

A Qualitative and Quantitative Investigation of the Psychology Content of UK Physiotherapy Education
Programs

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Conflict of Interest

There are no conflicts of interest.

Ethical approval for this study was provided by The Open University Human Participants and Materials Research Ethics Committee.

Abstract

Background and Purpose A knowledge and understanding of psychology is recognized as being important to physiotherapy practice since psychological factors can impact upon physical recovery. However, little is known about the nature of psychology education within UK physiotherapy training programs. The purpose of the study was therefore to examine current psychology provision within physiotherapy programs in UK universities, using both qualitative and quantitative methods.

Subjects The participants were self-selected representatives from seventeen UK universities. These representatives were program directors, program leaders or lecturers teaching on the physiotherapy program.

Methods The participants were questioned regarding the nature and extent of psychology covered in their program, the delivery and assessment of any psychology content, the perceived importance of psychology in physiotherapy training, and factors influencing psychology provision in their physiotherapy programs.

Results All of the universities claimed to include some degree of psychology content within their physiotherapy programs and largely agreed that psychology is an important component in the education and training of physiotherapists. However, there appears to be great diversity both within and between universities in the provision of psychology education, and an underlying inconsistency between the reported importance of psychology and the demonstrated importance of psychology through its visibility within physiotherapy programs.

Discussion and Conclusion More needs to be done to standardize the psychology content of physiotherapy programs in order to ensure that students at all institutions receive a similar level of training in psychology that can positively impact on their professional practice.

Introduction

An understanding of psychology is essential to the physical therapist since psychological factors can impact greatly upon physical therapy outcomes. Therefore psychology education should form a significant part of any physical therapy education program¹, yet little is known about provision in this area. This investigation seeks to examine current psychology provision within UK physical therapy programs (known as physiotherapy in the UK). Specifically, the purpose of the investigation is to explore the nature and extent of psychology covered in physiotherapy programs, the delivery and perceived importance of any psychology content, and the factors influencing psychology provision.

Review of the Literature

Physiotherapists are healthcare professionals involved in the treatment and rehabilitation of a broad range of patients in a variety of settings. This means that physiotherapy training and practice needs to cover a diverse spectrum of topic areas. Physiotherapy, as suggested by its name, is primarily concerned with the physical condition and has traditionally focused on just the physical aspects of injury and impairment. More recently however, consideration of the psychological condition during treatment has grown in importance in physiotherapy as demonstrated by the following Chartered Society of Physiotherapy (CSP) definition of physiotherapy:

“physiotherapy is a healthcare profession concerned with human function and movement and maximizing potential. It uses physical approaches to promote, maintain and restore physical, *psychological* and social well-being, taking account of variations in health status” (p.19).²

An understanding of psychology is therefore essential for the physiotherapist and this is reflected in the fact that physiotherapy research is increasingly recognizing the importance of psychological factors in patient well-being with areas such as the psychology of pain³⁻⁵, patient motivation^{6,7} and cognitive behavioral therapies⁸⁻¹⁰ receiving attention. This has led to a shift towards greater acceptance

of the *biopsychosocial* model in physiotherapy from the more traditional biomedical model.⁸ This shift has been supported by the introduction of the World Health Organization's (WHO) International Classification of Functioning, Disability and Health (ICF), which provides a scientific framework for the application of a biopsychosocial approach.¹¹ It has been suggested that the adoption of the biopsychosocial model can have a positive impact on patient satisfaction, empowerment and pain management.^{8, 12, 13}

Whilst recognition of the biopsychosocial model in physiotherapy research has grown, it has been reported that that information on the importance of psychological factors has not been accepted widely enough by physiotherapists to produce any significant change in practice⁴ and that physiotherapists often lack the confidence to use a biopsychosocial approach effectively, perhaps due to inadequacies in training in this area.⁸ The biopsychosocial model may perhaps struggle to compete with the biomedical model as its application requires greater knowledge (e.g. of psychological influences), time and a different skill set (e.g. enhanced communication skills).¹⁴

In their Curriculum Framework document, the Chartered Society of Physiotherapy (CSP), the professional body for physical therapists in the UK, suggest that physiotherapy students need to develop an awareness of the significance of psychological factors and the impact these can have on the patient and their response to treatment and consequently the physiotherapist's approach to care and assessment². In line with this, various documents relating to the training and registration of physiotherapists in the UK, such as the Quality Assurance Agency (QAA) benchmark statement for physiotherapy¹⁵ and the standards of proficiency for physiotherapists of the Health Professions Council (HPC)¹⁶ also incorporate psychology-related factors.

