A Preliminary Investigation Into the Use of Counseling Skills in Support of Rehabilitation From Sport Injury

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Objectives: To explore the usefulness of counseling skills for 3 athletes undergoing rehabilitation from anterior-cruciate-ligament-reconstruction surgery. Design: A series of 3 case studies explored the impact of a counseling-skills intervention over 12 weeks postsurgery. Semistructured interviews were conducted 12 weeks postsurgery for triangulation and social validation of intervention. Participants: 3 athletes meeting selection criteria, recruited from a hospital waiting list and receiving standardized rehabilitation regime. Intervention: Participants each received 6 counseling skills interventions at 2-week intervals. Main Outcome Measures: Mood, perceived rehabilitation, pain ratings, social support. Results: Triangulation of interview data and outcome measures provided some evidence of the beneficial impact of counseling skills on psychological outcomes. It also indicated that setbacks could present challenges to rehabilitation. Conclusions: Counseling skills can enhance psychological well-being of athletes during rehabilitation and be especially important during setbacks. Key Words: adherence, mood, setbacks to rehabilitation, social support

Psychological factors are increasingly being recognized by sports-medicine professionals as important in rehabilitation from sport injury. Based on this, a number of psychological interventions have been recommended to enhance the well-being of injured athletes, increase adherence to rehabilitation programs, and facilitate recovery from sport injury. These interventions include goal setting, imagery, cognitive strategies, stress-inoculation training, progressive relaxation, and counseling. It has been suggested, however, that further studies are needed to evaluate their effectiveness in the context of sport-injury rehabilitation.

Counseling is an example of an intervention that has been recommended, but there are few outcome studies of its effectiveness and of athletes’ perceptions of its effectiveness. Studies of counseling have involved the deployment of counseling skills such as attending, active listening, and...
reflection\textsuperscript{9} to give injured athletes the opportunity to discuss their concerns privately, apart from individuals who have a vested interest in their return to athletic activity.\textsuperscript{7}

The word \textit{counseling} can lead to some confusion because it is used differently in different contexts. In its wider sense it incorporates helping, education, the establishment of rapport and communication, and “emotional first-aid.”\textsuperscript{8} It is used in this way in sport-psychology literature that refers to “counseling” injured athletes. It is defined more narrowly by the British Association for Counselling as a specific, contractual relationship, with clearly agreed boundaries and commitment to privacy and confidentiality, between counselor and client. The client, voluntarily seeking out the support of the counselor, usually initiates this relationship. To avoid any confusion, the intervention in this study, which was carried out in a clinical National Health Service setting, was defined as the use of counseling skills, and athletes were asked to participate rather than initiating the contact themselves.

Attempts have been made to list counseling skills, which include active listening, paraphrasing, and reflection, but these can also be regarded as communication skills.\textsuperscript{10} They are regarded as counseling skills when the pattern of communication is changed in favor of the recipient, compared with a conversation, where there is a more equal interchange between interactor and recipient. It is the recipient who sets the agenda of the dialogue, and the emphasis is on the recipient’s self-determination. The goal of the interaction is to facilitate the self-expression and autonomy of the recipient.\textsuperscript{10} Counseling skills are defined as “competency or accomplishment in communication, acquired or developed in training.”\textsuperscript{9,p3}

Counseling skills can operate in a number of ways to enhance rehabilitation, for example, through goal setting or the enhancement of positive thinking. The main focus of the present study, however, was based on the supposition that counseling skills act as a source of both emotional and listening support. We recognized the fact that an athlete might display a range of emotional responses to injury,\textsuperscript{3} and we assumed that emotional and listening support, which are fundamental aspects of social support, might help the athlete cope with any negative emotions experienced.\textsuperscript{11} Indeed, at a theoretical level, the integrated model of response to sport injury\textsuperscript{12} offers a framework within which the impact of a counseling-skills intervention on rehabilitation might be understood. The model predicts that coping resources and social-support availability affect postinjury cognitive responses such as perceptions of rehabilitation, emotional responses such as mood, and behavioral responses such as adherence to rehabilitation. This is especially important because injury rehabilitation is an ongoing process in which stressors are continuously appraised and responded to, whereas social support might diminish over time.\textsuperscript{13} If stressors such as setbacks in rehabilitation occur, the appraisal process recurs, affecting ensuing mood and behavior responses.\textsuperscript{12} We proposed, therefore, that enhancement of so-
Social support through counseling-skills interventions could help ameliorate adverse consequences of setbacks.

