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UNIVERSITY OF SOUTHAMPTON

FACULTY OF SOCIAL AND HUMAN SCIENCES

Academic unit of Psychology

**How do experiences of physiotherapy and osteopathy vary between the
NHS and private practice?**

by

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Thesis for the degree of Doctor of Philosophy in Health Psychology and
Professional Practice

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ABSTRACT

Previous research had shown that experiences of treatments vary between NHS and private practice. It was unclear whether different treatments might vary in the same or in different ways between healthcare sectors. This thesis explored how experiences of physiotherapy and osteopathy vary between NHS and private settings.

Study 1: A systematic review of the literature identified psychosocial factors which are likely to be important within physiotherapy for lower back pain.

Study 2: A qualitative interview study explored the experiences and appraisals of 35 patients who had received NHS or private physiotherapy or osteopathy for lower back pain. This study indicated that physiotherapy and osteopathy do not vary in the same ways between healthcare sectors.

Study 3 and 4: Mixed methods were used to develop and establish the face validity, internal consistency and structural validity of a new measure of treatment appraisal, the Appraisals of Physical Treatments Questionnaire (APTQ).

Study 5: The APTQ and other measures of treatment appraisal were then examined in a cross-sectional questionnaire study (n=91) which explored how and to what extent aspects of treatment appraisal vary between healthcare sectors and treatment types. There were ceiling effects in many of the measures, although some aspects of treatment appraisal varied in ways which were consistent, or partially consistent, with the hypotheses.

Study 6: Finally, study 6 looked at practitioners' (physiotherapists' and osteopaths') experiences of treating lower back pain in the NHS and private practice. Practitioners' reports largely confirmed those of patients, indicating that physiotherapy and osteopathy do not vary in the same ways between healthcare sectors. Factors that might be responsible for the differences in patients' experiences of NHS and private physiotherapy and osteopathy were also identified and organised into a model.

Physiotherapy and osteopathy did not appear to vary in the same ways between healthcare sectors, indicating that the healthcare sector might not have a uniform influence on treatments.

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DECLARATION OF AUTHORSHIP

I, Katherine Bradbury

declare that the thesis entitled 'How do experiences of physiotherapy and osteopathy vary between the NHS and private practice?' and the work presented in the thesis are both my own, and have been generated by me as the result of my own original research. I confirm that:

- this work was done wholly or mainly while in candidature for a research degree at this University;
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Date:.....

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Definitions and Abbreviations

APTQ	Appraisals of Physical Treatments Questionnaire
CAM	Complementary and Alternative Medicine
CBT	Cognitive Behavioural Therapy
CSM	Common Sense Model of Self Regulation
CSP	Chartered Society of Physiotherapists
FA	Fear avoidance
FABs	Fear Avoidance Beliefs
GOC	General Osteopathic Council
GPE	Global Perceived Effect
HCS	Healthcare sector(s)
LBP	Lower back pain
NHS	National Health Service
PCA	Principle component analysis
SCT	Social Cognitive Theory
TPB	Theory of Planned Behaviour

1. Chapter 1. Introduction and Thesis Outline

1.1 Introduction

This thesis examines how two different treatments for lower back pain (physiotherapy and osteopathy) vary between the National Health Service (NHS) and private practice in the UK. This chapter will provide an introduction to research investigating healthcare sectors. The chapter will start by explaining why studying the healthcare sector (HCS) is important, what we already know about the HCS, the questions that should be addressed by future research and the specific aims and research questions addressed within this thesis. It will also provide an overview of why lower back pain (LBP) was chosen as a model with which to explore the HCS and what we already know about LBP. It will then discuss why physiotherapy and osteopathy were chosen as the treatments with which to explore the research questions in this thesis and provide some background about these treatments. The chapter will end with a brief outline of the remaining chapters.

1.2 What is the HCS and why is it important to study?

The HCS constitutes the organisational context within which patients seek and receive treatment and has been highlighted as a core area which health psychologists should aim to understand and improve (Matarazzo, 1982). However, fairly little is known about how different healthcare settings might interact with patients' experiences and subsequent behaviour (French, Vedhara, Kaptein & Weinman 2010).

In the UK, the NHS provides treatment free at the point of need, whereas the private sector requires payment for treatment, either directly from the patient or indirectly through a private insurance provider. The NHS is dominant: approximately 85% of healthcare funding is from the state, and the private sector is used intermittently by 10-22% of the population (Mulvaney, Coupland, Wilson, Hamersley, Dyas & Carlisle, 2005; Propper, 2000). However, some have argued that this is likely to change and that the private sector will probably have a greater role in the provision of UK health services in the future (Department of Health, 2010).

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Differences between HCS where treatment comes free (NHS), or at a price (private practice), could lead to differences in the kinds of patients who might attend each sector. It could also lead to differences in the experiences of patients and healthcare practitioners within each setting. There is already some evidence that this is the case.

Patients' experiences of treatment have been shown to vary between HCS in a number of ways in the UK. At the beginning of the current research it was known that patients' perceptions of patient-practitioner relationships were likely to vary between HCS. There was evidence that therapeutic relationships in the private sector are based on mutuality, support and consumerism, compared to more paternalistic relationships in NHS settings (Calnan, Cant and Gabe, 1993; Silverman 1987; Wiles and Higgins, 1996). More recent studies have confirmed such differences, showing a tendency for therapeutic relationships to be more paternalistic in the NHS and more mutual and supportive (or patient-centred) in the private sector (Bishop, Barlow, Coghlan, Lee, Lewith, 2011; Paterson and Britten, 2008). Patients have also reported that private treatments are more individualised or holistic than NHS treatments (Bishop et al, 2011; Paterson and Britten, 2008). Practical aspects of treatment, such as waiting times, the amount of treatment available and the length of treatment sessions have also been reported to be more favourable in private compared to NHS settings (Bishop et al, 2011; Hancock et al, 1999; Hughes, 2009; Paterson and Britten, 2008; Wiles and Higgins, 1996). In contrast to these more favourable aspects of private care, patients have also reported feeling financially vulnerable within private treatments (Hancock et al, 1999, Yardley, Sharples, Beech, Lewith, 2001). For instance, patients worry that the practitioner might recommend more treatment than the patient actually needs.

It is not just the UK which demonstrates differences between private and public healthcare. Patients surveyed within a variety of healthcare contexts in the United States of America, New Zealand, Canada and Australia have reported dissatisfaction with slow access to treatment, long waiting times or problems with co-ordination of care in the public sector and costs of care in privatised healthcare systems (Blendon et al, 2003). Studies in other countries have also shown differences between private and public care which often confirm the differences seen in the UK's NHS. For instance, problems with access to public treatments (Wong et al, 2010; Ergler, Sakdapolrak, Bohle and Kearns, 2011) or less patient-centred public therapeutic relationships (Wong et al, 2010).

Research has also highlighted a number of factors associated with use of private instead of public healthcare. Those who use private healthcare insurance have been shown to be

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more likely to be affluent, better educated, male and may also hold more conservative political views (Propper, 2000; Propper, Eachus, Chan, Pearson and Smith, 2005; Regidor, Martinez, Calle, Astasio, Ortega and Domínguez, 2008; Ryan, Wilson, Taylor and Greenfield, 2009; Schnittker and Bhartt, 2008). Use of private health insurance is also associated with more senior doctors being available privately in the UK (Propper, Rees and Green, 2001). It may also be linked with longer NHS waiting times (Besley, Hall and Preston, 1999; Hancock, Calnan, Manly, 1999) although this has not been consistently found to be the case (Propper, Rees and Green, 2001). Perceived availability of services may also motivate decisions to choose private healthcare. For instance, some patients may seek certain kinds of treatment (such as acupuncture) in the private sector because they do not believe them to be available in the NHS (Bishop et al, 2011). Decisions to go privately may not always be based on people's experiences of care, or rational cost benefit analyses (Natalier & Willis, 2008). Interviews with Australian adults showed that decisions to purchase private insurance are not usually based on rational cost benefit analyses of experiences of care, but on larger cultural perceptions of risk and trust in private healthcare (Natalier & Willis, 2008). Such cultural perceptions will be likely to vary between countries depending on the particular structure of healthcare (for instance, how well established each HCS is and how common it is for people to have private insurance in that country). It is possible that decisions to use private health insurance are different from decisions to buy private care and pay for each session (as is often the case with physiotherapy and osteopathy). Currently little is known about decisions to choose private over public care when patients are paying for care each time they visit a private practitioner.

Practitioners have also discussed differences between NHS and private care. Stressful working conditions, underfunding and a lack of time have been reported in the NHS, leaving practitioners dissatisfied with the services that they can provide (Park, Coombs, Wilkinson, Loan-Clarke, Arnold & Preston, 2003; Calnan, Silvester, Manley & Taylor-Gooby, 2000). Indeed, not being able to provide good quality care has motivated some practitioners (physiotherapists) to leave the NHS (CSP, 1999). A range of NHS constraints have also been reported as limiting the ability of practitioners to provide a holistic service. These factors include short NHS appointments and services designed to only treat specific conditions (and using specific treatments) (Donneley, 1995; Hasegawa et al, 2005; Paterson and Britten, 2008; Wye, Shaw and Sharpe, 2008). Limited treatment times also restrict practitioners' ability to provide individualised treatments and create difficulties in forming rapport with patients (Bishop, Amos, Yu & Lewith, 2012; Dean, Smith, Payne &

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Weinman, 2005). Working in the NHS may also limit the use of certain treatment modalities. For instance, limited NHS funding has been reported as preventing the use of newer treatments (which are more expensive) and preventative dentistry (Calnan, Silvester, Manley & Taylor-Gooby, 2000). In contrast to NHS experiences, practitioners have reported greater control and more autonomous practice in the private sector (Bishop, Amos, Yu & Lewith, 2012; Calnan, Silvester, Mandley & Taylor-Gooby, 2000). Working in the private sector also brings practitioners greater time with patients, more flexibility in their working hours and opportunity for greater enjoyment of work and life in general (Calnan, Silvester, Mandley & Taylor-Gooby, 2000). However, private practice is also associated with financial risk as a successful outcome is not guaranteed (Calnan, Silvester, Mandley & Taylor-Gooby, 2000).