However, although UK bodies such as the CSP and HPC acknowledge that an understanding of psychology is important to effective physiotherapy practice, and research has consistently shown the importance of psychological factors in physiotherapy, there appears to be little known about current psychology education within UK physiotherapy programs. In fact the most recent detailed investigation dates back to over twenty years ago¹. In this investigation Baddeley and Bithell conducted a survey of thirty-one British physiotherapy schools in order to examine the psychology content of their programs. They found that all of the schools agreed that psychology was relevant in physiotherapy training and that communication / interpersonal skills was the most commonly taught psychology-related topic.¹ However, they suggest that certain topics such as neuropsychology were found to be infrequently covered.¹ Additionally, inconsistencies were evident between UK physiotherapy schools in the amount, teaching mode and type of psychology content.¹

Research undertaken subsequent to this in the 1990s also indicates that psychology has not been fully integrated into the physiotherapy curriculum, with some suggesting that the application of psychology has been sparse in physiotherapy training.¹⁷ Others have indicated that physiotherapy training does not equip physiotherapists with the necessary skills to assess patients from a psychosocial perspective and have called for enhanced undergraduate and postgraduate training in this area.¹⁸ The reasons for this failure of the physiotherapy curriculum to reflect an increased emphasis on psychology are unclear. It would be useful to know whether this situation has changed in more recent times in line with the increased prominence of the biopsychosocial model within physiotherapy.

This literature review has shown that whilst psychology appears to be considered important in physiotherapy there is little known about its current status within the UK physiotherapy curriculum, thus justifying the need for a contemporary investigation.

Methods

Participants

The participants were representatives from seventeen UK universities running physiotherapy programs endorsed by the CSP and HPC. They were self-selected in that each university was asked to select the most appropriate person to participate. The representatives were program directors, program leaders or lecturers teaching on the program. Thirteen representatives participated in a telephone interview. The remaining four completed an online questionnaire. Since only data relating to the institutions physiotherapy program was required, no demographic information regarding the representatives was collected.

Of the seventeen universities that participated all provide undergraduate physiotherapy programs. Ten also provide postgraduate pre-registration physiotherapy programs for students with existing degrees in other areas wishing to train in physiotherapy, and ten provide postgraduate post-registration physiotherapy programs for students already holding an undergraduate degree in physiotherapy.

Measures

Information regarding the psychology content of physiotherapy programs was, for the majority of participants, collected through a semi-structured telephone interview. The interview script aimed to obtain information from the interviewees about: the nature, extent, delivery, assessment and perceived importance of any psychology content and the factors influencing psychology provision in physiotherapy education programs (see appendix 1). The questions for the interview were developed by the lead author and then scrutinized by three psychology specialists, who were all experienced researchers and lecturers, in order to assess their appropriateness and face validity. This process led to some modification of the interview questions. As a further method of assessing face validity and of assessing item comprehension the semi-structured interview script was also trialed on one ex-physiotherapy lecturer, resulting in some

minor wording and terminology changes. Four institutions participated in the study via online questionnaire rather than telephone interview. The questionnaire addressed the same areas as telephone interview script and used virtually the same questions (see appendix 2).

Procedure

All thirty-five institutions listed as running physiotherapy programs on the CSP and HPC websites were contacted by letter and invited to participate in the study via telephone interview. Those not responding to the initial request were contacted again approximately six weeks after the initial invitation was sent. In total thirteen institutions agreed to be interviewed. After the interview data had been collected all institutions that had not responded to a request to be interviewed were contacted and asked to complete an online questionnaire. This yielded a further four respondents, resulting in a total of seventeen participants. The seventeen participants represented a diverse range of institutions in terms of geographical location, university type and program type and can therefore be considered to be representative of physiotherapy programs in the UK as a whole. The demographic profile of the thirty-five institutions invited to participate in the study and the seventeen participant institutions were similar. For example, 51.4% of the institutions invited to participate in the study were classified as 'new' universities (institutions which became universities post-1992 when UK polytechnics were able to become universities), and 52.9% of those who chose to participate were also 'new' universities.