Social support has also been related to adherence to rehabilitation from sports injury. Adherence to rehabilitation is influenced by cognitive and emotional responses to injury, which are believed to occur as a function of personal and situational factors. Rehabilitation adherence after knee surgery is negatively correlated with both appraisals of coping difficulty and total mood disturbance. This suggests that interventions that affect mood disturbance might also enhance adherence to rehabilitation, but not all negative emotions are dysfunctional in the recovery process. For example, anger, if appropriately controlled and focused, can contribute to rehabilitation through exhibiting itself as a “fighting spirit.” The key might rest in a better understanding of the athlete’s perception of the emotions experienced, and a counseling-skills intervention might contribute to the control and focus of such emotions.

Although controlled-outcome studies have been advocated to evaluate counseling interventions, there are limitations to their use in clinical settings, which are discussed elsewhere. As an alternative, we based the present design on a replication series of single-case studies describing the experiences of participants receiving a counseling-skills intervention after reconstruction surgery on the anterior cruciate ligament (ACL). This enabled the integration of formal research methods into applied psychology practice, and, indeed, single-case designs have been advocated for intervention research in sport and physiotherapy and have been previously used in injury-rehabilitation research. The design provided an essentially idiographic approach in which individual uniqueness and complexity could be addressed. We assessed each case individually for within-participant changes, taking into account recommendations for increasing the internal validity of case-study research from clinical and applied psychology, which are described elsewhere. Furthermore, using a single-case approach, it was possible to incorporate both repeated measures of outcome variables, to establish the ongoing effects of the intervention, and a pluralist methodology. Pluralist methodology has been adopted in counseling research and in health-care research where qualitative follow-ups have been used to complement initial quantitative studies when assessing adherence behavior. In the present study, we used quantitative methods to obtain measures of adherence, social-support, and psychological-outcome variables and qualitative methods to gain insight into the subjective experience of rehabilitation and of being counseled and to provide a social validation check of the intervention.

The purpose of the present study was to explore the impact of counseling-skills interventions on the experiences of participants undergoing rehabilitation from ACL-reconstruction surgery. We anticipated that counseling skills would act as a source of listening and emotional support (forms of social support) to the participants and facilitate a more positive
mood state and that improvements in mood state would lead to higher levels of perceived rehabilitation and lower pain ratings. Furthermore, if setbacks were encountered during rehabilitation, their effects would be ameliorated by the intervention and adherence to rehabilitation would be maintained.

Method

After ethical approval had been obtained from the relevant university and health authority, potential recruits were identified from a hospital waiting list for ACL-reconstruction surgery. They were evaluated for inclusion by the selection criteria of age (over 18 years), active participation in sport (more than 3 h/wk) before injury, injury incurred during participation in athletic activity, no previous history of surgical treatment for athletic injury, and damage to the ACL being the sole injury. We contacted each potential recruit by mail and asked if he or she would be willing to participate in a study that was being conducted to explore ways of supporting rehabilitation. An information sheet describing the purpose and procedure of the study was enclosed with the letter. We then contacted these potential recruits by telephone and asked whether they would be willing to participate. We arranged a preliminary interview with the athletes who agreed to participate 1 week before surgery, at which time they provided informed consent. If an athlete was unwilling to participate, another athlete who met the selection criteria was identified from the waiting list and contacted.

Finally, we recruited 3 patients about to undergo ACL-reconstruction surgery. Brief demographic details and information about sport involvement are given in order to contextualize the case studies.

Participant P1

Participant P1 was a 40-year-old man who had received a contact injury to his right knee while playing football, his main sport. He was a professional coach and was involved in football 21–25 h/wk. He played at competitive district level before his injury. The time interval between injury and surgery was 16 months. He underwent surgery on day 8 of the data collection and received his intervention sessions on days 10, 19, 33, 47, 61, and 78.

