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How to cite:

Heaney, Caroline (2013). The impact of sport psychology education on the practice of physiotherapists. In: International Sports Science and Sports Medicine Conference 2013, 21-23 Aug 2013, Newcastle upon Tyne.

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Version: Version of Record

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# The Impact of Sport Psychology Education on Physiotherapists

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## Introduction

The occurrence of a sports injury can lead to several negative psychological reactions such as frustration, anger, anxiety and depression (e.g. Carson & Polman, 2008; Tracey, 2003). Sport psychology intervention has been shown to benefit sports injury rehabilitation (Armatas et al., 2007; Levy et al., 2006), however, it would appear that deficiencies in the training of sports physiotherapists in this area may be acting as a barrier to injured athletes receiving sport psychology support during rehabilitation. Generally research has shown that physiotherapists recognise the importance of psychological factors, but lack the training to utilise sport psychology (Arvinen-Barrow et al., 2007). Within the research in this field there is almost universal agreement that the training of sports injury rehabilitation professionals (SIRPs), including physiotherapists, in sport psychology is inadequate (e.g. Arvinen-Barrow et al., 2010; Heaney, 2006), and SIRPs consistently express a desire to develop their knowledge of sport psychology theory and practice (e.g. Arvinen-Barrow et al., 2007; Heaney, 2006).

In light of these findings it has been suggested that sport psychology education is likely to have a positive impact on the sport psychology related behaviours of SIRPs (Arvinen-Barrow et al., 2007; Hamson-Utley, et al., 2008; Heaney, 2006). However, to date, only a limited number of studies (Harris et al., 2005; Clement & Shannon, 2009; Stiller-Ostrowski et al., 2009; Pero & Sachs, 1997) have delivered a sport psychology education package and measured its impact and all have examined US athletic trainer populations, with the majority of these being student populations. This would suggest that further research is needed examining a broader range of SIRPs, including those who are already qualified, since it has been suggested that those already qualified are also in need of sport psychology training (Arvinen-Barrow et al., 2007; Hamson-Utley et al., 2008; Heaney, 2006).

**Objective:** The purpose of this investigation was to examine the impact of a sport psychology education package on qualified UK physiotherapists working in sport.

## Method

### Participants

The participants were 135 physiotherapists who responded to an invitation to participate in the study. Sixty-seven were randomly assigned to the intervention (sport psychology) group and 68 participants were randomly assigned to the control group. Of these 135 physiotherapists 95 completed all stages of post-module follow-up (44 intervention group and 51 control group) and only data from these participants are analysed in the study. The intervention group (n=44) comprised 23 males and 21 females and had a mean age of 33.70 years (SD = 8.16). The control group (n=51) comprised 26 males and 25 females and had a mean age of 36.11 years (SD = 8.78).

### Measures

Data was collected through a series of online questionnaires completed on four occasions over a six month period (1 pre-module questionnaire and 3 post-module questionnaires). The questionnaires were split into three main sections:

- The Attitudes About Imagery Survey (AAIS) (Hamson-Utley et al., 2008), which measured participants' attitudes regarding the effectiveness of mental skills during sports injury rehabilitation
- Psychology of Injury Usage Survey (PIUS) (Stiller-Ostrowski et al., 2009), which measured participants' use of sport psychology skills and techniques
- Supplementary information - The content of this section varied between the four questionnaires, but included areas such as demographic information, referral to a sport psychologist, further study, perceived use of sport psychology and perceptions of the module.

### Procedure

After completing an informed consent form participants were randomly assigned to either the intervention group or the control group and asked to complete the pre-module version of the questionnaire. Upon completing this questionnaire, participants were given the web address for their specific module and asked to commence study. The participants were given a specific date by which they should complete the module, which was four weeks after the start date.

Participants in the intervention group studied an online module entitled 'Sport Psychology for Physiotherapists'. This module was split into three units and required approximately 12 hours of study. Participants in the control group studied an online module entitled 'Strength and Conditioning for Physiotherapists', which was similar to the module 'Sport Psychology for Physiotherapists' in terms of structure, length, delivery and assessment, but contained no sport psychology content.