Prior to being questioned all participants were required to complete an online informed consent form. Additionally, verbal consent to conduct and record the interview was obtained at the start of each telephone interview. The telephone interviews were conducted using the semi-structured interview questions as a guide and each was recorded using a digital voice recorder. The interviews were all conducted by the same interviewer, and were transcribed verbatim before being analyzed. The online questionnaire utilized virtually the same questions that were used in the semi-structured interview.

Data analysis

The study used a concurrent mixed method approach and thus the data analysis involved both quantitative and qualitative methods. The quantitative analysis involved calculating descriptive statistics for questions where numerical data was collected. The qualitative data collected was analyzed using the qualitative research software package NVivo. The interview transcripts and completed questionnaires were read several times by two of the researchers in order to develop familiarization before being analyzed.¹⁹ Since the interviews and the questionnaire asked the same questions, the data were analyzed together.

The qualitative data were analyzed using the content analysis procedures suggested by Cote et al.²⁰, which involved organizing the data into “meaning units” of raw data and grouping or coding these into similar themes or categories (higher order themes) through an inductive approach. The coding of data into higher order themes was continued as far as possible, terminating in ‘general dimensions’ as the highest order themes.^{21,22} Whilst an inductive approach was used, it is recognized that the use of a semi-structured interview script with pre-determined questions may infer some element of deductive analysis.²³ Trustworthiness, which refers to the overall quality of the results, is an important concept in qualitative data analysis.²² Therefore, various methods were employed as suggested by Sparkes²⁴ to ensure trustworthiness, including independent coding of the data by two researchers, triangulation, peer debriefing and member checks. Peer debriefing involved the two investigators presenting and explaining the coding process and subsequent themes developed to two psychology specialists who were co-investigators not involved in the coding process. This consequently acted as multiple-analyst triangulation.²⁵ As a result of this peer debriefing process some amendments were made to the thematic analysis of one of the questions. Member checks involved one of the participants being provided with a copy of their individual results in order to confirm that the analysis was a true reflection of the content

and meaning of their interview.^{21, 22} Such checks are considered vitally important in ensuring that participants' perspectives have been accurately captured and interpreted.^{25, 26} The participant was in agreement with the analyses and so no modifications of the data were required as a result of the member checks, and no further member checking was deemed necessary.

Results

All seventeen institutions expressed that their physiotherapy programs contained some element of psychology, which ran through all levels of undergraduate and postgraduate delivery. When questioned regarding the areas of psychology covered within this provision answers were diverse, as can be seen in table 1. It should be noted that this was an open rather than forced choice question.

The psychology provision was delivered predominantly through an integrated approach. Only four (23.5%) of the universities had named modules in psychology, the remaining 76.5% had integrated the psychology content into other modules. The perceived benefits of having an integrated approach, as cited by the participants, were contextual relevance, acceptance by students and the relative importance of psychology (table 2). The perceived benefits of having named modules were prevention of the psychological aspects being lost amongst other areas and the prevention of psychology being covered at a superficial level (table 2).

Seven (41.2%) participants indicated that their psychology provision was underpinned by experiential as opposed to theoretical knowledge. Only three (17.6%) stated that their provision was underpinned by theoretical as opposed to experiential knowledge, whilst seven (41.2%) stated that their provision was underpinned by both theoretical and experiential knowledge. All four universities with named modules in psychology indicated that their provision was underpinned by theoretical knowledge, either exclusively or alongside experiential knowledge. In contrast, only 46.2% of the thirteen

universities using an exclusively integrated approach stated that their provision was underpinned by theoretical knowledge.

The participants were asked to estimate what proportion of their entire physiotherapy program was dedicated to psychology. Fifty-three percent (n=9) were unable to provide an estimate, largely because of the integrated nature of the psychology content. Those who did provide estimates (n=8) were diverse in their answers with estimates ranging hugely from 5% to 80%. However, it should be noted that many of these did indicate that estimating was a difficult task. Additionally, the estimates made were dependent upon what the interviewees considered to be psychology.

