, brother/sister, other [please specify]). If no one provided you with this support, please indicate "no one".

2. In general, how satisfied were you with the overall quality of listening support you received?

From your **coaches**:

Very dissatisfied 1 2 3 4 5 Very satisfied

From your **teammates**:

Very dissatisfied 1 2 3 4 5 Very satisfied

3. How difficult would it have been for you to obtain more listening support?

From your **coaches**:

Very difficult 1 2 3 4 5 Very easy

From your **teammates**:

Very difficult 1 2 3 4 5 Very easy

4. How much do you think the listening support contributed to your overall well-being?

From your **coaches**:

Very unimportant 1 2 3 4 5 Very important

From your **teammates**:

Very unimportant 1 2 3 4 5 Very important

Task appreciation: People who acknowledged your efforts and expressed appreciation for the activity you did when you were injured.

5. Indicate the relationship you had with each person who provided you with listening support when you were injured (for example, friends within your sport, friend not within your sport, coach, assistant coach, fitness trainer, team/squad manager, sport psychologist/counsellor, spouse/partner, parent, grandparent, brother/sister, other [please specify]). If no one provided you with this support, please indicate "no one".

6. In general, how satisfied were you with the overall quality of task appreciation you received?

From your **coaches**:

Very dissatisfied 1 2 3 4 5 Very satisfied

From your **teammates**:

Very dissatisfied 1 2 3 4 5 Very satisfied

7. How difficult would it have been for you to obtain more task appreciation?

From your **coaches**:

Very difficult 1 2 3 4 5 Very easy

From your **teammates**:

Very difficult 1 2 3 4 5 Very easy

8. How much do you think the task appreciation contributed to your overall well-being?

From your **coaches**:

Very unimportant 1 2 3 4 5 Very important

From your **teammates**:

Very unimportant 1 2 3 4 5 Very important

Task challenge: People who challenged your way of thinking about your activity in order to stretch you, to motivate you, and lead you to greater creativity, excitement and involvement when you were injured.

9. Indicate the relationship you had with each person who provided you with listening support when you were injured (for example, friends within your sport, friend not within your sport, coach, assistant coach, fitness trainer, team/squad manager, sport psychologist/counsellor, spouse/partner, parent, grandparent, brother/sister, other [please specify]). If no one provided you with this support, please indicate "no one".

10. In general, how satisfied were you with the overall quality of task challenge you received?

From your **coaches**:

Very dissatisfied 1 2 3 4 5 Very satisfied

From your **teammates**:

Very dissatisfied 1 2 3 4 5 Very satisfied

11. How difficult would it have been for you to obtain more task challenge?

From your **coaches**:

Very difficult 1 2 3 4 5 Very easy

From your **teammates**:

Very difficult 1 2 3 4 5 Very easy

12. How much do you think the task challenge contributed to your overall well-being?

From your **coaches**:

Very unimportant 1 2 3 4 5 Very important

From your **teammates**:

Very unimportant 1 2 3 4 5 Very important

Emotional support: People who comforted you and indicated to you that they were on your side and cared for you when you were injured.

13. Indicate the relationship you had with each person who provided you with listening support when you were injured (for example, friends within your sport, friend not within your sport, coach, assistant coach, fitness trainer, team/squad manager, sport psychologist/counsellor, spouse/partner, parent, grandparent, brother/sister, other [please specify]). If no one provided you with this support, please indicate "no one".

14. In general, how satisfied were you with the overall quality of emotional support you received?

From your **coaches**:

Very dissatisfied 1 2 3 4 5 Very satisfied

From your **teammates**:

Very dissatisfied 1 2 3 4 5 Very satisfied

15. How difficult would it have been for you to obtain more emotional support?

From your **coaches**:

Very difficult 1 2 3 4 5 Very easy

From your **teammates**:

Very difficult 1 2 3 4 5 Very easy

16. How much do you think the emotional support contributed to your overall well-being?

Your **coaches**:

Very unimportant 1 2 3 4 5 Very important

Your **teammates**:

Very unimportant 1 2 3 4 5 Very important

Emotional challenge: People who challenged you to evaluate your attitudes, values and feelings when you were injured.