It is clear from the existing research that both patients and practitioners experience differences between private and NHS treatments. Two important questions remain unanswered. Firstly, do patients' experiences of different treatments vary in the same way across the two HCS? That is, can the HCS be thought of as having a uniform influence across different type of treatments (i.e. that all treatments vary in the same ways between HCS) or might some treatments might vary more than others between HCS? Existing studies tend to focus on single treatments (Bishop et al, 2011; Hancock et al, 1999; Hughes, 2009; Wong et al, 2010), focus on only one aspect of treatment (Paterson and Britten, 2008), or investigate but do not compare multiple treatments (Ergler et al, 2010; Rudzik, 2003; Wiles and Higgins, 1996). Therefore studies are needed which explore whether different treatments vary in the same or in different ways between NHS and private settings. Answering these questions is important as it could inform interventions aiming to improve NHS treatments to increase the satisfaction of patients using them and of practitioners working within them.

Secondly, it remains unclear to what extent the differences that have been observed between HCS actually matter. It is clear from the literature that patients are dissatisfied with practical aspects of NHS care in the UK and other countries (such as long waits for treatment). Patients also appear more satisfied with the mutual and supportive relationships and more holistic care which is available privately. It is also clear that some practitioners are dissatisfied with the NHS environments which they feel restrict the ways in which they would like to practice and reduce their job satisfaction. It is possible that differences between HCS which appear to influence patients' and practitioners' satisfaction could also influence patient health outcomes. Patient health outcomes could be influenced either directly (for example through differences in aspects of treatment) or

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indirectly by influencing patient behaviour (such as adherence to treatment). However, no studies have examined the relationship between HCS and patient behaviour or health outcomes as yet.

The HCS could influence patient behaviour such as patient adherence. Patient adherence is the extent to which a patient follows recommended or prescribed treatment or advice (WHO, 2003). It is important in order for treatment to be effective (Vermeire, Hearnshaw, Royen & Denekens, 2001). Several factors can influence patients' adherence to treatment, including the patients' health literacy, depression, patient beliefs about their illness or treatment, and patient preferences, the patient-practitioner relationship (patient-centred with shared decision making are preferable) and the point at which a treatment is introduced (Coulter and Ellins, 2007; DiMatteo, Lepper & Croghan, 2000; Robinson, Callister, Berry and Dearing, 2008; Smith, Trevena, Nutbeam, Barratt and McCaffrey, 2008; Vermeire, Hearnshaw, Royen and Denekens, 2001). As some factors which influence patient adherence vary between HCS (such as the patient-practitioner relationship) it is possible that differences between HCS might influence patient adherence.

The HCS might also influence patient health outcomes. There are two ways in which this might happen, firstly through the treatment creating a change directly at a biological level (in the way that exercises strengthen muscle or ibuprofen reduces inflammation). Secondly, a treatment might also have a direct influence on health outcomes through what is termed a contextual or placebo route (Di Blasi, Harkness, Ernst, Georgiou & Kleijnen, 2001; This contextual route is discussed further in Chapter 3 section 3.2.6). Several of the aspects of treatment which are known to cause contextual effects have also been reported as varying between HCS (for instance the patient-practitioner relationship, patient characteristics, practitioner characteristics and treatment characteristics). It is therefore possible that contextual effects might differ between NHS and private settings.

In summary we know so far that patients' and practitioners' experiences appear to vary between HCS, we also know that there may be differences in patients who choose to attend private or public treatments. It is not yet clear whether different treatments vary in the same or in different ways between HCS. It is also unknown whether differences highlighted between NHS and private treatments might be important to patients' health behaviours (such as their adherence to treatment), or to their treatment outcomes (such as pain or disability).

1.3 Aims, Rationale, and Research Questions

The aim of this thesis is to explore how two treatments for LBP (physiotherapy and osteopathy) vary between the NHS and private practice. Specifically to explore whether physiotherapy and osteopathy for LBP vary in the same or different ways (or extents) between HCS. To address this aim five questions will be examined: A) Which psychosocial factors play a role (are related to, predictive of, mediate, or moderate outcomes) in physiotherapy for LBP? This question will be addressed within a systematic review which will inform the empirical studies within this thesis. B) How do LBP patients' experiences and appraisals of physiotherapy and osteopathy vary between the NHS and private practice? This question will be addressed using qualitative methods. C) How and to what extent do LBP patients' appraisals of physiotherapy and osteopathy vary between the NHS and private practice? This question will be addressed using quantitative methods. D) How do practitioners' (physiotherapists' and osteopaths') experiences of providing treatment for LBP vary between the NHS and private practice? This question will be addressed using qualitative methods. E) Do practitioners' (physiotherapists' and osteopaths') experiences of providing treatment for LBP highlight any factors which might be responsible for differences between patients experiences of physiotherapy and osteopathy for LBP? This question will also be addressed using qualitative methods.

1.4 LBP

Non-specific LBP was chosen as a model with which to explore the questions within this research. LBP is defined as pain between the lowest rib and gluteal fold (Manjadakis & Gray, 2000). Non-specific LBP indicates that the exact cause of the pain is not clear, but it is clear that it is not caused by specific serious pathology such as malignancy, fracture, osteoporosis, structural deformity, radicular syndrome, cauda equina syndrome, infection or inflammatory disorders (such as Ankylosing Spondylitis or arthritis) (NICE, 2009; Balague, Mannion, Pellise & Cedraschi, 2012). Such pain is also sometimes referred to as simple, mechanical or musculoskeletal LBP. Non-specific LBP is thought to represent 85% of LBP patients seen in primary care (Deyo & Phillips, 1996) and the majority of patients seen by physical therapists are classified under this label (Wand and O'Connell, 2008).

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From here on in non-specific LBP will be referred to simply as LBP. Of those who seek care for LBP most will see fairly quick reductions in pain and disability within the first three months (Pengel, Herbert, Mather & Refshauge, 2003). A smaller group (perhaps 10%) will go on to develop chronic disabling LBP and this group is the most costly in terms of healthcare resources (Careys, Garrett & Jackman, 2000; Kleinman, Slade, Stanley, Pennie, Reiley, Atchinson, Troup & Rose, 1995; Van Den Hoogen, Koes, Van Eijk, Bouter and Deville, 1998). Traditionally LBP has been categorised into acute (<6 weeks), sub-acute (6 weeks - 12 weeks) and chronic (>12 weeks) (Spitzer, W. O. and Leblanc, F. E., 1987). However, studies have shown that most back pain resolves after around four weeks (Grottle, Brox, Veierod, Glomsrod, Lonn and Vollestand, 2005; Pengel, Herbert, Maher & Refshauge, 2003) and subsequently NICE guidelines have based their treatment guidelines for LBP on those whose pain has lasted between six weeks to a year in order to target those individuals who are less likely to improve on their own (NICE, 2009). Most people with back pain also find that it occurs recurrently, coming and going over time. Subsequently the acute (<6 weeks), subacute (6-12 weeks) and chronic (12 weeks or more) classification system has therefore been argued to be excessively rigid and perhaps an inappropriate way of classifying back pain (Croft, Macfarlane & Papageorgiou et al, 1998; NICE, 2009).

The prevalence of LBP in the past month has been shown to vary between 18.9-39% of the general population (Croft and Rigby 1994; Papageogiou, Croft, Ferry, Jayson and Silman, 1995; Webb, Brammah, Lunt, Urwin, Allison and Symmons, 2003;). The 1 year prevalence is thought to be higher (65%) and total lifetime prevalence has been shown to be around 84% (Walker, 2000), indicating that back pain is a problem that will be experienced by most of the population at some point during their lives. Chronic LBP (CLBP) has also been shown to affect a smaller proportion of the population. Around 23% have back pain which lasts more than three months, 11% have disabling pain which lasts three months and 18% have at least moderately troublesome pain for three months (Andersson, Ejlertsson, Leden, et al, 1993; Cassidy, Carroll & Cote, 1998; Parsons, Breen, Foster, et al, 2007).

The most recent study to assess the costs of LBP is based on data from 1998 and indicated that the costs of healthcare for back pain were £1632 million (Manjadakis & Gray, 2000). NHS physiotherapy alone cost around £151 million, private physiotherapy £100 million and private osteopathy £173 million (costs of NHS osteopathy were not calculated). Whilst it is unusual for such high use of private care generally in the UK, based on these figures it seems that for back pain it is more common. Manjadakis and Gray (2000) also estimated that in 1998 lost production costs amounted to a further £3,440 million to £9,090 million

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depending on the specific approach taken to calculate these costs. It is very likely that the current actual costs of LBP are higher than these figures, since there has been inflation and the UK retail index price was known to increase by 28.8% in the ten years since Manjadakis and Gray collected their data (Office for National Statistics, 2008).

The cause of non-specific LBP remains unclear by definition. It is thought that nociceptive input (from injury or inflammation) makes a large contribution to acute pain, but identifying the structures which might be associated with the pain is problematic because physical sites of damage or dysfunction often do not correlate with reported pain sites. However, there have been attempts to match up bodily damage and pain sites. Large cross-sectional studies have shown that degeneration of lumbar discs increased the likelihood of occurrence of LBP (de Schepper, Damen, van Meurs et al, 2010; Cheung, Karppinen, Chan et al, 2009). However, a systematic review with combined meta analysis concluded that such physical damage cannot be confirmed as causing back pain since dysfunction is frequently present in the absence of pain perception (Eden, Plamer & Coggon, 2011). Degeneration of lumbar discs also do not coincide with the development of LBP, nor do they predict response to evidence-based therapies for LBP (Eden, Plamer & Coggon, 2011). Mechanical factors (injury from movements such as lifting or bending) have been widely assumed to cause LBP, however eight systematic reviews examining whether causation from movements such as standing, walking, manual handling, pushing, pulling, lifting, twisting or carrying caused LBP concluded that this was unlikely (Roffey, Wai, Bishop, Kwon & Dagenais, 2010a, b, c, d, e; Wai, Roffey, Bishop, Kwon & Dagenais, 2010a, b, c).