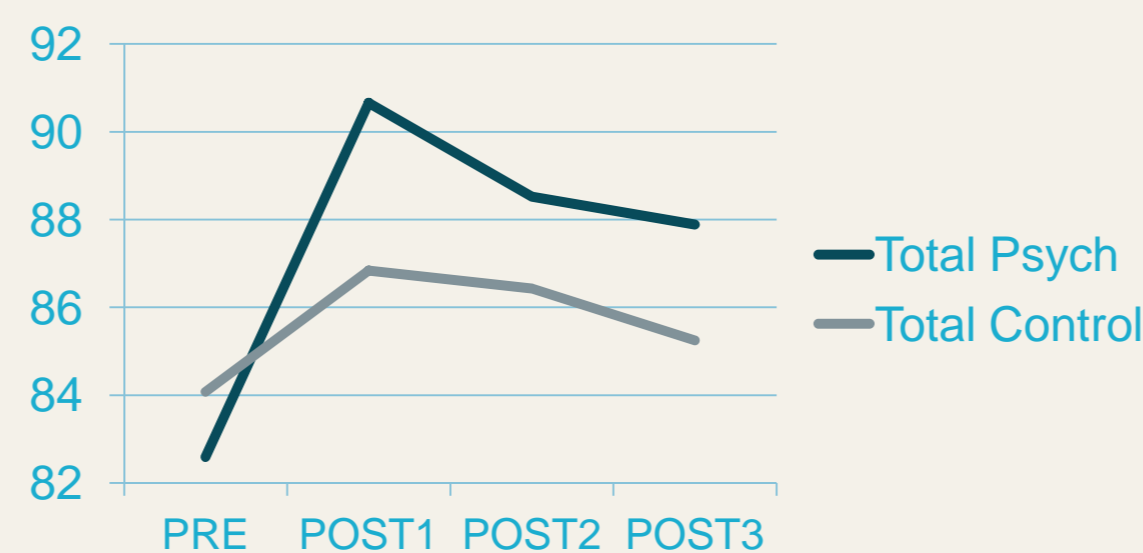
The modules invited participants to complete three assessments and participate in the module forum and data was collected on participants' engagement in these activities. Those successfully completing all three assessments were awarded a certificate of completion.

Immediately following completion of the module, participants were directed to complete the first post-module questionnaire. Participants were then contacted three months after finishing the module and asked to complete a second post-module questionnaire and were then contacted once more six months after the module to complete the final post-module questionnaire.

## Results

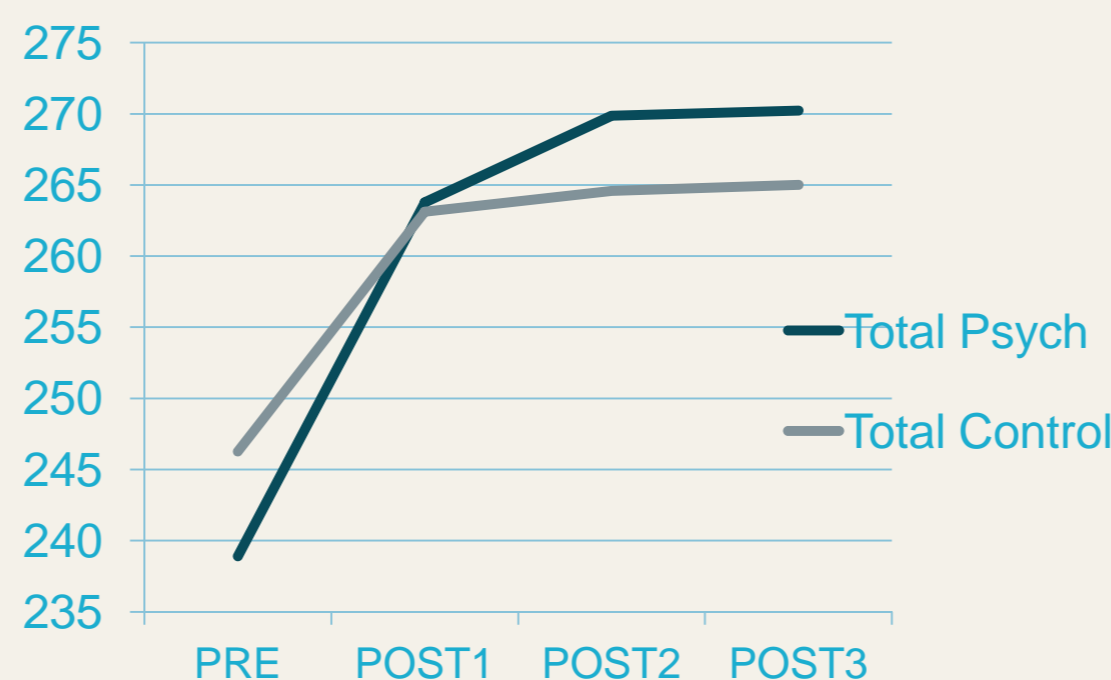
### Attitude Towards Sport Psychology

The total score on the AAIS questionnaire over time for the two participant groups is summarised in the graph below.\*



### Use of Sport Psychology

The total score on the PIUS questionnaire over time for the two participant groups is summarised in the graph below.\*



\* Note that a repeated measures MANOVA will be undertaken to establish whether the differences between the 2 groups over time on the 12 subscales of the AAIS and PIUS are statistically significant

In addition to the PIUS data, participants in the sport psychology group were also asked whether they felt they had used more sport psychology since studying the module. As can be seen from the table below, this perceived usage was high and relatively consistent across the 6 month period following the completion of the module.