The psychology content of the physiotherapy education programs was reported to be delivered to students through a variety of teaching methods including lectures (n=15), seminars (n=13), workshops (n=8), practicals (n=5), clinical practice (n=4), role play (n=3), presentations (n=2), case studies (n=1), e-learning (n=1), problem-based learning (n=1) and tutorials (n=1). All participants felt that the psychology components were assessed to some extent and contributed to the final module or award (degree) grade. However, it was noted by some participants (n=6) that psychology is rarely assessed as a discrete element; rather as an element within other assessments and consequently forms only a small part of the assessment process in physiotherapy programs.

The participants were asked whether they used psychology specialists (i.e. staff trained specifically in psychology) or non-psychology specialists (i.e. physiotherapy staff, with no specific training in psychology) to teach the psychology elements of their program. Eleven (64.7%) stated that they used non-psychology specialists, one (5.9%) stated that they used psychology specialists, whilst the remaining five (29.4%) reported that they used a mix of both psychology specialists and non-psychology specialists. When those interviewed were questioned on the pros and cons of using psychology specialists

and non-psychology specialists a range of themes emerged. Psychology specialists were preferred due to their greater degree of subject knowledge and the opportunity for inter-professional learning. In contrast physiotherapy specialists were preferred due to the perception that psychology specialists lack the ability to provide contextual relevance, whilst physiotherapy professionals can draw upon their clinical experience and act as role models to trainee physiotherapists.

There was a strong belief that psychology is a highly important component of physiotherapy training. When asked to give a rating between one and ten to indicate the importance of psychology in physiotherapy training (where 1 = not very important and 10 = very important) the majority of participants (n=9; 52.9%) gave a high rating (7 or above). Only 1 participant gave a low rating (below 4). The remaining seven (41.1%) participants felt unable to give an accurate numerical rating, but expressed that psychology had high importance. The reasons participants gave for rating psychology as important are summarized in table 3.

Fifty-nine percent of the participants felt that there was enough psychology in their physiotherapy education programs. The remaining forty-one percent felt that there was not enough psychology in their physiotherapy provision and attributed this to reasons including difficulty fitting it in and a poor understanding of mental health.

When questioned regarding which factors dictate the amount of psychology that universities included in their physiotherapy programs, two key factors emerged – time / space and staff (table 4). Feelings were mixed as to whether the UK bodies the HPC and CSP provide enough guidance on the psychology content that should be in physiotherapy programs. Five of the participants felt that these bodies did provide enough guidance, whilst six felt that they did not. The remaining four were unsure on this question. Those who felt that the HPC and CSP do provide enough guidance indicated that the

guidance was sufficiently clear, allowed for liberal interpretation and had a biopsychosocial theme throughout. In contrast, those who felt that the HPC and CSP do not provide enough guidance suggested that the guidance was too vague and that psychology was not really covered.

Discussion

Whilst all of the university representatives involved in the study professed to have some psychology content in their physiotherapy curricula and largely agreed that it was important in the education of physiotherapists, it would appear that the nature and extent of psychology provision across UK university physiotherapy programs is extremely diverse and inconsistent.

Those questioned identified a range of psychology topics covered within their programs, which largely fell under the umbrella of health psychology, with the psychological impact of conditions and health and behavior change identified as the most commonly taught topics. In their study Baddeley and Bithell ¹ found that communication / interpersonal skills, learning / perception and bereavement were the most commonly taught psychology-related topics in physiotherapy programs. These topics were all identified in the present study to some extent, but were not ranked quite so highly, perhaps indicating a shift in the psychology content of physiotherapy programs from the 1980s to present day towards a greater understanding of the importance of the psychological impact of conditions and other aspects of health psychology. This could be reflective of the increased acceptance of the biopsychosocial model within physiotherapy. ⁸ It should be noted however, that in contrast to Baddeley and Bithell's study this was an open question and relied upon the participants perception of what constitutes psychology, which may also explain some of the differences seen.

