

## ORIGINAL ARTICLE

## Views of chartered physiotherapists on the psychological content of their practice: a preliminary study in the United Kingdom

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**Background:** Although research into the psychological aspects of sports injury is increasing and psychological interventions have been identified as important in the rehabilitation process, few studies have focused on how sports medicine practitioners deal with psychological problems.

**Objective:** To investigate the perceptions of English chartered physiotherapists on the psychological content of their practice.

**Methods:** The Physiotherapist and Sport Psychology Questionnaire (PSPQ) was adapted slightly from the Athletic Trainer and Sport Psychology Questionnaire and used in this study. A survey package comprising a PSPQ, introductory letter, and self addressed envelope was mailed to 179 chartered physiotherapists registered in the England Eastern Region Sports Medicine Directory.

**Results:** In total, 90 (50% response rate) questionnaires were returned. The sample consisted of 67 women and 23 men with a mean (SD) age of 40.1 (5.4) years and 9.2 (3.1) years of experience as chartered physiotherapists. Descriptive statistical and qualitative analysis showed that physiotherapists believed athletes were often psychologically affected by injury. The physiotherapists also reported often using psychological techniques when treating injured athletes, but few reported having access to a sport psychologist for referral.

**Conclusions:** This research indicates that future physiotherapy education may need more emphasis on the psychological aspect of injury, and seek to increase knowledge on the potential of using psychological interventions within a physiotherapy rehabilitation programme. Furthermore, some form of referral network should be established between chartered physiotherapists and sport psychologists.

The benefits of engaging in sport and exercise are well documented and have been the focus of research for many years. However, not all of the effects are positive, with injury being one recognisable risk.<sup>1</sup> It was estimated in 1994 that there were 24 million sports injuries in the United Kingdom alone.<sup>2</sup> Although injury incidence rates may be low,<sup>3</sup> the high number of injuries may explain the steady growth of sports injury clinics and physiotherapists specialising in sports injury rehabilitation.

The main aim of the rehabilitation process, and therefore the role of the physiotherapist, is to treat the injury by means of external physical methods and ensure that the athlete returns to full functional fitness as quickly and safely as possible.<sup>4</sup> However, it has been argued that physiotherapy and injury research has only emphasised physical rehabilitation, with the psychological aspect of sports injury being a neglected area of investigation.<sup>5</sup> Recent interest has been generated because of several advancements, including the growth of behavioural medicine, development of psychological techniques for enhancing sport performance, and the multidisciplinary approach now taken towards sports medicine.<sup>5</sup>

Numerous recent publications have suggested that injury can have psychological effects on the athlete.<sup>6–12</sup> Researchers have also recognised that psychology has an important role to play in sports injury rehabilitation and have discussed potential psychological techniques that may facilitate this process.<sup>13–23</sup> Helping athletes cope with the psychological stresses and demands that injury places on them has been identified as an extremely important role for injury rehabilitation personnel.<sup>8</sup> If an effective and successful treatment programme is to be implemented, injuries should be comprehensively assessed and approached in a holistic manner aiming to treat both the psychological and physical effects.<sup>18</sup> Several

studies<sup>16–24–28</sup> have indicated that those who are in regular contact with the injured athlete—that is, therapists, athletic trainers, and physiotherapists—are in the best position to assist with both aspects of treatment. The studies conducted on sports medicine professionals indicate that they believe in the importance of psychological skills in the injury rehabilitation process and that central to enhancing recovery are effective communication and motivational strategies.<sup>15–17 24–28</sup>

These studies also suggest that sports medicine practitioners feel they are required to address the psychological aspects of injury and apply appropriate psychological techniques if treatment is to be effective. Despite their apparent appreciation of these needs, when interviewed about their personal knowledge and skills in this area, all studies showed that most physiotherapists/athletic trainers felt that they would benefit from further training in this field.<sup>17 24–28</sup> However, these studies have been conducted on sports injury practitioners in America, Canada, Australia, and New Zealand, and to date there appears to be little evidence of a similar investigation in the United Kingdom. Although it is clear that qualifications and training may vary between countries and associated sport medicine professions, making comparisons difficult, the lack of similar research in the United Kingdom is noticeable and may have implications for the practice of chartered physiotherapists in this country. Therefore the aim of this preliminary study was to survey the views of chartered practising physiotherapists in England with regard to the psychological content of their practice.