Participant P2

Participant P2 was a 31-year-old man who had received a noncontact injury to his right knee while playing football, his main sport. He was an amateur playing at competitive club level 6–10 h/wk before injury. The time interval between injury and surgery was 17 months. He underwent surgery on day 3 of the data collection and received his intervention sessions on days 8, 24, 38, 52, 66, and 79.
Participant P3

Participant P3 was a 35-year-old woman who had received a noncontact injury to her right knee while playing badminton, her main sport. She was a semiprofessional coach employed for 15 h/wk. She was spending 6–10 h/wk on badminton competition and practice, playing at competitive district level, before injury. The time interval between injury and surgery was 9 months. She underwent surgery on day 8 of the data collection and received her intervention sessions on days 11, 23, 41, 51, 63, and 79.

The same sports-medicine team treated all participants during their hospital stay. Different physiotherapists treated different participants after discharge, although they all received a standardized rehabilitation regime.

Instrumentation and Data Collection

Demographic Data

Approximately 1 week presurgery, at their initial interview, all participants completed a demographic questionnaire, the Patient Information Questionnaire (PIQ). The PIQ was an abridged form of the Emotional Responses of Athletes to Injury Questionnaire (ERAIQ), based on the items that assess background information such as age, gender, previous injury history, level and type of sport participation, perceived importance of sport participation, and number of hours per week involved in sport.

Social Support

At the initial interview the Social Support Behaviors Survey (SSBS) was also explained and administered. It was subsequently administered at 2, 4, 6, 8, and 10 weeks by the physiotherapists after physiotherapy sessions. This measure was selected because it has been used in past studies of athletes’ responses to injury rehabilitation. It has high internal consistency, although, as with many other social-support inventories, low test reliabilities are found when given over extended periods of time. It is based on the Support Functions Questionnaire, which was used to explore social support networks among athletes and whose psychometric properties are described elsewhere. The SSBS is a 32-item self-report questionnaire that assesses respondents’ satisfaction with social support that they are receiving. A 7-point Likert scale is used, ranging from 1 = very unsatisfied to 7 = very satisfied. It differentiates among 3 dimensions of social support, namely, emotional, informational, and material support. Subscales assessing different types of supportive behavior measure each dimension of support. The dimension of emotional support is assessed by subscales measuring emotional support, emotional challenge, and listening support. Informational support is measured by subscales for task appreciation, task challenge, and reality
confirmation. Subscales for personal assistance and tangible assistance measure material support.

**Adherence to Rehabilitation**

Measures of adherence to rehabilitation were taken using the Sport Injury Rehabilitation Adherence Scale (SIRAS), a 3-item scale designed to assess adherence during clinic-based sport-injury rehabilitation sessions. It asks the physiotherapist to rate the patient on effort, frequency of following instructions, and receptivity to change in the rehabilitation program, on 5-point scales. A total score of 15 indicates maximum adherence. The SIRAS has acceptable internal consistency reliability, test-retest reliability, and construct validity.

**Psychological Outcome Variables**

Mood disturbance, perceived percentage rehabilitation, and pain ratings were assessed for all participants by self-administered printed schedules, each containing 3 items, in the form of a daily diary. Each participant completed the diary on a routine basis from 1 week presurgery to 12 weeks postsurgery, each yielding approximately 100 data points in all.

**Mood Disturbance.** Mood disturbance was assessed in line with the method used by Morrey, who calculated a total score from the emotion scores measured by the ERAIQ. The negative-emotion scores were summed and the positive-emotion scores subtracted to gain a total mood-disturbance score (TERAIQ). In order to gather the emotion scores, the protocol used by Smith, Scott, and Weise to measure the magnitude of emotional response to injury was adopted. Participants were asked to indicate how they were feeling that day because of the injury, by rating themselves on 9 negative emotions (helpless, tense, bored, depressed, angry, frustrated, shocked, discouraged, and frightened) and 2 positive emotions (optimistic and relieved), using a 5-point Likert rating scale, on which 1 = absolutely not and 5 = extremely so. Thus, a negative TERAIQ score indicates positive mood, and vice versa. Scores could range from +45 (maximum negative mood) to −10 (maximum positive mood). This method of assessing mood disturbance was selected because it has been used in a range of past studies on emotional responses to sports injury, specifically on populations of ACL-injured athletes.