The vast majority of participants professed to deliver their psychology content through an integrated approach, with very few universities having named modules or clearly identifiable segments in

psychology. The key reason cited for this integrated approach was that of contextual relevance; it was largely felt that an integrated approach to the delivery of psychology content would lead to a more applied understanding of the topic. This is an important point as there is often a disparity between knowledge of the subject and the ability to apply this knowledge to benefit patients.⁴

It is beyond the scope of this study to accurately determine whether or not the integrated approach to psychology content delivery is effective, however it is possible that such an approach could sideline or deemphasize the importance of psychology in physiotherapy practice. Another concern is that this approach can lead to vast inconsistencies in the volume and quality of psychology taught both between and within universities and difficulties in quantifying the amount of psychology covered. In line with this, when questioned regarding the amount of psychology in their physiotherapy program, most were unable to provide an estimate and those who did varied greatly with responses ranging from 5-80%. This variance is important to note as there is thought to be a 'dose response' with regard to training in this area, with those receiving more training demonstrating higher levels of competence.⁸

Key to a thorough understanding of psychology in an applied context is an understanding of the theoretical underpinning.^{27,28} Therefore, it would be reasonable to expect that the psychology content of physiotherapy programs would contain a strong theoretical underpinning. However, this was not the case for all universities, with forty-one percent of participants indicating that their psychology provision did not contain any theoretical underpinning. This is suggestive of a degree of superficial coverage of psychology amongst these institutions. One way of improving this situation would be for bodies such as the CSP and HPC to set more indicative content guidelines in this area. Within the learning outcomes of the participant universities modules and programs reference was commonly made to the biopsychosocial model, but detailed guidance on its interpretation appears to be lacking. Harland and Lavalley⁴ suggest

that a misunderstanding of the term biopsychosocial is a common issue stating that “although ‘biopsychosocial’ is a familiar phrase, its meaning is often lost in rhetoric or is simply ignored” (p.311).

One issue that may perpetuate the potentially superficial coverage of psychology within physiotherapy programs is the knowledge and expertise of the staff teaching it. The majority (65%) of the universities used non-psychology specialist physiotherapy staff to teach the psychology components, whilst the rest used either psychology specialists (psychology lecturers or physiotherapy staff with a psychology degree) or a combination of both. In contrast, Baddeley and Bithell ¹ found that only 30% of the universities they surveyed used non-psychology specialist physiotherapy staff to teach the psychology components of their program. This difference may be reflective of the predominant integrated approach to psychology content seen in the present study, making it more difficult to use psychology specialists as the psychology content is not easy to identify and segment.

Some of the universities raised concerns about using psychology specialists largely in relation to perceptions that these staff would be overly theoretical and lack contextual relevance. This is a reasonable concern; however, the interviews revealed some models of good practice where physiotherapy staff worked with psychology staff to ensure that the teaching had both adequate theoretical underpinning and grounding in contextually relevant examples.

In discussing who should be teaching the psychology content of physiotherapy programs it is important not to automatically assume that physiotherapy staff do not have the prerequisite knowledge and skills to be able to teach psychology to an appropriate level. There exists a number of physiotherapy staff with a very good understanding of psychology, qualified to teach the subject, some examples of whom were interviewed for this study. Indeed the ideal teacher is likely one who is highly knowledgeable in both psychology and physiotherapy. However, this level of knowledge will not always be evident,

particularly amongst physiotherapy staff who themselves have graduated from physiotherapy programs where the psychology content is fairly superficial. Having such staff teaching psychology would only exacerbate the problem of superficial coverage.

Significantly the majority of participants rated psychology as highly important in the training of physiotherapists. However, this begs the question as to why its coverage is often hidden and why such inconsistency remains between universities in the nature and extent of their coverage. One answer to this may lie in the sheer volume of content covered in physiotherapy programs. Whilst this study is focused on psychology content it is important to note that physiotherapy students have to cover a vast number of other topic areas. When asked what factors dictate the amount of psychology covered, time/space in the curriculum was the most commonly cited answer. The second most common answer related to staff; namely the quality, enthusiasm and availability of staff. It seemed that universities were only able to provide good psychology provision when they had access to staff able to facilitate this, which was not always possible.

Despite this, fifty-nine percent of universities felt that they had enough psychology within their physiotherapy programs. This highlights the issue of what constitutes enough. Perceptions on this may vary, but physiotherapy students need to have enough understanding of psychology in order to be effective practitioners. They are not training to become psychologists and therefore their knowledge does not need to be as extensive as that of a psychology student, but they do need enough knowledge to be able to address basic issues and to know when a referral to a psychology specialist is required. As Harland and Lavalley⁴ suggest “it is rightly beyond the scope of physiotherapy practice formally to assess and treat specific psychological disorders...it is essential however for clinicians dealing with chronic patients to have a good understanding of the relevant psychological models and methods of assessment available” (p.306).