	POST1	POST2	POST3
Number	37	38	36
Percentage	(84.1%)	(86.4%)	(81.8%)

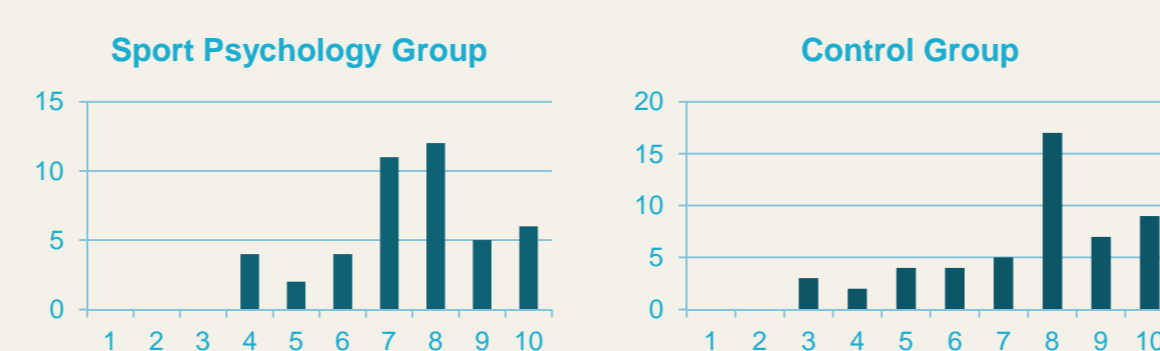
### Sport Psychology Referral

Prior to commencing study, participants were asked if they had ever referred an injured athlete to a sport psychologist (PRE). Following the completion of the module (POST1) participants were asked if they had made a referral during the course of the module, and then finally 3-months (POST2) and 6-months after completing they module they were asked if they had made a referral since finishing the module. These referral rates are presented in the table below.

	PRE	POST1	POST2	POST3
Sport Psych Group	12 (27.3%)	0 (0%)	4 (9.1%)	8 (18.2%)
Control Group	13 (25.5%)	2 (3.9%)	5 (9.8%)	6 (11.8%)

### Perceptions of the Module

Data was collected regarding participants' perceptions of the modules. Firstly, immediately following completion of the module (POST1), participants were asked to rate how beneficial they found the module on a scale of 1-10. The ratings given by the participants are summarised below. The sport psychology group had a mode score of 8, with 77% of the group giving a score of 7 or above. The control group also had a mode score of 8, with 75% of the group giving a score of 7 or above.



In addition to this, at POST1 participants were asked to state their likes and dislikes about the module they had studied. A content analysis of this data was undertaken, the key features of which are illustrated in the following tables.

### Psychology Module – Likes:

General Dimensions	Higher Order Themes
Content	<ul style="list-style-type: none"> <li>Usefulness of topics (n=3)</li> <li>Practical Application (n=9)</li> <li>Use of case studies/video (n=8)</li> <li>Encouraged reflection (n=3)</li> <li>Links to resources and further reading (n=8)</li> <li>General/other (n=2)</li> </ul>
Structure	<ul style="list-style-type: none"> <li>Time (n=8)</li> <li>Forum (n=8)</li> <li>Ease of access/flexibility (n=7)</li> <li>Interactive (n=2)</li> <li>Clarity (n=11)</li> <li>General/other (n=9)</li> </ul>

### Psychology Module – Dislikes:

General Dimensions	Higher Order Themes
Content	<ul style="list-style-type: none"> <li>Level/lack of depth (n=6)</li> <li>Other content-related (n=3)</li> </ul>
Structure	<ul style="list-style-type: none"> <li>Technical issues (n=2)</li> <li>Forum (n=5)</li> <li>Other (n=3)</li> </ul>

### Motivation for Further Study

On completion of the module, participants were asked if they were motivated to undertake any further study, either formal or informal, related to the topic they had studied. They were then asked at 3-months and 6-months post completion whether they had undertaken any such study. The percentage of participants who planned to or undertook further study is shown in the table below.

	POST1	POST2	POST3
Sport Psych Group	79.5%	9.1%	15.9%
Control Group	98.0%	29.4%	27.5%

## Discussion/Conclusions

Preliminary data analysis suggests that studying the sport psychology module had a positive impact on the physiotherapists, with both attitudes towards and use of sport psychology improving following completion of the module. Most significantly use of sport psychology strategies was maintained during the 6 months following the completion of the module indicating a positive longitudinal effect.

Whilst referral to a sport psychologist was higher pre-module, this is most likely due to the timescale. The pre-question related to whether they had referred an athlete to a psychologist ever (and thus could span a period of many years), whilst the post-questions related to whether any referrals had been made since studying the module (and thus only referred to between 0 and 6 months). There is some support for this in the qualitative data and in the increasing trend seen in the POST1 to POST3 stages (which is more marked for the psychology group).

Perceptions of the module were also positive with the vast majority of participants giving the module a score of 7 or above, and motivations to undertake further study being relatively high. The fact that the undertaking of further study was higher in the control group is likely due to the fact that there are more formal learning opportunities available in strength and conditioning than sport psychology.

Overall the findings suggest that sport psychology education is of benefit to physiotherapists and indicate that sport psychology CPD courses should be more widely available to practicing physiotherapists.

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