**Abbreviations:** ATSPQ, Athletic Trainer and Sport Psychology Questionnaire; PSPQ, Physiotherapist and Sport Psychology Questionnaire

## METHOD

### Participants

Initially, all 179 chartered physiotherapists listed in the England Eastern Region Sports Medicine Directory were mailed a survey package. In total, 90 (50% response rate) questionnaires were returned. The respondents consisted of 67 women and 23 men with a mean (SD) age of 40.1 (5.4) years and 9.2 (3.1) years of experience as physiotherapists. The physiotherapists reported treating 15.3 (7.1) sport injuries per month. Athletes treated ranged between recreational and professional levels of competition. Over a third ( $n = 32$ ) of the sample reported that they had a postgraduate qualification in sports injury or sports medicine, and two had postgraduate qualifications in psychology. All of the participants were employed in a sports injury or physiotherapy clinic.

### Instrument

The Athletic Trainer and Sport Psychology Questionnaire (ATSPQ)<sup>24</sup> was amended slightly (Physiotherapist and Sport Psychology Questionnaire, PSPQ), to reflect differences in the professional occupational title used by the British participants under study—that is, athletic trainer was changed to physiotherapist. The questionnaire aimed to measure perspectives of physiotherapists with regard to the psychological content of their work with injured athletes. Although Larson *et al*<sup>24</sup> report no psychometric properties for the instrument, they used an original ATPSQ in a pilot study in order to highlight possible problems and inadequacies.

The instrument contained eight questions. Question 1 asked the physiotherapist to rate on a five point Likert scale ranging from 1 (never) to 5 (very often) how often they encounter specific psychological responses associated with sports injuries. Question 2 was open ended, asking the physiotherapist to identify the top four behaviours/characteristics that they believe to be present in athletes who successfully cope with the injury. The third question was also open ended, asking the physiotherapist to identify the top four behaviours/characteristics present in those athletes who do not successfully cope with injury. Questions 4, 5, and 6 were concerned with sport psychologists and a referral system, and all three questions required Yes or No answers.

Question 7 comprised a list of 13 psychological skills/techniques identified in the ATSPQ<sup>24</sup> that have been recommended as important in facilitating the recovery of injured athletes including goal setting, visualisation, and positive self talk. The physiotherapist was asked to use a five point Likert scale, ranging from 1 (never) to 5 (100% of the time), to indicate how often they had used each particular skill/technique when treating injured athletes. Space was also provided for the physiotherapist to add any psychological skills they believed to be important that were not included in the original list. Question 8 consisted of a list of 14 psychological skills/techniques used in the ATSPQ<sup>24</sup> with a five point Likert scale ranging from 1 (not important) to 5 (very important). Physiotherapists were asked to rate on this scale which skills/techniques they felt it would be beneficial for them to learn more about.

### Procedure and analysis

The package mailed to physiotherapists contained a PSPQ, an introductory letter, an informed consent form, and a prepaid return envelope. Descriptive statistical and qualitative analyses were performed on questionnaire responses.

## RESULTS

Physiotherapists in this study reported that psychological factors were an important aspect of sports injury. They also reported using a variety of psychological skills and techniques when working with injured athletes and indicated which psychological skills they needed to learn more about to enhance this aspect of their work.

Over 90% of physiotherapists reported that sports injuries affected the athlete psychologically as well as physically. Table 1 shows that stress/anxiety and exercise addiction were rated the most commonly encountered conditions.

The physiotherapists stated that they observed a variety of characteristics in athletes who successfully cope with injury. Some 54% of physiotherapists cited the characteristic of compliance with treatment and rehabilitation programmes, while 40% listed a positive attitude to injury and life as being of high importance. Table 2 shows the top 10 characteristics reported by physiotherapists, together with the frequency of each response.

Likewise, the physiotherapists reported a range of characteristics in athletes who less successfully cope with injury (top 10 shown in table 3). The top three characteristics were non-compliance with the rehabilitation programme (49%), impatience (29%), and poor motivation (22%).

Questions 4, 5, and 6 were concerned with the role of a sport psychologist and any referral system the physiotherapist used. The results showed that only eight physiotherapists had ever

**Table 1** Psychological responses encountered by physiotherapists when working with injured athletes

Psychological responses	Mean	SD
Stress/anxiety	3.67	0.78
Exercise addiction	3.54	0.87
Depression	2.77	0.94
Anger	2.74	0.94
Problems with treatment compliance	2.70	0.94
Problems with attention/concentration	2.25	0.80

1 = Never encounter; 5 = very often encounter.

**Table 2** Characteristics of athletes who cope successfully with sports injury

Characteristic	Frequency (%)
Compliance with the rehabilitation/treatment programme	54
Positive attitude/approach to life and injury	40
Motivation within the rehabilitation programme	28
Patience with themselves and the injury programme	28
Determination	24
Good listening skills	19
Understanding of injury	19
Realistic expectations	16
Intelligence	13
Commitment	10

This was an open ended question in which physiotherapists were asked to list the top four observed characteristics.