Conclusion

This investigation has provided a much needed picture of the current provision of psychology within UK physiotherapy programs, although the predominant integrated nature of psychology content has hindered deeper investigation. Whilst the findings are of note it is important to recognize that they may have been influenced to some extent by the knowledge and perceptions of the university representatives interviewed, even though they were asked to speak from a university perspective rather than their own. Equally, a further limitation of the study is that as the representatives were self-selected, it is possible that those with an interest in psychology were more likely to choose to participate, which could potentially have biased the results.

It is clear that many physiotherapy programs in the UK provide students with an appropriate grounding in psychology that will positively impact upon their professional practice; however, this is not always the case. The most significant finding of this study is that of inconsistency – there are vast inconsistencies between institutions in the amount, type and delivery of psychology within physiotherapy programs. Equally, there appears to be an underlying inconsistency between the cited importance of psychology and the demonstrated importance of psychology through its limited visibility within the curriculum. As such, perhaps more needs to be done to standardize the psychology curriculum within physiotherapy in the UK to ensure that physiotherapy students at different institutions are receiving a similar level of training in psychology. Further research is also needed to examine the impact of current psychology training on professional practice and identify future training needs. Additionally, it would be interesting to see if physical therapy training in other nations replicates the pattern seen in this study or whether lessons could be learned from other nations.

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Table 1

Psychology topic areas covered in UK physiotherapy degrees

Sample Raw Data	Higher Order Themes	General Dimensions
“psychosocial and pathological impact of cardiovascular and/or respiratory conditions on the individual” (University 1)	Psychological impact of conditions (n=12)	Health Psychology
“the potential cognitive, psychological and social implications of musculoskeletal dysfunction” (University 11)		
“addressing the psychological impact of someone on intensive care or of long-term respiratory disease” (University 13)		
“psychology related to health beliefs” (University 5)	Health & behavior change (n=12)	
“health psychology” (University 6)	Pain (n=8)	
“health models and health behaviors” (University 12)		
“Psychological basis of chronic pain” (University 11)	Terminal illness & death (n=6)	
“physiological and psychological effects of pain” (University 17)		
“awareness of the impact of terminal illness” (University 1)	Mental health (n=9)	
“psychological, sociological and end of life issues... death and dying, grieving” (University 6)		
“mental health...anxiety and stress” (University 10)		
“psychological impact of senility, early dementia” (University 11)	Bio-psychosocial model (n=3)	
“Mental health...The experience for the patient and experiencing anxiety and also considering things like depression and how to measure it.” (University 2)		
“its taught within the framework of the bio-psychosocial model” (University 10)		
“psychosocial influences on patient decision making” (University 2)	Adherence (n=2)	
“patient adherence” (University 15)	Specific health related issues (n=5)	
“dealing with and treating children” (University 15)		
“palliative care issues” (University 16)	Motivation (n=5)	
“psychology related to motivation” (University 5)		
“motivation” (University 7)		
“goal-setting” (University 2)	Goal-setting (n=3)	
“set relevant goals in partnership with clients” (University 14)	Self-efficacy (n=2)	
“self-efficacy” (University 7)		
“principles of group working” (University 2)	Group dynamics (n=3)	
“management of client group” (University 11)		
“critical understanding of psychological processes and the role of emotion in personal effectiveness” (University 14)	Personal effectiveness (n=2)	
“the empowerment of clients” (University 13)	Empowerment (n=2)	
“psychology related to communication” (University 2)	Communication & counseling (n=8)	
“communication skills, verbal, nonverbal” (University 12)		
“then in the 3rd year they have a little bit about attribution theory” (University 9)	Attribution theory (n=1)	
“the role of cognitive behavioral therapy” (University 17)	CBT (n=2)	
“social-cognitive psychology...basic perception, memory and learning” (University 7)	Cognition (n=6)	
“we look at cognitive skills, we look at a bit of cognitive neuro-psychology” (University 11)		
“sport psychology” (University 4)	Sport psychology (n=3)	
“sports psychology” (University 16)		
“a bit on the psychology of exercise” (University 12)	Exercise Psychology (n=4)	
“psychological impact of exercise” (University 6)		
“personality theories” (University 10)	Personality (n=1)	Other