Factors which account for LBP becoming chronic are mainly psychosocial in nature. As in the case of acute LBP, physical abnormalities are not meaningful in CLBP [Koes, Van Tulder & Thomas, 2006; Carragee & Hannibal, 2004]. It is clear from the literature that a biomedical explanation of chronic LBP (CLBP) is not sufficient and that a biopsychosocial model is needed to understand CLBP (Waddell, 2004.). It is likely that LBP is a dynamic and reciprocal interaction between biological, psychological and sociocultural variables which all shape a person's response to pain (Turk & Flor, 1999). Indeed a number of psychosocial factors have been highlighted as potentially involved in the progression of pain from acute to chronic status and in the maintenance of musculoskeletal pain, including LBP. These include fear of the meaning of LBP (as damage) and avoidance of movement because of this fear (also known as fear avoidance beliefs), catastrophising and depression or distress (Leeuw, Goossens, Linton, Crombez, Boersma and Vlaeyen, 2006; Pincus, Burton, Vogel & Field, 2002). However, it is not entirely clear whether such

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psychosocial factors cause pain to continue and become chronic, or whether there is a reciprocal relationship between psychosocial factors and further pain. For example, systematic review evidence suggests that depression may cause further pain (Linton, 2000), but pain may also cause depression (Linton and Bergbom, 2011). Indeed, there is likely to be a reciprocal relationship between the two which is enhanced by other psychological factors like catastrophising (Linton and Bergbom, 2011). Evidence from these reviews also suggests that psychosocial factors are involved in the disability associated with LBP, and may predict or even influence treatment outcomes (Leeuw et al, 2006; Linton and Bergbom, 2011; Pincus et al, 2002). Much of the evidence in this area has methodological problems including reliance on retrospective studies, small samples, samples which are unrepresentative of the general population presenting with LBP, use of only univariate models, inadequate description of predictor variables and failure to examine or control for important variables, meaning that further research is needed to more fully understand these relationships. What is clear at this point is that psychosocial factors are related to LBP progression and may also influence treatment outcomes.

Theories conceptualising pain can explain the involvement of psychosocial factors in LBP. Gate control theory (Melzack and Wall, 1965) tried to account for several known facts about pain, including the fact that pain can be present without physiological evidence of damage or dysfunction and equally dysfunction can be present in the absence of pain. The theory states that the transmission of information from nerve impulses up the spinal cord (ascending from site of injury or inflammation etc) is modulated by a spinal gating mechanism in the dorsal horn. This gateway is influenced by the proportion of activity of both large and small fibres; large fibres limit transmission of information (close the gate and so less pain is perceived), whilst small fibres open the gate, facilitating transmission of pain signals. Descending information from the brain can also influence the opening or closing of the gate and therefore the perception of pain. For instance, positive affect appears to close the gate, whereas negative affect (such as stress, distress, depression, anxiety or fear) can open the gate wider, increasing pain. The descending system in gate control theory explains the importance of psychosocial factors in influencing pain (Melzack, 1996).

There is a large amount of literature which supports gate control theory and over the years the complex processes involved in pain perception and the gating mechanism in the dorsal horn have become largely understood (Melzack, 1996). However, gate control theory could not incorporate the growing amount of research which suggests that no actual sensory input (e.g. damage or dysfunction) is necessary in order for someone to

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perceive pain (for instance in the case of phantom limb pain). In response to this, Melzack (2001, 2005) proposed a new theory of pain named the neuromatrix theory. This theory sees pain as a multifaceted experience that is produced by a brain neural network the body-self neuromatrix (Melzack, 2001, 2005). Each individual has their own body-self neuromatrix, individual to them which integrates cognitive-evaluative, sensory-discriminative and motivational-affective components. These components produce several outputs including the perception of pain, behavioural patterns (such as postures and coping strategies such as avoidance) and stress regulation programs (which influences cortisol, noradrenalin and endorphin levels, as well as immune system response).

Psychological stress, cognitive and sensory events all modulate the neurosignature of the body-self matrix, which is in turn associated with chronic pain conditions (Melzack, 2005). Both of these widely accepted theories therefore account for how psychosocial factors are incorporated into the experience of pain alongside behavioural factors (e.g. avoidance behaviours) and biological processes (such as injury).

1.5 Choosing physiotherapy and osteopathy to explore differences between HCS

LBP has no known 'cure', although several different types of treatment have been shown to have a similar small benefits, including techniques from physiotherapy, osteopathy, chiropractic and acupuncture (NICE, 2009). This was also an advantage of using LBP as a model as it allowed the selection of two therapies which could be compared against each other in both HCS, thus allowing the exploration of how two different treatments might vary between HCS. The two therapies chosen were physiotherapy and osteopathy.

Physiotherapy and osteopathy were chosen because they are both widely available in the UK (Thomas, Nicholl & Coleman, 2001; Manjadakis & Gray, 2000) and thought to be effective treatments for LBP (NICE, 2009). Both of these therapies share some similarities, for instance both use hands on treatment techniques such as soft tissue techniques (stretching or relaxing muscles, similar to massage), mobilisations (repetitive motion applied to a joint, also known as articulation in osteopathy) or spinal manipulations (a single thrust applied to a joint where an audible crack can be heard). Both osteopaths and physiotherapists also recommend exercises and self-management strategies for LBP. There is evidence that all of these treatments have a small effect on LBP

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(see NICE, 2009 for a review). Many of the studies assessing effectiveness of these treatments have methodological limitations (high loss of participants at follow up and underpowered studies with small sample sizes), although a few high quality studies exist (for instance UK BEAM, 2004a). NICE (2009) provide a comprehensive review of the effectiveness of treatments for LBP and conclude that hands on treatments (mobilisations, manipulations and massage), exercise therapy and advice are effective treatments for LBP. These therapeutic modalities are therefore recommended in national guidelines for treating LBP and can be delivered by osteopaths or physiotherapists (NICE, 2009).

Both physiotherapy and osteopathy involve a treating practitioner and therefore a patient-practitioner relationship. Within the NHS both therapies are also accessed via the patient's GP, there is almost always a waiting list for treatment and treatment is usually provided in either a hospital or GP clinic setting.

The similarities between physiotherapy and osteopathy allowed a comparison of treatments involving similar components and within similar structures. This was useful for several reasons. Firstly, both treatments included the same crucial factors which have been shown to vary between HCS in previous qualitative work (for instance the patient-practitioner relationship or access to treatment). This meant both had the potential to vary between HCS. Secondly, as the therapies were similar in structure and content they would likely be appraised by similar criteria, that is patients would probably see the same things as important within both therapies. Seeing the same criteria as important would allow quantitative comparison, to assess the extent to which the two therapies varied between HCS on the same kinds of criteria. This is because if the same aspects of treatment or beliefs were important in both therapies one could measure the same factors in both therapies quantitatively and therefore make statistical comparisons between the two therapies and across both HCS. If one chose very different therapies here, for example physiotherapy and surgery, they would be likely to be appraised in very different ways (surgery contains only one treatment, a longer stay in hospital, greater risk, less time interacting with the treating practitioner etc). There is already evidence that patients appraise very different therapies based on different criteria, for example it is already known that physical therapies (such as exercise based treatment or manipulative treatments) are judged on different criteria to pharmaceutical treatments (Horne, Weinman & Hankins, 1999; Yardley, Beeches, Sharples, 2001). Thirdly, making a comparison between two very similar treatments perhaps provides one of the strongest tests of the effect of the HCS that one might carry out, in that one might expect two fairly similar treatments to both vary between sectors in the same way (whereas one might

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expect two very different treatments to vary in different ways). Therefore, if differences are found then this would be persuasive evidence that the HCS might influence treatments in a non-uniform way, even when treatments are fairly similar.

Whilst physiotherapy and osteopathy share a number of characteristics and treatment techniques, physiotherapy is considered a mainstream treatment, whereas osteopathy is usually considered a complementary or alternative (CAM) treatment (Vickers and Zollman, 1999). A wide variety of organisations have tried to define what a CAM therapy is, most of which provide very broad sweeping definitions in order to encompass the wide variety of different therapies which are listed under the umbrella term of CAM. The main definitive point made by most organisations is that CAM involves a broad range of therapies which are distinct from non-CAM therapies because they exist largely outside of mainstream medical care, either in their ideas or practices, or by not being incorporated into the dominant healthcare system (the NHS in the UK) (Falkenberg, Lewith, di Sarsina, von Ammon, Santos-Rey, Hök, Frei-Erb, Vas, et al, 2012; House of Lords, 2000; The National Centre for Complementary and Alternative Medicine, 2013; WHO, 2000). CAM is therefore a culturally constructed, widely used and accepted term which is currently thought to describe osteopathy, but not physiotherapy.

There is some evidence that CAM therapies might differ from mainstream therapies. For example, patients have reported more supportive relationships in complementary therapies compared with those found in mainstream medicine and are more satisfied with this relationship (Furnham and Kirkaldy, 1996; Bernstien and Shuval, 1997; Busato & Kunzi, 2010, Luff and Thomas, 2000; Lupton, 1997; Shinto et al, 2005; Sirois & Purc Stephenson, 2007). Patients also report more opportunity to take an active role in treatment within CAM compared to mainstream therapies (Bishop, Yardley and Lewith, 2010; Boon, Stewart, Kenard, et al, 2000; Hsiao, et al, 2003; Sirois, 2008). CAM is also seen as providing a more holistic approach than mainstream medicine by both patients and practitioners (Barrett, Marchand, Scheder, Plane, Maberry, Applebaum, Rakel and Rabago, 2003; Sirois, 2008). Patients who have a holistic philosophy towards health and life are also more likely to use CAM than those who do not (Siapush, 1999). However, it could be that complementary therapies are appraised more positively because they are predominantly available in the private sector where psychosocial aspects of care may be enhanced (Paterson and Britten, 2008; Wiles and Higgins, 1996). Alternatively, it could be that there is something inherent to complementary therapies (or their practitioners) that serves to emphasise these aspects of care, and that can attenuate differences between

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public and private healthcare. Exploring how a CAM (osteopathy) and mainstream therapy (physiotherapy) vary between HCS will allow investigation of this important question.