17. Indicate the relationship you had with each person who provided you with listening support when you were injured (for example, friends within your sport, friend not within your sport, coach, assistant coach, fitness trainer, team/squad manager, sport psychologist/counsellor, spouse/partner, parent, grandparent, brother/sister, other [please specify]). If no one provided you with this support, please indicate "no one".

18. In general, how satisfied were you with the overall quality of emotional challenge you received?

From your **coaches**:

Very dissatisfied 1 2 3 4 5 Very satisfied

From your **teammates**:

Very dissatisfied 1 2 3 4 5 Very satisfied

19. How difficult would it have been for you to obtain more emotional challenge?

From your **coaches**:

Very difficult 1 2 3 4 5 Very easy

From your **teammates**:

Very difficult 1 2 3 4 5 Very easy

20. How much do you think the emotional challenge contributed to your overall well-being?

Your **coaches**:

Very unimportant 1 2 3 4 5 Very important

Your **teammates**:

Very unimportant 1 2 3 4 5 Very important

Reality confirmation: people who were similar to you-see things the way you did-who helped you confirm your perceptions and perspectives of the world and helped you keep things in focus when you were injured.

21. Indicate the relationship you had with each person who provided you with listening support when you were injured (for example, friends within your sport, friend not within your sport, coach, assistant coach, fitness trainer, team/squad manager, sport psychologist/counsellor, spouse/partner, parent, grandparent, brother/sister, other [please specify]). If no one provided you with this support, please indicate "no one".

22. In general, how satisfied were you with the overall quality of reality confirmation you received?

From your **coaches**:

Very dissatisfied 1 2 3 4 5 Very satisfied

From your **teammates**:

Very dissatisfied 1 2 3 4 5 Very satisfied

23. How difficult would it have been for you to obtain more reality confirmation?

From your **coaches**:

Very difficult 1 2 3 4 5 Very easy

From your **teammates**:

Very difficult 1 2 3 4 5 Very easy

24. How much do you think the reality confirmation contributed to your overall well-being?

Your **coaches**:

Very unimportant 1 2 3 4 5 Very important

Your **teammates**:

Very unimportant 1 2 3 4 5 Very important

Tangible assistance: people who provided you with either financial assistance, products and/or gifts when you were injured.

25. Indicate the relationship you had with each person who provided you with listening support when you were injured (for example, friends within your sport, friend not within your sport, coach, assistant coach, fitness trainer, team/squad manager, sport psychologist/counsellor, spouse/partner, parent, grandparent, brother/sister, other [please specify]). If no one provided you with this support, please indicate "no one".

26. In general, how satisfied were you with the overall quality of tangible assistance you received?

From your **coaches**:

Very dissatisfied 1 2 3 4 5 Very satisfied

From your **teammates**:

Very dissatisfied 1 2 3 4 5 Very satisfied

27. How difficult would it have been for you to obtain more tangible assistance?

From your **coaches**:

Very difficult 1 2 3 4 5 Very easy

From your **teammates**:

Very difficult 1 2 3 4 5 Very easy

28. How much do you think the tangible assistance contributed to your overall well-being?

Your **coaches**:

Very unimportant 1 2 3 4 5 Very important

Your **teammates**:

Very unimportant 1 2 3 4 5 Very important

Personal assistance: people who provided you services or helped when you were injured, such as driving you to the rehabilitation.

29. Indicate the relationship you had with each person who provided you with listening support when you were injured (for example, friends within your sport, friend not within your sport, coach, assistant coach, fitness trainer, team/squad manager, sport psychologist/counsellor, spouse/partner, parent, grandparent, brother/sister, other [please specify]). If no one provided you with this support, please indicate "no one".

30. In general, how satisfied were you with the overall quality of personal assistance you received?

From your **coaches**:

Very dissatisfied 1 2 3 4 5 Very satisfied

From your **teammates**:

Very dissatisfied 1 2 3 4 5 Very satisfied

31. How difficult would it have been for you to obtain more personal assistance?

From your **coaches**:

Very difficult 1 2 3 4 5 Very easy

From your **teammates**:

Very difficult 1 2 3 4 5 Very easy

32. How much do you think the personal assistance contributed to your overall well-being?

Your **coaches**:

Very unimportant 1 2 3 4 5 Very important

Your **teammates**:

Very unimportant 1 2 3 4 5 Very important