Table 2

The perceived benefits of the integrated and named module approaches

Sample Raw Data	Higher Order Themes	General Dimensions
“they’re not kind of just getting psychology alone in a little bubble – they’re actually getting it in context” (University 1)	Contextual relevance (n=10)	Pro-integrated approach
“because we don’t give them the label ‘you are doing psychology’ it comes as part and parcel of being a physiotherapist...it’s the job. You don’t just turn off psychology. You’ve got to keep looking at it in every single aspect of physiotherapy” (University 11)		
“we’ve chosen a more integrated approach, which has the advantage of making it more everyday and something everybody does... it’s not an add-on; it’s not something you can choose not to engage with” (University 2)		
“the students will learn about the issues in the context in which they work when they go to clinical placement and graduate” (University 4)		
“I think it makes it more realistic in terms of how they’re going to use it in practice” (University 6)		
“psychology and related topics are given context and students are able to see the relevance of the subject matter in terms of their own physiotherapy practice” (University 17)	Acceptance by students (n=4)	Pro-integrated approach
“if you had a module, knowing our students, called psychology, they wouldn’t turn up to it... they’d be saying, ‘we didn’t come here to do a psychology degree we came here to do physiotherapy’” (University 12)		
“if you separate it out then you make it a box, you make it an obvious thing, but also you make it part of the course that people can reject” (University 2)		
“if we do start to label it psychology then that may put the students off” (University 4)	Perceived low importance of psychology (n=2)	Pro-integrated approach
“they’re not going to be psychologists, they’re going to be physiotherapists, do you know what I mean.” (University 1)		
“I’m not of the belief that we’re training psychologists...You could argue that they may not have a very good understanding of psychology, but they’re not here to learn psychology per se” (University 3)	Prevents superficial coverage of psychology (n=1)	Pro-named modules approach
“the physiotherapy world has latched onto the bio-psychosocial model and is covering only small items of it. The psychology content is not integrated thoroughly enough, and has become superficial. The superficial teaching leads to practitioners who are not confident in it and hesitant to fully employ it” (University 7)		
“so I think by integrating it, one downside is that it becomes hidden” (University 8)		
“I think the danger is that elements of it can get lost so it very much relies on the module leads incorporating that information into the program” (University 9)	Prevents psychology from being ‘lost’ (n=4)	Pro-named modules approach

Table 3

Reasons cited for the importance of psychology in physiotherapy training

Sample Raw Data	Higher Order Themes	General Dimensions
“I really try to sell it to them by saying you can’t operate without understanding psychology... just basic practical things psychology can offer them to make them better practitioners” (University 10)	Psychology is essential to effective physiotherapy practice (n=2)	Reasons for perceived importance
“obviously physiotherapists work very much in a holistic way, with the person and not just the physical” (University 4)	Holistic approach (n=5)	
“we like the students to have a holistic approach really towards patient care” (University 12)		
“all of our research now is also suggesting the most effective way to work with people is by treating them holistically really” (University 5)		
“it’s part and parcel of the job – you can’t be a physiotherapist unless you understand what humans are like and how they behave and react to different situations” (University 11)	To understand people and behavior (n=5)	
“physiotherapy is about people, and psychology helps students to understand how people behave and what motivates them” (University 17)	Informs understanding of illness and disability (n=4)	
“Very often psychological and social and other issues are impacting on the patients/person’s ability or disability, so that’s why it’s important to understand those issues” (University 4)		
“Patient assessment and management is dependent upon a clear understanding of the psychological implications of illness, disability and impairment” (University 15)	Acceptance of the bio-psychosocial model (n=1)	
“I think in physiotherapy practice and education there is much more of acceptance now for practice based around a psycho-social approach to health and well-being rather than a medical model” (University 8)		

Table 4

Factors that dictate the amount of psychology included in university physiotherapy programs