A further reason that physiotherapy and osteopathy were useful treatments to choose in investigating the HCS was that they are available to different extents in the NHS. Whilst physiotherapy is widely available in the NHS, osteopathy is only available in a small number of NHS clinics. Whilst physiotherapists usually start their career in the NHS and some later move to private practice, osteopaths train in private practice and a few later move into the NHS. Furthermore, whilst physiotherapists are given standard permanent NHS contracts, osteopaths are usually employed with Any Quality Provider (Department of Health, 2011) contracts. These are short term (non permanent) contracts. In this way physiotherapy could be viewed as more established in the NHS than osteopathy. Choosing these two therapies therefore provides an interesting examination of how NHS trained practitioners (physiotherapists) and privately trained practitioners (osteopaths) treat LBP in each HCS.

In summary, physiotherapy and osteopathy were chosen because they are both common treatments for LBP, recommended in national guidelines for the treatment of LBP and share similar treatment approaches. Furthermore, they allowed comparison between a mainstream therapy which is well established in the NHS (physiotherapy) and a CAM treatment which is not well established in the NHS (osteopathy). Physiotherapy and osteopathy will now be discussed in more detail.

1.5.1 Osteopathy

Osteopathy includes the diagnosis, treatment, prevention and rehabilitation of musculoskeletal conditions (NICE, 2009). Osteopaths' training specialises in treatment of the spine, meaning musculoskeletal disorders such as LBP are a core part of the patient group who osteopaths are trained to treat. Indeed, osteopaths have reported that they most commonly treat lumbar symptoms (such as LBP) (Fawkes, Leach, Mathias & Moore, 2009).

Osteopathy generally includes manual (hands on) therapy including manipulation of the spine (NICE, 2009; Fawkes et al, 2009). A survey of osteopaths found that osteopaths use a variety of treatment techniques, the most common of which were soft tissue treatment, articulation (also known as mobilisation in mainstream therapies) and spinal

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manipulations (Fawkes et al, 2009). Most osteopaths also reported discussing self-management strategies with patients (Fawkes et al, 2009).

Osteopathy has several proposed tenets that underlie its approach. According to Rogers (2005), these include the view of a person as a product of the dynamic interaction between body, mind and spirit, meaning that osteopathy takes a biopsychosocial and holistic approach. This holistic approach also extends into treatment of the body, functioning of the whole body, especially the whole spine is usually considered in osteopathic diagnosis and treatment, rather than just a focus on the area of pain or dysfunction. Osteopathy views the musculoskeletal system as a significant influence on the individual's ability to restore this inherent capacity for healing and therefore to resist disease processes.

Osteopathy is only available in a small number of places in the NHS, although it is widely available in private practice. It is not known exactly how many NHS osteopaths exist, but it is thought that at least 80% of osteopathy occurs in the private sector (Fawkes et al, 2009; GOC, 2006). A survey of osteopathy patients in 2007 indicated that only 10.4% pay for treatment using private health insurance, although most major private health insurance policies provide cover for osteopathy (Fawkes, 2009; GOC 2006). The majority of patients instead pay for osteopathy themselves directly. Perhaps because osteopathy has remained largely outside of the NHS it is not regulated by the same body as most other NHS therapies (the Health and Care Professions Council). Instead, osteopaths use their own independent statutory regulating body called the General Osteopathic Council (GOC).

Osteopaths tend to use different language to physiotherapists and other practitioners working within mainstream medicine (Breen, Carrington, Collier & Vogel, 2000). This likely occurred because osteopathy has historically existed outside of mainstream medicine which in the UK predominantly grew in the NHS during the 20th century. For example, whilst physiotherapists and most doctors understand the repetitive passive movement applied to a joint in order to free it up as mobilization, osteopaths usually call this articulation. GPs have reported preferring to refer to physiotherapy because of their lack of understanding of osteopathic terminology (Breen et al, 2000).

1.5.2 Physiotherapy

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Physiotherapists are regulated by the Health and Care Professionals Council, alongside other mainstream therapists such as dieticians, occupational therapist, paramedics and practising psychologists. Physiotherapy is a wide field which includes the treatment of not just musculoskeletal system problems, but also respiratory, neurological and cardiovascular problems. Physiotherapists tend to base their initial training in all of these fields and then once qualified specialise in a particular area. Those who treat LBP have generally specialised in musculoskeletal problems. Physiotherapy therefore has somewhat of a broader scope than osteopathy and less of a focus on the musculoskeletal system compared to osteopathy at an undergraduate level. NICE offers a definition of physiotherapy when it is used for LBP: “Physiotherapy aims to improve human function and movement and maximising potential: it uses physical approaches to promote, maintain and restore physical, psychological and social well-being, through the use of manual therapy, electrotherapy and exercise” (NICE, 2009). As this definition states physiotherapy uses the same techniques as osteopathy (e.g. manual therapy, teaching exercises), but also some that osteopaths use less frequently such as electrotherapy. However, whilst surveys of osteopaths tend to show that electrotherapies are used less by osteopaths (Fawkes et al, 2009) some osteopaths do sometimes use them, so this is not a unique feature of physiotherapy. It is worth noting that NICE (2009) no longer recommend electrotherapies as a treatment for LBP as there is not enough evidence supporting their effectiveness.

Historically physiotherapy became closely aligned with doctors at its roots as doctors dominated medicine and many of those who formed physiotherapy were originally nurses (Rogers, 1994). This brought about benefits for both physiotherapists and doctors; the physiotherapists were seen under a dominant medical field which had benefits such as bringing physiotherapy into the NHS when it was formed. In exchange doctors were able to keep physiotherapy in a subordinate role and crucially have influence over its management and theoretical basis (Miles-Tapping, 1985; Sim, 1990). Consequently, physiotherapy has been largely developed under the medical model and so shared theoretical tenets and language with other mainstream therapies (Roberts, 1994). Roberts (1994) argues that this underpinning of the (bio)medical model has meant that physiotherapy has been widely influenced by Cartesian mind-body dualism and reductionism (for example treating specific parts of the body rather than the whole). It is therefore perhaps unsurprising that there is evidence that standard physiotherapy is more effective for those with physiological symptoms but without psychological distress. Indeed it may be less suitable for those who are distressed (Hope and Forshaw, 1997) or who

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have fear avoidance beliefs (George, Fritz, Bialosky, & Donald et al, 2003). Physiotherapy has clearly made advances away from the medical model as it has become clear that a biopsychosocial model is better able to explain conditions like pain (Waddell, 1996), for instance in the past year the Chartered Society of Physiotherapists (CSP) added to its website that “physiotherapy takes a ‘whole person’ approach to health and wellbeing, which includes the patients general lifestyle’ (CSP, 2013). However, its theoretical basis is not in holism and there is not much evidence that the practice of physiotherapy has kept up with the CSP’s evolving mission statements. Whilst physiotherapists appear to hold some biopsychosocial beliefs, many also hold some biomedical beliefs as well (Ostelo, Stomp-van den Berg, Vlaeyen, Wolters, & de Vet, 2003; Pincus et al, 2007). Furthermore, when their strategies to treat patients with CLBP are discussed it is clear that they are working from a biomedical model and not a biopsychosocial one (Daykin and Richardson, 2004). Indeed, it is usual for there to be a gap between emergence of new theory and changes in practice (Linton, 1998; Muncney, 2000).

1.6 Thesis Outline

The remainder of this thesis contains seven chapters. Chapter 2 reports a systematic review of psychosocial factors important within physiotherapy for LBP. Chapter 3 reports a theoretical literature review and discussion of methodological issues. Chapter 4 reports the findings from a qualitative study exploring patients’ experiences of NHS and private physiotherapy and osteopathy for LBP. Chapter 5 reports the development of a questionnaire measuring patients’ treatment appraisals. This includes a qualitative study to assess face validity and a quantitative study to assess internal reliability, structural and concurrent validity. Chapter 6 reports the findings of a cross-sectional observational study exploring patients’ appraisals of NHS and private physiotherapy and osteopathy for LBP. Chapter 7 reports the findings of a qualitative study exploring physiotherapists’ and osteopaths’ experiences of treating LBP within the NHS and private practice. Chapter 8 provides a general discussion.

2. Chapter 2: A Systematic Review of Psychosocial Factors within Physiotherapy for LBP

2.1 Introduction

As discussed in chapter 1, psychosocial aspects of treatment (such as the patient-practitioner relationship) have been shown to vary between HCS in some treatments (Wiles and Higgins, 1996; Paterson and Bittern, 2008). Psychosocial factors are also known to be important to LBP progression and may influence treatment outcomes (Pincus, Vlaeyen, et al, 2002). Before beginning empirical work exploring the relationship between the HCS, treatment types and psychosocial aspects of treatment, it was necessary to review what is known about the influence of psychosocial factors in the context of physiotherapy and osteopathy for LBP. Specifically which factors are likely to be important to (related to, predictive of, mediators or moderators of) patient adherence and treatment outcomes. Understanding which psychosocial factors might be important to patient adherence and treatment outcomes would provide an insight into the likely implications of such factors varying between private and NHS settings. Such insight will inform studies within this thesis, for instance sensitising the researcher to important constructs raised within the qualitative studies and suggesting which variables to include and potential hypotheses within the planned quantitative study (this quantitative study will also be informed by the qualitative work with patients, chapter 4). It will likely also make recommendations for future research exploring psychosocial factors in physiotherapy for LBP generally.