**Perceived Rehabilitation.** Perceived rehabilitation was assessed by an item asking the athlete, “ Compared with your preinjury state, how far along do you think you are with your rehabilitation? For example, on a scale from 0% to 100%, what percent rehabilitation do you think you are at right now?”

**Pain.** Pain was assessed by a numerical rating self-report scale as recommended by Heil. We asked participants to indicate the level of pain
they were experiencing at present on an 11-point scale ranging from 0 = *no pain* to 10 = *worst possible pain*.

**Qualitative Data**

Qualitative data were collected 12 weeks postsurgery from each participant by semistructured, tape-recorded interviews. Each interview (approximately 40–60 min) was conducted in the participant’s own home and began with an open question asking the participant about his or her injury and rehabilitation. An interview guide, developed from a pilot interview with an athlete who had also undergone ACL-reconstruction surgery with the same sports-medicine team, was used to clarify key issues and to elicit in-depth information. The interviews provided information about the participants’ experiences of surgery and rehabilitation, the perceived importance of the study, and the efficacy of the counseling-skills intervention.

**Intervention**

Participants received counseling-skills interventions at approximately 3 days and 2, 4, 6, 8, and 10 weeks postsurgery because the initial 10–12 weeks after ACL-reconstruction surgery form an acute phase of rehabilitation. It is practice in the UK to clinically supervise the doses of physiological and musculoskeletal stresses during this period. The same researcher (first author) administered the counseling-skills interventions (40- to 60-minute sessions) in the participants’ homes and used the same counseling model throughout the study in order to standardize treatment. We selected the integrative-skills model of counseling, a skills-based and flexible model, on the basis of the professional training and experience of the first author and its suitability in the context. It formed a loose framework for the interventions and allowed recommendations from clinical studies of psychological interventions with injured athletes to be accommodated. It has been shown that individualized and direct personal counseling during the rehabilitation process is important and that intervention strategies that focus on communication and listening skills help athletes in their search for meaning in their injury experiences.

In each counseling session, the first author asked participants about their perceptions of rehabilitation and invited them to raise any related issues. She used active listening skills such as reflection, paraphrasing, and summarizing to develop rapport and foster the core conditions of counseling: empathy, acceptance, and genuineness. In this way, a safe environment was created in which athletes were able to raise concerns about the impact of injury, their recovery, and any setbacks. Negative beliefs and assumptions were challenged once a trusting relationship had been established. The athletes were encouraged to identify and assess outcomes they wanted in relation to recovery, consider the options open to them, and plan their ac-
tions accordingly. Strategies for coping with any other problems that arose as a result of injury were explored.

Treatment of Data

Individual case profiles describing participants’ experiences of rehabilitation and their perceptions of the intervention were constructed based on the quantitative and qualitative data collected. Composite graphs were also constructed showing day of surgery (solid vertical line), interventions (dashed vertical line), TERAIQ scores, perceived percentage rehabilitation, and pain ratings. Decreasing TERAIQ scores indicate improving mood state, increasing perceived rehabilitation scores indicate perceptions of improving rehabilitation, and decreasing pain ratings indicate reduction in pain. Each participant’s adherence to rehabilitation was plotted graphically. An overall mean measure of social support was calculated from the means of each of the 8 subscales of the SSBS. On the basis of past research,11 emotional and listening support were presumed to be the social-support variables most likely to be influenced by the intervention. To investigate this premise further, we also plotted mean scores for emotional and listening support for each participant.

The first author analyzed quantitative data from each participant in association with the data from the final interviews, which were transcribed and coded to preserve the anonymity of the participants (copies of the transcripts can be obtained from the first author). Each transcript was read and reread a number of times to develop a global understanding of what had been discussed. For each transcript, significant statements and phrases that directly pertained to the experience of injury, surgery, rehabilitation and the intervention were then highlighted and extracted.31 These statements were used to triangulate with the quantitative data, provide social validation for the intervention, and add to the understanding of the meaning that these experiences had for each participant. Higher order themes were not developed because it is important to give weighting to rare as well as common experiences, especially with such small numbers of participants.32