**Table 3** Characteristics of athletes who cope less successfully with sports injury

Characteristic	Frequency (%)
Non-compliance with rehabilitation programme	49
Impatience	29
Poor motivation	22
Lack of understanding of injury	19
Depression	19
Unrealistic goals	17
Pessimism	14
Too eager to return to sport	12
Anxiety	11
Anger	8

This was an open ended question where physiotherapists were asked to list the top four observed characteristics.

**Table 4** Psychological techniques used by physiotherapists working with injured athletes

Psychological technique	Mean	SD
Creating variety in rehabilitation exercises	4.47	0.71
Using short term goals	4.32	0.82
Encouraging positive self talk	4.16	1.13
Encouraging effective communication	3.80	1.10
Enhancing self confidence	3.61	1.21
Keeping athlete involved with team	3.41	1.20
Reducing stress/anxiety	3.24	1.19
Teaching muscular relaxation techniques	3.05	1.11
Using relaxation techniques	2.65	1.08
Using mental rehearsal/visualisation	2.31	1.28
Improving social support	2.10	1.04
Reducing depression	2.08	1.17
Teaching emotional control strategies	2.06	1.11

1 = Never use; 2 = use 25% of time; 3 = use 50% of time; 4 = use 75% of time; 5 = use 100% of time.

**Table 5** Important psychological skills/techniques for physiotherapists to learn

Skill/technique	Mean	SD
Setting realistic goals	4.15	1.32
Understanding individual motivation	4.02	1.17
Creating variety in rehabilitation exercises	4.00	1.30
Encouraging positive self thoughts	3.82	1.15
Reducing stress/anxiety	3.76	1.12
Enhancing listening skills of physiotherapist	3.76	1.21
Using effective communication	3.63	1.19
Teaching concentration skills	3.30	1.23
Teaching muscular relaxation techniques	3.25	1.26
Reducing depression	3.06	1.23
Teaching the use of mental imagery	2.92	1.24
Teaching emotional control strategies	2.92	1.18
Enhancing self confidence of injured athlete	2.91	1.02
Improving social support for the athlete	2.26	1.12

1 = Not important; 5 = Very important.

referred an athlete for counselling for situations related to their injury. The survey also showed that only 14 of the physiotherapists had access to an accredited sport psychologist, and only two reported that they used a specific written procedure for such referrals.

The physiotherapists also reported the frequency with which they used particular psychological skills/techniques in their work with athletes. Among the most popular were creating variety in rehabilitation exercises, using short term goals, and encouraging positive self talk. Least used techniques were improving social support, reducing depression, and teaching emotional control strategies. Two additional techniques reported by one physiotherapist and not specified by the questionnaire were encouragement and a detailed explanation of the rehabilitation process. Table 4 shows the mean and SD for each of the techniques used.

The physiotherapists were also asked to rate how important it was to learn more about specific psychological skills/techniques. Setting realistic goals, understanding individual motivation, and creating variety in rehabilitation exercises were the most highly rated. Least rated skills on this question were teaching emotional control strategies, enhancing self confidence of the injured athlete, and improving social support for the athlete. Table 5 shows a full list of ratings.

## DISCUSSION

The main aim of this preliminary study was to survey the perceptions of chartered physiotherapists in England with regard to the psychological content of their practice. The physiotherapists surveyed reported observing psychological responses to

sports injury and identified particular characteristics that they believed to be beneficial to the injured athlete during the recovery process. The physiotherapists also reported implementing a variety of psychological techniques when treating injured athletes, but expressed a desire to learn more about particular psychological techniques in order to improve their work. Finally less than 10% of the physiotherapists surveyed reported having access to an accredited sport psychologist, and only half of these reported ever referring an athlete for counselling.

In accordance with the previous research on sports medicine professionals treating injured athletes<sup>15-17 24-28</sup> and researchers' suggestions that sports injuries can affect the athlete psychologically as well as physically,<sup>6-12</sup> the physiotherapists in this study reported athletes encountering similar psychological responses. Parallel to the findings with athletic trainers,<sup>24</sup> physiotherapists cited stress and anxiety as the most commonly encountered response to injury.