It was decided that a systematic review would be the best approach for collating all evidence about psychosocial factors within physiotherapy and osteopathy for LBP. Systematic reviews attempt to accumulate and summarise existing research on particular variables or concepts (Dixon-Woods, Bonas, Booth, Jones, Miller, Sutton,

Shaw, Smith & Young, 2006). They are useful for identifying gaps in the literature and establishing what is known about an area (Dixon-Woods, Cavers et al, 2006; Dolan, Mullen & Ramirez, 2006). An alternative approach might have been to carry out an interpretative review. The main output of interpretative reviews tends to be development and transformation of theory rather than the aggregation of data (Barnett-Page & Thomas, 2009; Dixon-Woods, Bonas et al, 2006). Interpretative reviews do not take an exhaustive approach to sampling. Instead they adopt strategies such as only including papers deemed to be the most relevant (Greenhalgh, Robert, Macfarlane, Kyriakidou & Peacock, 2005). Therefore interpretative reviews may omit studies which have been deemed unimportant by the reviewer, but might be of interest to the reader. In contrast, systematic reviews use well defined review protocols which ensure that all evidence relating to the topic of interest is identified, thus ensuring more accurate and unbiased conclusions can be drawn from the data (Dixon-Woods, Bonas et al, 2006; Higgins & Green, 2011). A systematic review was therefore deemed the most useful approach to adopt in the current review, in order to collate all possible evidence and establish what is known in this area.

Searches revealed no existing systematic reviews exploring psychosocial factors in physiotherapy or osteopathy for LBP, demonstrating a need to collate existing evidence within this area. Some existing reviews have looked at psychosocial factors within the context of general treatments for LBP. For instance, Wessels, van Tulder, Ewert, Limm and Stucki (2006) reviewed evidence about the influence of physical and psychosocial factors in non-operative treatments for back pain. However, a lack of focus on a single treatment led to heterogeneity within results, hampering conclusions about which psychosocial factors are likely to be important to treatment outcomes. In addition this review only focussed only on patient characteristics (such as patients' beliefs or mood), ignoring psychosocial factors contributed by the practitioner, patient-practitioner relationship or treatment environment. In fact reviews have rarely explored the influence of psychosocial factors other than patient characteristics. One such review by Jeffels and Foster (2003) explored the influence of physiotherapist communication on patients' pain experiences. The authors concluded that communication has the potential to influence pain experiences. However, this review has limited relevance to actual clinical practice, as most studies were set within experimental settings and carried out on healthy individuals. One review considered a broader range of

psychosocial factors within LBP generally (not just in a treatment context) but included limited evidence from a conference presentation, was not systematic, and is therefore likely to be biased in the evidence that it presents (Pincus, Vlaeyen et al, 2002). The current review aimed to improve on existing reviews by providing a systematic approach, by investigating a wide range of psychosocial factors at once and by doing so within a limited number of treatments to prevent heterogeneity of results between treatments hampering conclusions (as in Tulder et al, 2006). Initial searches revealed very few studies investigating psychosocial factors within osteopathy for LBP. It was therefore decided that this systematic review would focus exclusively on physiotherapy for LBP.

Many psychosocial factors might be relevant to physiotherapy for LBP, and it was therefore necessary to use a theoretical model to guide searches to ensure that as many factors as possible were identified. Di Blasi et al's (2001) model of context factors was chosen as it is a comprehensive model of different categories of psychosocial factors. Context factors are psychosocial factors thought to produce (placebo) effects within treatments, throughout this chapter they will be referred to as psychosocial factors for consistency. Di Blasi's model states that there are five different categories of psychosocial factors which can influence treatment outcomes: patient characteristics (such as the patient's beliefs), practitioner characteristics (such as the practitioner's beliefs), the relationship between patient and practitioner, the healthcare setting (or environment) and treatment characteristics (such as the shape or size of a drug), all of which can affect treatment outcomes. Although Di Blasi et al's (2001) model was not specifically designed for looking at adherence, it was thought that this model could also be useful in searching for psychosocial factors related to adherence. Di Blasi et al's (2001) model will be used within this review to collate evidence on all psychosocial factors which could potentially be related to or influence adherence or treatment outcomes within physiotherapy for LBP.

The aims of this review were to collate evidence on which psychosocial factors could be important within physiotherapy for LBP, and to identify from published studies which psychosocial factors play a role (are related to, predictive of, mediate, or moderate outcomes) in physiotherapy for LBP.

2.2 Method

2.2.1 Search Strategy

Systematic literature searches were carried out in Electronic databases MEDLINE, Psychinfo, Web of Knowledge and the Cochrane library. Search terms were based around Di Blasi et al's (2001) model of psychosocial effects and were designed to tap "patient characteristics", "practitioner characteristics", the "patient-practitioner relationship" and "health care setting" as suggested by this model. The fifth psychosocial category of "treatment characteristics" which refers to such factors as the colour or size of a drug was not included within this review due to problems with operationalising such characteristics in a complex and interactive intervention like physiotherapy. Search terms were also discussed with two of the academic supervisors FB and GL, which helped refine terms and reduce the likelihood of potentially useful search terms being overlooked. This review included only psychosocial and not physical patient characteristics. Searches were carried out at the end of 2008 and beginning of 2009.

Search terms included "back pain" combined with one of the following: "expectancy", "personality", "beliefs", "perceptions", "illness perceptions", "anxiety", "distress", "depression", "credibility", "patient characteristics", "therapist attitudes", "therapist characteristics", "charisma", "attitude of health personnel", "practitioner characteristics", "environment", "therapeutic environment", "delivery of health care", "patient centred", "communication", "communication barriers", "Interpersonal relations", "professional-patient relations", "relationship", "relationship factors" and "empathy". Wherever possible MeSH terms were used. MeSH terms are Medical subject headings which are indexing terms, provided by the US National Library of Medicine and are thought to produce better and more relevant search terms (National Library of Medicine, 2010).

2.2.2 Scope of the Study

2.2.2.1 Physiotherapy.

Physiotherapy was defined as any therapy led by a physiotherapist. Physiotherapy treatments were excluded if they involved multidisciplinary teams, such as physiotherapy programs which were delivered by physiotherapists alongside psychologists or general practitioners. Treatments which combined physiotherapy with education, information giving and advice were considered physiotherapy. However, education, information giving and advice alone were not considered physiotherapy, as this does not reflect how physiotherapy is commonly practiced (Frost, Lamb, Doll, Carver, & Steward-Brown, 2004). Physiotherapy programs which were underpinned by cognitive behavioural principles were also included, however cognitive behavioural therapy (CBT) by itself was excluded as this is a psychological treatment. Studies which involved physiotherapists delivering acupuncture were also excluded as acupuncture is likely to involve its own individual psychosocial factors (Paterson & Dieppe, 2005).

2.2.2.2 Patient outcomes in quantitative prospective studies

Four types of patient outcome were considered within prospective studies in order to avoid a large amount of heterogeneity within results: patients' adherence to treatment (or treatment recommendations), pain, disability, and global perceived effect (GPE) of treatment (patients' overall rating of how effective treatment was for them). These outcomes have been recommended in guidelines for measuring outcomes in pain conditions (Dworkin et al, 2005). Pain and disability may be only modestly related (Turk, 2002) and so there is a need to explore both ratings as both affect patients with pain conditions (Dworkin et al 2005). GPE is considered an important outcome measure within treatments for pain (Dworkin et al 2005; Collins et al 2001). As GPE

indicates the participant's judgement of how far treatment has been successful it gives a good indication of whether a treatment outcome is clinically meaningful to a patient (Farrar et al 2001; Fischer et al 1999).

3.2.3 Inclusion of Studies

Figure 1 shows the process of study selection for review. Interestingly, the original database search revealed only 14 papers, but both the references and citations revealed a reasonably high number of further papers (6 and 4 respectively). It was of note that these further papers were not highlighted in the original database search. When investigating this issue I found that the selected databases did not include all physiotherapy journals and the papers identified in the references and citations were published in journals not included in the databases. In fact no databases contained all physiotherapy journals, as highlighted in a review by Fell et al (2011). This highlights the importance of completing reference and citation searches after initial database searches when investigating this area.

The inclusion criteria were:

- Peer reviewed journal articles (original articles, not for instance letters to the editor etc)
- Qualitative studies which explored psychosocial factors in relation to patient or physiotherapist experiences of physiotherapy for treatment of LBP.
- Quantitative cross-sectional study designs which investigated psychosocial factors within physiotherapy for treatment of LBP.
- Quantitative prospective studies which investigated a psychosocial factors in relation to adherence or patient outcome.
- Studies published in English between 1998 and 2008. A ten-year period was chosen to limit the amount of studies to be screened and reviewed to a manageable amount. This was also useful as this is a rapidly growing area of study and more recent studies tend to be of better quality.
- Physiotherapy delivered by qualified physiotherapists (not physiotherapy aids)

- Aged over 18

Studies were excluded if they met any of the following criteria:

- Single-case study designs.
- Retrospective study designs (since they might be limited by missing data, patient selection bias and data control.)
- Studies which considered psychosocial factors only in relation to patient outcomes other than those stated above (see patient outcomes section).
- Physiotherapy for prevention of LBP.
- Multi-disciplinary treatment which included physiotherapy.
- Investigated multiple conditions and LBP outcomes were not reported separately within results, making interpretation of results within the context of LBP impossible.
- Investigated physiotherapy alongside another intervention and did not separate the therapies within their results, making interpretation of results within the context of physiotherapy impossible.
- Created composite measures of multiple factors where interpretation of the effects of a single psychosocial factor was not possible.
- Physiotherapy which included only CBT or education, or acupuncture alone or as part of a treatment.

2.2.3 Quality appraisal and data extraction

Appraising the quality of included studies is common in systematic reviews. This procedure aims to provide a guide for interpretation of findings, whereby findings of greater quality are given greater weight as they are likely to contain less risk of bias. However, there is debate over how to appraise studies in reviews. Studies can be appraised using a scoring system which denotes each item of a checklist with a point and sums the total score to provide a guide of whether a study is of better or worse quality. An alternative approach is to appraise the quality of studies without attributing

a score to each. In this case studies are still appraised using the same kinds of quality criteria, but the results of such appraisals are reported within the review, either within the text or in tables in order for the review to provide a transparent account of the appraisals of quality of each study.

The Cochrane Consumers and Review Group (2007), who specialise in conducting systematic reviews, recommends not providing a scored appraisal of studies in systematic reviews. This is because quality scoring approaches are often not transparent, as researchers can simply report an overall score for a study and not explain the reasons why it contained biases. This makes conclusions about the accuracy of the reviewers' interpretations more difficult. Furthermore, it is noteworthy that scoring systems have been shown to yield unreliable results (Juni, Witschi, Bloch & Egger, 1999). A more transparent approach is preferred by Cochrane, whereby criteria upon which studies are appraised is reported and incorporated into the findings. Cochrane also argue that a quality checklist rather than scoring makes comparison between studies easier, since different criteria might be more important within one study than another.