To strengthen validity the second author, who also read through the transcripts and developed an understanding of their contents, provided further triangulation. The second author then read the first author’s provisional account based on her analysis of both the qualitative and the quantitative data and discussed it with her. This process of peer debriefing enhances the credibility of the analysis and enables researchers to distance themselves from the accounts of the participants.33 This was important in our study, in which there was the possibility of dual-role conflict and bias because the researcher had also implemented the interventions. Differences of opinion and interpretation were negotiated, and final individual case profiles were constructed to illustrate within-participant effects.
Results

Case Profile of Participant P1

Figure 1 reveals an initial increase in total mood disturbance associated with surgery, which declines rapidly. Surgery seems to have had only a transient negative impact on total mood disturbance and pain rating. Overall, perceptions of surgery and rehabilitation are increasingly positive over time, and there is a steady decrease in pain rating and little variability in total mood disturbance. No setbacks in rehabilitation were noted.

P1 reported a positive experience of surgery and rehabilitation, stating, “They have been brilliant timing.” The timing of the surgery had fit in well with his life circumstances in terms of work, family commitments, and coaching in that he was able to rehabilitate during school holidays and out of the football season. P1 was satisfied with the social support he received from the medical professionals but saw the support from family as even more important: “I think the support domestically . . . was more critical.”

It is interesting to note from Figure 1 that there seem to be specific changes in perceptions of pain ratings associated with interventions at days 10, 19, and 33. In his comments, however, P1 displayed a neutral perception of the intervention: “It hasn’t affected me,” although he did see it as acceptable. His experience of rehabilitation suggests that when rehabilitation fits in with life circumstances and no setbacks are experienced, further support in the form of counseling during rehabilitation has no great manifest benefit.

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**Figure 1** Participant 1’s total mood disturbance, perceived rehabilitation, and perceived pain rating.
Case Profile of Participant P2

Figure 2 indicates an initial transient increase in total mood disturbance after surgery. Total mood disturbance decreases smoothly and rapidly, however, and overall mood becomes positive by day 24. P2, however, did report 2 setbacks, which occurred at day 16, when he fell down some stairs, and at day 78, when he jarred his knee in an accident at work. These incidents were associated with increased pain and mood disturbances, but their impact was transient and they did not negatively affect perceptions of rehabilitation.

P2’s attitude toward rehabilitation was positive, and he expressed confidence in the medical support that he received. He also enjoyed a high level of domestic social support: “I had loads of support from the family.” He did indicate, however, that he sought more informational support: “They could maybe give you a fact sheet.” Informational support seemed to reassure him, and he commented, “I’d have had it done on the day if I’d had the chance, knowing what’s involved now.”

Figure 2 shows that there were positive changes in pain ratings, associated with interventions, at days 9, 25, 39, and 79 and improvements in mood on days 39, 54, and 79. It might also be possible that the impact of the second setback at day 78 was reduced by the intervention on day 79. P2 expressed positive perceptions of the intervention: “It’s a benefit”; “it’s

![Figure 2](image-url)  
*Figure 2*  Participant 2’s total mood disturbance, perceived rehabilitation, and perceived pain rating.
got to be a plus hasn’t it?” He perceived the intervention as being a source of informational support, which enabled him to make social comparisons: “I’ve learnt a few things off yourself from the other patients, about how they have coped.” This suggests that counseling-skills interventions might be of value, not only as a source of emotional and listening support as expected but also as a source of informational support.

Case Profile of Participant P3

No initial increase in total mood disturbance with surgery was noted for P3 (Figure 3), and there was an initial immediate increase in perceptions of rehabilitation. However, from day 16 to day 58 there were marked fluctuations in mood disturbance, pain ratings, and perceptions of rehabilitation. These might be related to events reported by P3. At day 16 the physiotherapist told P3 that it could take a year to recover, and she recorded disappointment in her diary. An increase in pain rating and total mood disturbance, reaching a peak at day 18, can be noted from Figure 3. At day 27 there is a further peak in total mood disturbance associated with the information reportedly given by the physiotherapist that P3 had a trapped nerve next to scar tissue. At day 58 the knee was taped, with an immediate reduction in pain and improvement in mood.

Overall, P3’s experience of surgery and rehabilitation, possibly as a result of setbacks, would not seem to have been as positive as those of P1 and P2. She is a semiprofessional coach and expressed great personal investment.
in sport, reporting that she was feeling very frustrated and had lost enthusiasm and confidence with not being able to compete. On the other hand, she observed about the experience, “It changes who you are. . . . It’s not such a bad thing.”