Also consistent with previous research on sports medicine professionals,<sup>24-28</sup> a variety of characteristics and behaviours believed to distinguish those athletes who cope successfully with injury from those who cope less successfully were listed in the physiotherapists' responses. Compliance with rehabilitation programme,<sup>15 24-28</sup> positive attitude/approach, motivation, determination,<sup>17 24</sup> and good listening skills<sup>25 26</sup> were rated highly by participants in this study. In addition, patience with themselves and the rehabilitation programme was reported by 28% of physiotherapists, and this behaviour does not seem to have been expressed in previous research. The characteristics reported for less successful coping were also seen to support previous research,<sup>24-28</sup> with non-compliance, impatience and poor motivation, and a lack of understanding of an injury the most cited characteristics. Research into successful coping strategies used by injured athletes is still in its infancy<sup>29</sup>; however, these findings may assist sport psychologists and sports medicine personnel to develop effective strategies for athletes under their care and support.

The use of psychological interventions with injured athletes has previously been identified as an important link to enhanced rehabilitation.<sup>13-23</sup> The results of this study indicate that English chartered physiotherapists also use such techniques when treating injured athletes. Similarly to the findings on athletic trainers in the United States,<sup>24</sup> the participants reported creating variety in rehabilitation exercises and setting short term goals as being used over 75% of the time when working with injured athletes. However, in contrast with athletic trainers,<sup>24</sup> the physiotherapists in this study rated creating variety in rehabilitation exercises to be of most importance, rather than keeping the athlete involved with the team. The reason for this finding is unclear, but it may be that the physiotherapists in this study were treating a greater number of individual athletes and hence this technique was less of an option.

The results of this study appear to challenge the supposedly widespread use of sport psychologists in sports injury treatment.<sup>3 15 17</sup> Only a small number of physiotherapists in this limited sample had access to an accredited sport psychologist and few of these had ever referred athletes to a sport psychologist for counselling. This is similar to the results with athletic trainers,<sup>24</sup> who also reported an unsatisfactory referral network. Considering the psychological characteristics of injured athletes reported by physiotherapists in this study, the lack of a referral network seems a surprising finding and one that may highlight the need for practising sport psychologists to form closer relations with physiotherapists in developing a referral process.<sup>30</sup> This may include how and when to make a referral.<sup>24</sup> However, it is recognised that the finding of a poor referral network in this study may be a regional problem, and caution should be taken before extrapolation to the whole nation.

The physiotherapists in this study also expressed a desire to learn more about psychological skills in order to enhance their

### Take home message

Chartered physiotherapists express the view that there is an important psychological content to their sports medicine practice. This preliminary study suggests that physiotherapists should be provided with a sound education in the theory and practice of psychological aspects of injury. In addition, there may be a need to develop networks between chartered physiotherapists and sport psychologists in order to provide athletes with effective and efficient injury management.

understanding and facilitate their rehabilitation programmes, which mirrors previous research on sports medicine professionals.<sup>15-17, 24-28</sup> Ford and Gordon<sup>26</sup> have noted that boundaries of competence are an important part of physiotherapy training, and although the physiotherapists in this study report using psychological techniques, it is encouraging to see them keen to extend their knowledge and training in psychological issues. This furthering of education and associated skills may be of greater importance when the lack of a referral network to sport psychology professionals is considered. Clearly, if physiotherapists can be provided with a sound education in the theory and practice of psychological aspects of injury, then more effective treatment of the injured athlete is likely.

In this study chartered physiotherapists clearly indicated the importance of psychological processes in recovering from sports injury. This ranged from psychological responses to injury, through observed characteristics of athletes who successfully cope with injury, to psychological techniques used in rehabilitation. The findings of this research should be carefully considered by those involved in the organisation of physiotherapy education. Physiotherapists have reported that more exposure to, and understanding of, psychological principles and interventions could enhance their rehabilitation programmes for injured athletes. Although we recognise that this was a preliminary investigation into the perceptions of physiotherapists in one English region, the results suggest that greater interaction between physiotherapists and psychologists is necessary. Further replication of this research, incorporating a larger sample size, is needed to document the views of physiotherapists across the United Kingdom.

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### COMMENTARY

This study into the perceptions of chartered physiotherapists in one English region confirms that, in common with similar professions around the world, there is an important psychological content, whether intentional or otherwise, to their sports medicine practice. When comparing the psychological methods used, the variations between the physiotherapists in this study and athletic trainers studied in the United States may be explained by the fact that a greater number of athletic trainers work in a team environment rather than in a sports injury or physiotherapy (physical therapy) clinic.

The authors raise an important point: chartered physiotherapists should be provided with a sound education in the theory and practice of psychological aspects of injury. Whether this education should be at undergraduate or postgraduate level is open to debate, but it is vitally important that chartered physiotherapists know their "boundaries of competence" and do not overstep the mark. In summary, this small but important study highlights the pressing need to develop referral networks between chartered physiotherapists and sport psychologists in order to provide athletes with effective and efficient injury management.

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