A problem with both scoring and non-scoring approaches to quality appraisal is that no gold standard review tool exists for assessing quality (Cochrane Consumers Review Group, 2007; Sanderson, Tatt and Higgins, 2007). A non scoring approach to quality appraisal was taken within the current review in order to avoid the problems discussed above with scoring quality. Aspects of studies which likely influenced their quality or present a risk of bias are discussed throughout the results in order to demonstrate which studies are likely to provide more reliable and valid results.

Data were extracted systematically from included studies and tabulated in order to make comparisons across studies and aid synthesis. For all types of studies, data extracted included publication date (authors, date), sample characteristics (size and reported demographics), intervention characteristics (description of physiotherapy, setting, country), exclusion criteria (whether red flags such as malignancy were excluded), study type (e.g. qualitative interview study or secondary analysis of an RCT) and key findings.

In addition, data relevant to each specific type of study (qualitative, cross-sectional quantitative and prospective quantitative) were extracted in order to help appraise the

quality of included studies and identify any likely sources of bias. The critical appraisal skills programme toolkit for qualitative research was used for qualitative studies (CASP, 2006). This tool is used to extract data on the rigour, quality and credibility of findings from qualitative research. Additional information extracted from cross-sectional and prospective quantitative studies included response rate, differences between responders and non responders, measures (reliability, validity, composite measures), data analyses (type, appropriateness, whether confounders or baseline variables were controlled for). Additional data extracted only from prospective quantitative studies included drop-out rate, difference between drop-outs and completers, difference between intervention groups (if applicable). These data were based on recommendations by Pincus, Vogel, Burton, Satons, and Field (2006) for assessing the quality of prospective studies on psychosocial factors (specifically fear avoidance beliefs) in LBP.

2.2.4 Synthesis

A large number of psychosocial factors were identified, most of which were each explored by only a handful of studies. This combined with the breadth of study designs and measures and a lack of reporting of necessary statistics (such as R^2 values) meant that meta analysis was not possible. A narrative synthesis was therefore employed with methods described by Popay et al (2006). The aims of this review were to collate evidence about which psychosocial factors might be important and what role they might play in physiotherapy for LBP. Unfortunately (as will become clear) the quality of the primary studies reporting precludes a clear view of the contribution of each factor in explaining outcomes in physiotherapy for LBP. In particular, effect sizes and the amount of variance explained by psychosocial factors were rarely presented within studies, which often only reported standardised beta values. Because the primary studies often controlled for a range of different variables within regression analyses or used different measures of psychosocial variables, comparison of beta values between studies is problematic and so statistics are not reported in this synthesis. Studies were categorised following Di Blaisi et al's (2001) model and then organised further into the

individual psychosocial factors. Evidence for each psychosocial factor was therefore considered separately within mini reviews which also considered the strength of conclusions which could be made based on the apparent quality of the study reports. The results section therefore provides an overview of the types of factors that have been studied so far, allowing conclusions to be drawn about which factors seem particularly promising for understanding physiotherapy for LBP. As study reporting may impact on the apparent quality of a study only the quality of study reporting can be assessed, this will be referred to as quality throughout this review. Where heterogeneity existed between study results, moderators such as sample size, methodology and biases which may have affected results were considered. Directions for future research were also identified.

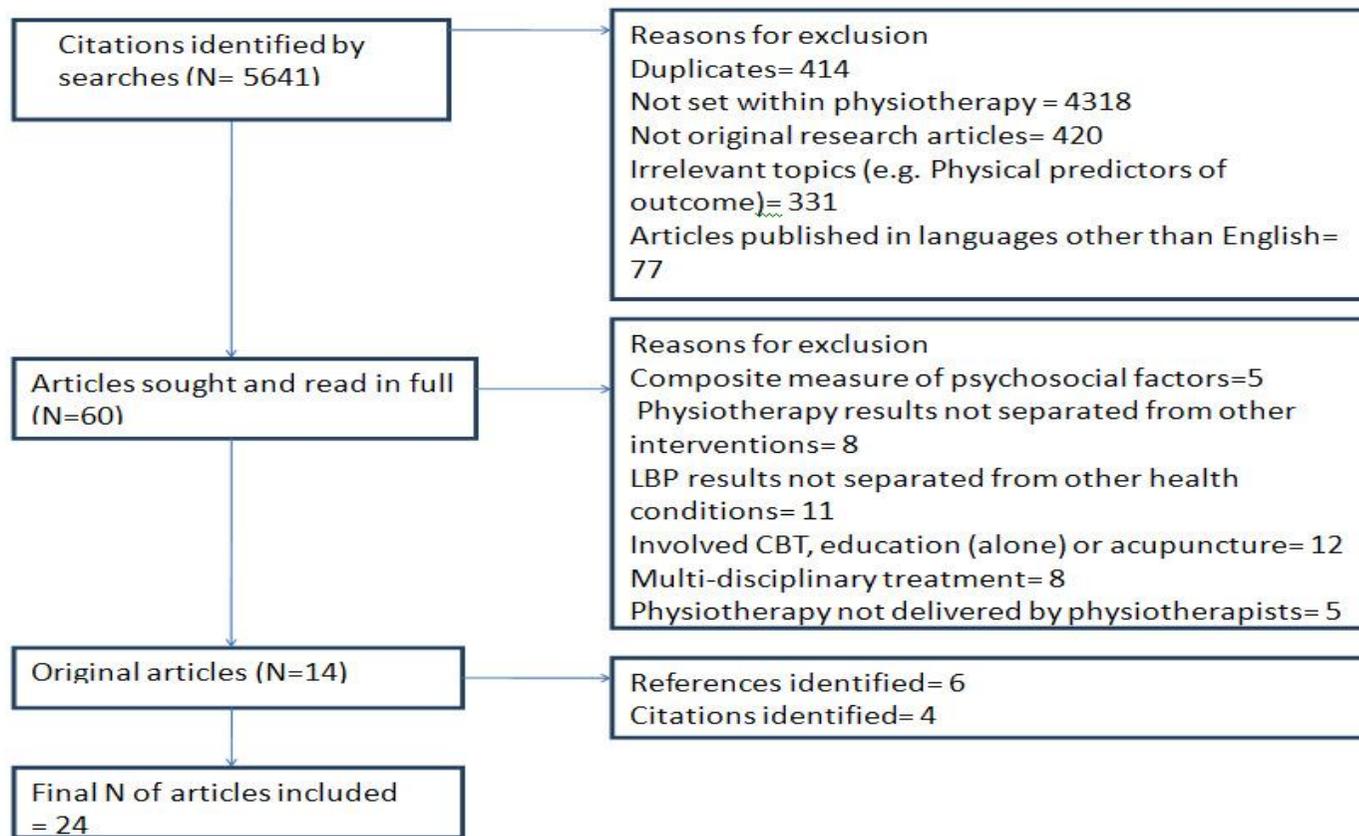


Figure 1 Process of study inclusion

2.3 Results

Table 1 displays a summary of the evidence for each of the psychosocial factors (as well as study designs and authors) identified within each of Di Blasi et al's psychosocial categories.

2.3.1 Patient Characteristics

This section considers evidence of the role of psychosocial patient characteristics in physiotherapy for LBP. Studies investigated fear avoidance beliefs, catastrophising, expectancy, credibility, distress, self-efficacy, internal control over pain and illness perceptions.

2.3.1.1 Fear avoidance beliefs

A simple version of the fear avoidance model was presented by Pincus, Vogel, Santos et al (2006). This states that the perception of LBP combined with catastrophising thoughts (thoughts characterised by an excessive focus on the sensation of pain, exaggerated perceptions of the threat of and inability to cope with the pain situation) leads to fear of pain which is thought to be an adaptive response designed to protect the individual from further harm. This fear eventually leads to anxiety about pain and hypervigilance in guarding against pain (increased sensory sensitivity accompanied by behaviours designed to detect threats of pain) which means the individual avoids pain-related situations or activities rather than confronting them. This avoidance leads to further pain and disability. Pain without catastrophising and without fear does not trigger anxiety, therefore the individual confronts pain related situations or activities and recovers. (For further discussion of the fear avoidance model see chapter 3.)

Nine studies examined the role of fear avoidance beliefs or fear of movement/re-injury (from here on both will be referred to as fear avoidance beliefs or FABs) within physiotherapy interventions for LBP. The main weaknesses of these studies were limited sample size (George, Bialosky, & Donald, 2005), not controlling for baseline variables within multivariate analyses (George, Fritz, & McNeil, 2006) and differences between patients who completed and dropped out of physiotherapy which may mean that results lack generalisability (Woby, Roach, Urmston, & Watson, 2008; George et al, 2008). The implications of these limitations for results are considered in more detail later.

Three types of studies investigated the role of FABs within physiotherapy interventions for LBP. The first considered the prognostic capabilities of baseline FABs as psychological risk factors for disadvantageous outcomes from physiotherapy interventions. The second considered FABs as treatment process variables, that is whether reductions in FABs predicted improvement in outcomes. The third explored interactions between the physiotherapy intervention and FABs. Results within these sections are separated into those which considered disability outcomes and those which considered pain outcomes. Studies which investigated FABs often split the Fear Avoidance Beliefs Questionnaire (FABQ, Waddell, Newton, Henderson, Somerville & Main, 1993) into its two subscales, namely the FABQ-PA which measures FABs about physical activity and the FABQ-W which measures FABs about work, where subscale results differ they are reported separately for clarity.

It is also important to note that many of the studies (George et al, 2005; George et al, 2008; George, Fritz & McNeil, 2006; George, Fritz, Childs et al, 2006) within this section use data from one RCT (George et al, 2003), in some cases pooled with data from other studies (George, Fritz, Childs et al, 2006; George et al, 2008). These studies used subgroups of the original data, with clear rationale explained, for example wanting to only use data from people who had one intervention (George et al, 2005; George et al, 2008; George, Fritz & McNeil, 2006) or who completed follow up measures (George, Fritz, Childs et al, 2006).