For P3 it did seem from her comments that the intervention was a source of social support: “When I spoke to you that day it really helped. . . . I was at one of my all-time lows. . . . You can have good support but you don’t want to bore them to death.” In addition, the intervention also seemed to have been of value in helping P3 come to terms with negative experiences. There is evidence that they helped her develop new positive cognitions: “Thinking about it and talking to you, . . . there are positive things.” This suggests that techniques such as cognitive restructuring played an important part in the intervention.

There is evidence of rapport having been established between the researcher and P3. The empathy and acceptance involved in the relationship played an important part in the efficacy of the interventions, as illustrated by the following quote:

It was the fact you said, and you may not even have realized you said it, and you may not have meant it towards me, but you said you think sports people are special people, . . . and I thought, yes they are and yes I am and I’m going to do it.

**Adherence to Rehabilitation**

Figure 4 illustrates that, for all participants, adherence was consistently high; indeed, P3 displays maximum adherence. There were individual differences in the pattern of adherence, however, with P1 showing a slight decline. There were also individual differences in the participants’ attitudes and approach to the rehabilitation program. For example, P1 had mixed perceptions of the value and efficacy of the rehabilitation schedule, which he based on his background in coaching and nursing: “I’ve got quite a decent level of knowledge about injuries. . . . I’ve got my own agenda here.” Overall, despite the more negative rehabilitation experiences of P3, all participants were highly motivated in their adherence to rehabilitation.

**Social Support**

Figure 5 shows that there was an overall slight decline in mean social support postsurgery for P1, whereas for P2 and P3 there were consistent levels of mean social support. Listening and emotional support appear higher for P3, who is a woman. P3 did report that listening support linked to the intervention played an important role for her, commenting that it was beneficial “just to be able to talk to someone at length about your feelings.”
Figure 4  Adherence to rehabilitation.

General Discussion

The purpose of this small-scale preliminary study was to explore the usefulness of a counseling-skills intervention in enhancing rehabilitation from sport injury. Because there are limitations to the use of controlled-outcome studies in evaluation research, we adopted a replication series of case studies incorporating a pluralistic methodology. We expected that changes in psychological outcome variables would be mediated through improvement of mood state and improved social support. If setbacks were to be encountered during rehabilitation the effects of these setbacks would be ameliorated.
Triangulation of the qualitative and quantitative data provided evidence at a descriptive level for the usefulness of the intervention.

**Psychological Outcome Variables**

Although P1 and P2 showed an initial increase in mood disturbance associated with surgery, there was no consistent evidence that greatest levels of mood disturbance were experienced in the first few weeks postsurgery, contradicting Udry,\textsuperscript{34} who suggested that this is the most difficult time for
injured athletes. In Udry’s study, however, the mean interval between injury and surgery was 29 days, whereas in the present study the mean interval was 14 months, possibly accounting for the differences in the mood state reported initially after surgery. Furthermore, there was no evidence of a U-shaped pattern of disturbance, which has been found in past studies, and this might be a reflection of the small sample size in the present study.

Although the overall mood disturbance did not follow the expected pattern, by the end of the rehabilitation period monitored, mood disturbance had fallen below presurgery levels. There was some evidence that changes in total mood disturbance were associated with setbacks in rehabilitation and that counseling-skills intervention might have reduced their negative impact for P2 and P3. For all participants, perceptions of rehabilitation increased while pain ratings decreased, although both fluctuated, particularly in response to setbacks.

**Social Support**

The overall slight decline in mean social support postsurgery for P1 supports LaMott, who indicated that social support for ACL-injured athletes who had undergone surgery diminished over a 12-week period postsurgery. Although it is interesting that both P2 and P3, who had a favorable impression of the intervention, reported broadly consistent levels of mean social support. The higher levels of listening and emotional support recorded for P3 have resonance with other research that has found gender differences in patterns of social support relating to life stress and sport injury. Female athletes who feel an excessive amount of stress seek listening support, which buffers the stress to a greater extent than for men, who do not seek such support.