Sample Raw Data	Higher Order Themes	General Dimensions
"I think the wider integration, the confidence and kind of background knowledge of the staff which is a bit of a block as well" (University 10)	Staff (n=8)	Factors dictating the amount of psychology
"The specialism of the module leader – that will influence it in that if you've got somebody who's got a big psychological vent than they're going to want to put emphasis more on psychology than perhaps somebody who hasn't" (University 11)		
"I guess staff interest and staff motivation and staff perception. I guess that's the other biggest delimitter" (University 2)		
"superficial teaching leads to practitioners and lecturers who are not confident in it and hesitant to fully employ it" (University 7)		
"availability of expertise" (University 17)		
"the amount of psychology that can go in the program is affected by the amount of space in the program" (University 10)	Time/Space (n=12)	
"lack of space in the curriculum... is increasingly true" (University 2)		
"psychology would be an element we would include if we had more time, but time constraints that are the difficulty really" (University 3)		
"Just the amount of content that is required in the physiotherapy undergraduate program" (University 5)		
"The number of skills required – limited space for psychology" (University 7)	Other (n=4)	
"Some topics just lend themselves so well to the psychological side of it... No-one really says that you should have this much psychological input, or even that you should have any. It is very grey" (University 1)		
"The predominance of the biomedical model that physiotherapy has been taught" (University 7)		

Appendix 1 – Semi-Structured Interview Questions

1. Does your physiotherapy program(s) cover any psychology?
2. If yes, what topics/areas of psychology are covered?
3. Within your program, are there specific named modules or units in psychology or is the psychology content integrated within other modules/units? What are the pros and cons of this approach?
4. If an integrated approach is used, is this underpinned by theoretical knowledge or by experiential (implicit/tacit) knowledge?
5. What methods of delivery are used for the psychology content of your program?
6. Are the psychology components of your program optional or compulsory?
7. Who teaches the psychology components of your program? What are the pros and cons of this?
8. Are the psychology components of your program assessed? If so how?
9. Does the assessment contribute to the module/award grade? If yes, how big a proportion?
10. Is the psychology content of your program taught at a specific stage or is it taught at all levels of the program?
11. What percentage of the entire physiotherapy program at your institution would you estimate is focused on psychology?
12. Some would argue that psychology is an important part of physiotherapy training. On a scale of 1-10, where 1=not very important and 10= very important, how important do you feel psychology is to physiotherapy training? Why?
13. Do you feel that there is enough psychology in your physiotherapy program? Why?
14. What factors dictate the amount of psychology in your physiotherapy program?
15. Do you feel that the CSP and HPC provide enough guidance regarding the psychology content of physiotherapy programs? Why?
16. Do you have any further comments to make about the psychology content of your physiotherapy program?

Appendix 2 – Online Questionnaire Questions

1. Do the physiotherapy programs at your institution cover any psychology?
Yes / No
2. If yes, what psychology-related areas of psychology are covered?
3. Within your program, are there specific named modules or units in psychology or is the psychology content integrated within other modules/units? What are the benefits of this approach?
4. If the psychology content is integrated within other modules/units, is this underpinned by theoretical knowledge or by experiential (implicit/tacit) knowledge?
5. What methods of delivery are used for the psychology content of your program?
Lectures / Seminars / Workshops / Practicals / E-learning / Clinical practice / Other (please state)
6. Are the psychology components of your program compulsory?
Please give any relevant further information below.
7. Who teaches the psychology components of your program?
Psychology specialists (e.g. psychology staff) / Non-psychology specialists (e.g. physiotherapy staff) / Both
8. Is the psychology content of your program taught at a specific stage (e.g. level 1) or is it taught at all levels?
9. Are the psychology components of your program assessed? If yes, how are they assessed? I.e. what assessment methods are used (e.g. essay, practical, report, presentation etc)
10. Does the assessment of the psychology elements contribute to the module/award grade? If yes, approximately what proportion of the assessment?
11. What proportion of the entire physiotherapy program would you estimate is focused on psychology?
12. Some would argue that psychology is an important part of physiotherapy training. On a scale of 1-10, where 1=not very important and 10= very important, how important do you feel psychology is to physiotherapy training? Please give reasons for your rating.
13. Do you feel that there is enough psychology in your physiotherapy program? Please give any further comments below.
14. What factors dictate the amount of psychology you include in your physiotherapy program?

15. Do you feel that the CSP and HPC provide enough guidance regarding the psychology content of physiotherapy programs? Please give any additional comments below.

16. Do you have any further comments to make about the psychology content of your physiotherapy program?