Table 1: Psychosocial factors within physiotherapy for LBP

Di Blasi et al's (2001) psychosocial categories	Psychosocial factor	Design, (sample size)	Reference	Summary of result(s)
Patient characteristics	FABs	Observational before and after (137)	Woby et al (2008)	Reductions in FABs predicted reductions in disability, but not pain.
		Secondary analysis of 1 RCT (63)	George, Fritz & McNeil (2006)	Reductions in the FABQ-PA predicted reductions in both pain and disability.
		Secondary subgroup analysis of 1 RCT (28)	George et al (2005)	Baseline FABQ-W scores predicted disability but not pain outcome. Baseline FABQ-PA scores predicted neither pain or disability outcome.
		Secondary subgroup analysis of two pooled RCTs (160)	George et al (2008)	Baseline FABQ-W, but not FABQ-PA scores predicted disability outcome.

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	Secondary subgroup analysis of three pooled RCTs (165)	George, Fritz, Childs et al (2006)	Baseline FABQ-W scores predicted disability outcomes in males but not females. Baseline FABQ-PA scores did not predict pain or disability outcomes in either gender. Baseline FABQ-PA scores did not predict pain outcome in either gender.
	Secondary analysis of 1 RCT (131)	Whitman et al (2004)	Baseline FABQ-W scores did not predict disability outcome.
	Subgroup analysis of 1 RCT (187)	Klaber Moffett et al (2004)	FABs may mediate the relationship between treatment type and disability outcome.
	RCT (66)	George et al (2003)	FABs may mediate the relationship between treatment type and disability outcome.
Catastrophising	Secondary analysis of 1 RCT (211), Netherlands.	Smeets et al (2006)	Catastrophising mediated reductions in pain and disability.

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	Observational before and after study (137)	Woby et al (2008)	Reductions in catastrophising were not predictive of pain or disability outcomes.
Expectancy	RCT (260)	Petersen et al (2007)	Expecting problems at entry coping with future work tasks were predictive of disability but not pain outcomes. Expectations to be working at six months were not predictive of pain or disability outcomes.
	Prospective cohort study (120)	Alexandre et al (2002)	Expecting fewer problems with therapy predicted better adherence.
	Qualitative open ended questionnaire study (121)	Grimmer et al (1999)	Expectations of treatment differed between naive and experienced patients.
	Secondary analysis of 1 RCT (176)	Smeets et al (2008)	Expectancy predicted GPE.
Credibility	Secondary analysis of	Smeets et al (2008)	Credibility did not predict GPE.

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	1 RCT (176)		
Distress/Depression	Subgroup analysis of 1 RCT(187)	Klaber Moffett et al (2004)	Patients were more likely to experience a clinically important reduction in disability if they were randomised to physiotherapy rather than a control group.
	Prospective cohort study (120)	Alexandre et al (2002)	Depression was not related to adherence.
Self-efficacy	Observational before and after study (137)	Woby et al (2008)	Improvement in self-efficacy predicted pain and disability outcomes.
Locus of control	Secondary analysis of 1 RCT (176)	Smeets et al (2006)	LOC did not mediate disability outcome.
	Prospective cohort study (120)	Alexandre et al (2002)	LOC was not related to adherence.
	Observational before and after study (137)	Woby et al (2008)	LOC improvement did not predict disability outcome.

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	Illness perceptions	Qualitative interview study (9)	Dean et al (2005)	Illness perceptions may be important to adherence.
Physiotherapist characteristics	Physiotherapist FABs	Cross-sectional questionnaire study (71)	Linton et al (2002)	Some physiotherapists held FABs.
	Biomedical model beliefs	Cross-sectional questionnaire study (373)	Ostelo et al (2003)	Physiotherapists held both biomedical and bio-psychosocial beliefs.
		Qualitative interview study (6 Physiotherapists, 12 Patients)	Daykin and Richardson (2004)	Physiotherapists held biomedical beliefs which appeared to be related to their beliefs about patients and treatment approach.
		Cross-sectional questionnaire study (174)	Pincus et al (2007)	Physiotherapists held both biomedical and bio-psychosocial beliefs in tandem.
	Biomedical	Cross-sectional	Bishop and Foster	Physiotherapists make some recommendations

recommendations	vignette study (453)	(2005)	consistent with a biomedical model and appear to base their treatment recommendations on biomedical information and not bio-psychosocial information about the patient.
Physiotherapist experience	Qualitative interview study (6 Physiotherapists, 12 Patients)	Daykin and Richardson (2004)	Clinical experience appeared to be related to confidence in clinical skills and communication with patients. A personal pain experience appeared to modify clinicians' beliefs and working practice.
	Qualitative interview study(12)	Resnick and Jensen (2003)	Years of clinical experience are not important, instead diversity of knowledge and experiences are important to physiotherapy expertise.
	Secondary analysis of 1 RCT(131)	Whitman et al (2004)	Clinical experience is not predictive of disability outcome.
Speciality certifications	Secondary analysis of 1 RCT(131)	Whitman et al (2004)	Speciality certifications are not predictive of disability outcome.

Patient-physiotherapist relationship	The relationship and communication	Qualitative interview study (25)	Cooper et al (2008)	Communication and the relationship are important to patients within physiotherapy for LBP.
		Qualitative interview study (34)	May et al (2000)	Communication and the relationship are important to patients within physiotherapy for LBP.
		Qualitative interview study (12)	Resnick and Jensen (2003)	Communication and the relationship are important to physiotherapist expertise.
	Agreement in beliefs	Cross-sectional questionnaire study (35 dyads)	Azoulay et al (2005)	Patient-physiotherapist agreement was extremely high.
		Before and after observational study (78)	Perreault and Dionne (2006)	Patient-physiotherapist disagreement in pain beliefs predicted pain and disability outcomes. Agreement in disability beliefs did not predict pain or disability outcomes.

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		Qualitative interview study (6 Physiotherapists, 12 Patients)	Daykin and Richardson (2004)	Agreement may be important to patient outcomes.
Environment	Expectations within different treatment settings	Open ended questionnaire qualitative study (121)	(Grimmer et al 1995).	Patients' expectations of treatment did not differ between country and city locations and hospitals and private practice.

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2.3.1.1.1 Prognostic capabilities of fear avoidance beliefs

When baseline FABs were found to be predictive of patient outcomes the direction of the relationship was always such that less adaptive FABs (higher scores on measures of FABs) meant less favourable outcomes in pain and disability.

2.3.1.1.1.1 Pain

Two studies found baseline FABs (about work and physical activity) not to be predictive of pain outcomes (George et al, 2005; George, Fritz, Childs et al, 2006). One of these studies (George et al, 2005) was likely to be underpowered to find an effect due to a very small sample size (N=28), which may have biased results towards the null. This means that current conclusions must be based on George, Fritz, Childs et al's (2006) study which used a much larger sample (N=165) and is therefore likely to be more reliable.

2.3.1.1.1.2 Disability

The majority of studies agree that baseline FABs about work do predict disability outcomes (George et al, 2008; George et al, 2005, George, Fritz, Childs et al, 2006). Although within analysis of three pooled RCTs George, Fritz, Childs et al (2006) found baseline FABQ-W scores only predicted disability in males (not females). This was surprising, as gender differences have not previously been observed in FABs. The results of George et al's (2008) study may be limited in generalisability due to 26.2% of the participants who did not complete follow up data and who were younger and had higher baseline pain intensity scores than completers. It is also unclear whether non-completers were included within the regression analyses, which makes interpretation of this result difficult. Only one study did not find baseline FABs about work to predict disability outcomes (Whitman, Fritz & Childs, 2004). Whitman et al's null finding may be less reliable, since the authors state that they used the FABQ-W scale but describe this as measuring fear avoidance beliefs about physical activity (not work). It is therefore unclear whether the authors inaccurately reported which scale they used (the authors were contacted about this disparity but did not respond).

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Most studies found baseline FABs about physical activity did not predict disability outcomes (George, Fritz, Childs et al, 2006; George et al, 2005; George et al 2008). However, as explained above one of these studies (George et al, 2005) may be compromised by a lack of statistical power and one (George et al, 2008) by lack of generalisability. A single study (George et al, 2003) found baseline FABQ-PA scores predicted disability outcomes. It is interesting that George et al's (2005) study and George et al's (2003) study reach different conclusions here, despite the 2005 study using a subgroup of patients from the 2003 study. This difference could be due to the subgroup study (George et al, 2005) being underpowered to detect an effect. However, the subgroup analysis (George et al, 2005) did find FABs about work to be predictive of disability outcomes, which the original RCT study (George et al, 2003) did not control for, if the FABQW had been controlled for this may have reduced the predictive capabilities of FABs about physical activity.

2.3.1.1.2 Treatment process variables

2.3.1.1.2.1 Pain

There is currently mixed evidence about whether reductions in FABs predict reductions in pain within physiotherapy specifically designed to reduce FABs. One study (George, Fritz & McNeil 2006) found reductions in FABs (about physical activity only) predicted reductions in pain. However, this study did not control for any other variables which, if included, may have reduced the significance of this finding; these omissions may have resulted in a type one error. The second study (Woby et al, 2008) which did not suffer from this limitation, examined a range of psychological variables and found that reductions in FABs were not predictive of reductions in pain. Although the result of Woby et al's (2008) study seems more reliable and less likely due to bias, its generalisability may be limited to patients who display psychosocial risk factors, as the study's selection criteria dictated that patients should show such risk factors (including elevated FABs). The generalisability of this study may be further limited as 25% of the patients dropped out of this study and were not included within the analysis, differences existed between completers and non-completers (non-completers were more likely to be male, to have experienced a gradual onset of back pain and to have had back pain for >1 year and to be unemployed but not for health reasons). Therefore further evidence is needed in other

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populations to confirm whether or not reductions in FABs predict reductions in pain outcomes.