There was qualitative evidence that the interventions were having an impact, not only on emotional and listening support but also that they were perceived as a source of informational support, in particular for P2. Members of the sports-medicine team, especially the physiotherapists, and other injured athletes were also regarded as important sources of informational support. Participants demonstrated that they valued information about the injury, surgery, and the course of rehabilitation. Furthermore, the presence of other injured athletes during rehabilitation was valued as a source of shared social reality, characterized by a sharing of similar experiences, priorities, values, and views. Other qualitative studies have highlighted the importance of social support and confirmed the findings concerning the key roles played by the physiotherapist and other injured athletes.

Emotional and listening support were important during setbacks in rehabilitation and were used to express disappointment and to rationalize what was being experienced. The source of support—for example, friends and family, the sports-medicine team, other injured athletes, coaches, and teammates—varied in importance at different points in rehabilitation.
role of social support and support networks is complex, and in order to fully understand it the life context of the athlete must be taken into account.

**Adherence to Rehabilitation**

Overall, levels of adherence to rehabilitation were high, comparing favorably with adherence rates obtained in past studies, of 40% to 91%, depending on how adherence was measured. Adherence to rehabilitation has been associated positively with social support and negatively with mood disturbance in past studies. Both P3 and, to some extent, P2 demonstrated that despite fluctuations in mood, both social support and adherence to rehabilitation were maintained at relatively high and stable levels. This might suggest that social support has a greater impact on adherence than does mood state. Indeed, it was suggested that enhancement of social support through the use of counseling skills could enhance adherence to rehabilitation. Finally, triangulation of data on adherence offered some support for the supposition that athletes who believe in the efficacy of treatment have greater levels of adherence. For example, P1, who demonstrated mixed perceptions about the efficacy of the rehabilitation schedule, showed a slight decline in adherence.

**Setbacks in Rehabilitation**

Rehabilitation is an ongoing process in which stressors are continually appraised and responded to. With setbacks the appraisal process recurs, affecting mood and perceptions of rehabilitation. Data from P2 and P3 suggest that counseling-skills interventions might reduce the negative impact of setbacks on both of these variables. Furthermore, reappraisals of progress are continually made throughout rehabilitation, affecting patterns of adherence. If rehabilitation is perceived negatively it can lead to frustration and depression, which have a negative impact on adherence, whereas positive perceptions of rehabilitation encourage adherence. Results suggest that it is the meaning attributed to occasional setbacks that determines future patterns of adherence. Emotional responses to outcomes do not reflect the outcomes themselves but rather the perceived reasons for the outcomes. Therefore, emotional responses to setbacks in rehabilitation reflect the perceived reasons for setback. If the reason is recognized as temporary and within the athlete’s control, the impact will be less. The perception of meaning that individuals hold and the attributions that they make can provide insight into differences in rehabilitation patterns.

**Surgery and Rehabilitation As Positive Experiences**

An unexpected finding was that the participants saw surgery and rehabilitation as somewhat positive experiences. These positive perceptions were related to the participants’ interpretations of their life circumstances.
Udry has also reported on long-term positive consequences and benefits from injury. Stressors such as injury might act as catalysts for higher levels of functioning and adaptation. Maintaining mental and physical health might partly depend on finding meaning in life’s adversities and deriving positive consequences from them. The intervention might have provided participants with support in reframing their experiences and an opportunity to test out and validate their positive interpretations.

The integrated model of response to sports injuries can be used to explain the findings of the present study. The model was used to identify variables that are pertinent to rehabilitation from a sports injury. By employing a quantitative approach, an attempt was made to isolate these outcome variables and to explore the relationship between them. In order to fully understand how the intervention affects these variables, however, and to explain the unexpected finding of rehabilitation being perceived as a positive life experience, a more holistic paradigm is needed.

Petipas has suggested that research in counseling psychology offers a useful framework for evaluating such interventions in the context of sport. It is based on the assumption that in a counseling interaction there are 2 basic elements, the techniques used by the helper and the relationship between the client and helper. In the context of sport injury, techniques such as reframing can affect cognitive-response variables such as perceptions of rehabilitation and pain. Characteristics of the client–patient relationship, such as empathy and acceptance, which have been associated with successful counseling outcomes in other contexts, affect emotional-response variables such as mood through the mediation of social-support variables. Petipas has proposed that research on the complexities of the counseling relationship should focus on client–counselor experience because this has the most relevance for counseling practice, but such research can lack rigor and control. The present study attempted to introduce rigor by using a case-study design that enabled formal research methods to be integrated into practice.

**Strengths, Limitations, and Recommendations for Future Research**

An advantage of this idiographic design was that it allowed exploration of the impact of setbacks across outcome variables. Controlled group designs with aggregation of data would have obfuscated the impact of setbacks. Furthermore, the pattern of outcome variables was very different among participants, reflecting their individual experiences of rehabilitation. With aggregation of data, these individual differences, which have added to the understanding of processes in rehabilitation and the intervention, would have been lost. Aggregation of data within participants would not have allowed the temporal and dynamic aspects of rehabilitation to be investigated. The fine grain of the data revealed subtle intervention effects such
as changes in level of outcome variables after interventions that would not have been apparent with other designs.

The collection of qualitative data and triangulation with the quantitative data allowed corroboration of the inferences that were drawn. Furthermore, the rich detail allowed elaboration of explanations for relationships found in the data. The qualitative data also revealed unexpected results that initiated new perspectives. For example, the positive experiences of surgery and rehabilitation that were expressed stimulated an exploration of the meaning that the rehabilitation process had for participants. This added to an understanding of the interrelationship between the outcome variables and the elements of the intervention that seemed to be effective.

There were, however, limitations to the present study. Features of the design led to the introduction of potentially confounding variables when exploring adherence to rehabilitation. Motivation toward adherence can become a confounding variable in studies of adherence, because participants who adhere in one situation are more likely to adhere in another. Conversely, those who do not adhere to rehabilitation are more likely to drop out of a study. Furthermore, participants were asked to keep a daily diary. Research in health psychology has shown that daily self-monitoring can have a positive effect on adherence behaviour. Future controlled-outcome intervention studies could incorporate a control group that is not monitored daily.

A number of authors have commented on the unreliability of social-support measures in the rehabilitation context. The assessment of social support by questionnaire methods has its inherent difficulties, and the use of qualitative methods when investigating this variable during rehabilitation has been advocated.

Other aspects of the design represent challenges to validity. Because the first author also carried out the interventions, demand characteristics might have been introduced that affected the records kept in the daily diary, as well as the follow-up interviews. Such confounding variables represent a problem in any counseling research.

The credibility of the analysis of the qualitative data was increased by peer debriefing but could have been further enhanced by member checking, in which, for example, a participant’s case report is returned to the participant and the accuracy of the interview and interpretation are checked.

In summary, the present study adopted paradigms from clinical and counseling psychology and adapted them to explore questions in injured athletes. We tentatively attempted to identify characteristics of the techniques used and to consider aspects of the client–practitioner relationship that relate to positive outcomes. Further process-and-outcome research is needed to evaluate the effectiveness of such interventions. Consideration should be given to characteristics of athletes who might benefit most, the timing of delivery, the appropriate individuals to implement interventions, and the training they should receive. Such considerations should be informed by reflections on present practice and attitudes to psychological interventions.
among athletic and medical personnel. Without careful evaluation, ineffective strategies might be used and valuable resources wasted.

In conclusion, 2 of the 3 participants in this study (P2 and P3) reported favorable evaluations of the counseling-skills intervention, indicating that it can serve as a source of not only emotional and listening support but also informational support. In addition, the data gathered in the present study have been tentatively interpreted as providing evidence that counseling-skills interventions can provide useful support in certain situations—for example, when setbacks in rehabilitation are experienced—when they might enhance the well-being of athletes. Further research is needed to determine whether this enhancement translates into speeded physical recovery. Furthermore, research in the past has tended to focus on the negative aspects of injury and how these might be ameliorated by appropriate interventions. More recent research and the present study have highlighted positive implications of injury as a life event. Further research should be conducted on how and by whom athletes can be helped to confront the challenges of sports injuries and be strengthened by them.

**Acknowledgments**

This material was presented as a poster at the British Psychological Society Centenary Annual Conference, Glasgow, UK, March 28–31, 2001.

We wish to thank David Rees, National Health Service Centre for Sports Injury Surgery, Department of Orthopaedics, and the Robert Jones and Agnes Hunt Orthopaedic and District Hospital N.H.S. Trust, Oswestry, UK, without whose support this study could not have been carried out.

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