2.3.1.1.2.2 Disability

Two studies investigated whether changes in FABs within FAB based physiotherapy interventions predicted changes in disability. One considered an overall measure of FABs using the Tampa scale of Kinesiophobia (TSK, Miller, Kori, & Todd, 1991) (Woby et al, 2008). Reductions in FABs predicted reductions in disability, although as discussed above this study may be limited somewhat in its generalisability (see Pain section of FAB treatment process variables). A single study found that reductions in FABs about physical activity predicted reductions in disability (George, Fritz & McNeil, 2006). However, as explained above this study did not control for other known predictors which may have resulted in an overestimation of effect and a type one error. Therefore although current evidence suggests that a change in FABs predicts a change in disability further evidence which overcomes the limitations of these studies seems warranted.

2.3.1.1.3 The interaction between FABs and Physiotherapy.

Two studies considered the interaction of physiotherapy, FABs and clinical outcomes. George et al (2003) found that treatment type moderated the relationship between FABs and disability outcomes. Patients with higher baseline FABQ-PA scores (defined as a score of fifteen or more) had significantly larger reductions in disability if they received a fear avoidance based physiotherapy intervention compared to standard physiotherapy. In contrast, patients who had low FABs about physical activity at baseline showed larger disability reductions if they were allocated to standard physiotherapy. There was also evidence that FABs mediate patient outcomes. The fear avoidance based physiotherapy group showed a significant reduction in FABQ-PA scores, compared to the standard physiotherapy group who did not, implying that this group was able to modify FABs and that this led to a reduction in disability. This study therefore implies that FABs may partially mediate patient outcomes within physiotherapy for LBP.

Klaber Moffett, Carr, and Howarth (2004) offer some support to George et al's (2003) findings. They found that patients with high baseline FABQ-PA scores (defined as fourteen

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or more) were more likely to achieve a clinically meaningful reduction in disability if they were randomised to physiotherapy (similar to the fear avoidance based physiotherapy used in George et al, 2003) rather than a GP care control group. Disability outcomes did not differ between the two groups in those with low scores on the FABQ-PA. It seems that this intervention modified FABs and that FABs mediated patient outcomes within treatments, as the authors found that a four (or more) point improvement on the FABQ-PA scale at six weeks was associated with threefold greater chances of improvement on a measure of disability at 12 months (within the physiotherapy group only). Unfortunately, differences existed between the physiotherapy and control group at baseline, where the physiotherapy group had higher levels of disability and more “distressed depressive” patients, and these differences in known confounders were not controlled for within the analysis. Replication of this result is therefore necessary to check that these baseline differences were not responsible for the differences in outcomes found between the two groups.

2.3.1.1.4 Summary

Conclusions about FABs are weakened by the range of limitations that the current studies report. Further research is needed to improve on these studies in order to make robust conclusions about the role of FABs in physiotherapy for LBP. Much of the data also comes from the same original RCT (George et al, 2003), so further studies seem important in order to confirm the conclusions found here in other samples. So far research indicates that there is an interaction between FABs about physical activity, treatment type and clinical outcomes, and that these FABs may moderate the relationship between treatment type and disability outcomes. People with higher FABs about physical activity seem to do better in physiotherapy interventions which are designed to change these FABs and reductions in disability appear to be mediated by reductions in FABs. This is also consistent with studies showing that reductions in the FABQ-PA predict reductions in disability. There is less evidence that reductions in FABs about physical activity predict reductions in pain, although evidence is currently based on only a small number of studies. Baseline FABs about physical activity generally did not predict pain or disability outcomes. This too could be consistent with the model of FABs, as if changes in FABs are related to changes in outcome then one would not expect baseline FABs to predict outcome. So overall there is evidence that FABs about physical activity are involved in disability

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outcomes, but further evidence is needed to confirm their importance within pain outcomes.

Neither the interaction studies or treatment process studies explored FABs about work, but there was evidence that baseline FABQ-W scores predict disability outcomes. It was suggested by Pincus et al (2006) in a systematic review of FABs in back pain (not focussing on physiotherapy) that FABs about work may be qualitatively different from other FABs. It seems logical that physiotherapy could alter FABs about physical activity through exposure to exercise which provides behavioural evidence that physical activity is not dangerous. However, it is less likely that such interventions could easily change FABs about work (e.g. "My pain was caused by my work or an accident at my work"; Waddell et al, 1993) meaning that baseline FABs about work could predict later outcome more easily as they would be less likely to be altered within treatment. It seems important that future studies explore whether FABs about work do change during physiotherapy for LBP and whether these changes are related to outcomes so that we can understand more about the role of FABs about work within physiotherapy for LBP.

2.3.1.2 Catastrophising

Only a small amount of research has considered the role of catastrophising specifically within physiotherapy for LBP. Woby et al (2008) found changes in catastrophising did not predict changes in disability or pain intensity. However, Smeets, Vlaeyen, Kester, and Knottnerus (2006) found catastrophising did mediate reductions in disability and pain intensity within both standard and cognitive behaviourally based physiotherapy. It is unclear why these two studies should show inconsistent results but this could be due to the potential lack of generalisability of Woby et al's study, where completers differed from non completers (non-completers were more likely to be male, to have experienced a gradual onset of back pain and to have had back pain for >1 year and to be unemployed but not for health reasons). Alternatively this difference could be due to the fact that Woby et al included several other psychosocial predictors (e.g. FABs, self-efficacy) which were found to be predictive of outcomes, it may be that these other factors are more important to patient outcomes than catastrophising.

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2.3.1.3 Expectancy and credibility

Research into the role of expectancy and credibility within physiotherapy interventions is currently in the early stages, with four studies having considered the role of expectancy and only one the role of credibility. These are categorised according to the outcomes they assessed.

2.3.1.3.1 Pain and Disability

Petersen, Larsen and Jacobsen (2007) found that low expectations about coping with future work tasks predicted worse disability outcome. These expectations were not predictive of pain outcomes. Expectations to be working at six months did not predict pain or disability. However, the authors were not clear about how they measured these expectations, therefore the reliability and validity of these measures is unknown.

2.3.1.3.2 Adherence

Alexandre, Nordin, Hiebert and Campello (2002) found that expecting fewer problems with adherence predicted better adherence to treatment. However, this study did not test the reliability or validity of the measure of expectancy used and so its accuracy is unknown.

2.3.1.3.3 GPE

Smeets et al (2008) found that expectancy but not credibility significantly contributed to the prediction of GPE. It is not clear why only expectancy and not credibility was important as a prognostic variable.

2.3.1.3.4 Patient experience

There is some indication from a questionnaire study which collected qualitative data that expectancy may depend on patients' previous experience of physiotherapy for LBP

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(Grimmer Grimmer, Sheppard, Pitt, Magery, & Trott et al, 1999). Differences were found between patients attending for the first time (who were naive to physiotherapy) and patients who had experienced previous physiotherapy. The experienced patients expected advice and explanation of their problem more frequently than the naive patients. Naive patients expected to be completely cured much more frequently than did the experienced patients. Both naive and experienced patients expected some symptom relief from a first session. Although it seems logical that experience could alter expectations, the authors do not explain how they analysed the data and chose themes to talk about. They also do not illustrate/ground their arguments with quotations from participants. These limitations make it difficult to assess the validity of this study's findings.

Overall quantitative studies suggest that some types of expectations do predict patient outcomes. However, the unknown reliability and validity of some of the measures means that more research is needed to determine accurately what types of expectations are involved in patient outcomes. Smeets et al's (2008) study also suggests that credibility is not a useful predictor, however it would be unwise to dismiss this variable based on a single study. Further research should examine this area with mixed methods designs.

2.3.1.4 Distress/ Depression

So far two studies have investigated the role of distress or depression in physiotherapy for LBP. Alexandre et al (2002) found no evidence of a relationship between depression and adherence with physiotherapy treatment. Klaber Moffett et al (2004) found that patients classified as being 'at risk/distressed' were more likely to experience a clinically important reduction in disability if they were randomised to physiotherapy rather than a control group (GP care; Klaber Moffett et al, 2004). This result was found only at six weeks and not at longer term follow up. The authors argued that this could indicate that physiotherapy could have mediated distress through social support, rather than changed unhelpful cognitions or behaviours. However, they present no data on whether distress did reduce in these patients. For patients not classified as 'at risk/distressed' there was no significant difference between the control and physiotherapy groups in disability outcomes. This study used an untested composite measure of being 'at risk/distressed' which may limit the reliability and validity of results. Although this study suggests that distressed patients have better disability outcomes in physiotherapy interventions than in usual GP care, the

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ability of physiotherapy to modify this distress remains un-evidenced. Therefore the relationship between distress and patient outcomes requires further exploration within physiotherapy and as yet there is no formal evidence from either study to support such a relationship.

2.3.1.5 Self-efficacy

Only one study (Woby et al, 2008) investigated the role of functional self-efficacy within physiotherapy for LBP. This study tested a range of cognitive factors and found increases in self-efficacy predicted reductions in pain intensity and disability. While this study may be limited in generalisability (as discussed within the FABS section 3.3.1.1.2.1) it does show that self-efficacy is worth further study.

2.3.1.6 Locus of control

Three studies found no evidence that patients' locus of control is involved in adherence to and outcomes from physiotherapy for LBP. Three different types of locus of control were measured, the extent to which patients felt they had control over their pain (Smeets et al, 2006, Woby et al, 2008), felt they could reduce their pain (Woby et al, 2008) and believed they themselves, powerful others or chance factors determined their health (Alexandre et al, 2002) . Smeets et al (2006) found that perceived control over pain did not change during treatment, but disability did. They therefore concluded that perceived control could not be a mediator of disability outcome. The authors noted that scores on the measure of internal control of pain were medium to high, therefore a ceiling effect may have reduced change scores within this factor. Woby et al (2008) found that perceived control over pain and ability to decrease pain did not significantly predict pain or disability outcomes. Alexandre et al (2002) found that patients locus of control beliefs about health were not related to adherence to physiotherapy. However, both Alexandre et al's (2002) and Woby et al's (2008) study may have limited generalisability (as discussed above).

The current evidence indicates no support for patients' locus of control beliefs acting as potential psychosocial factors within physiotherapy for LBP. However, the low number of

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studies and the potential ceiling effect within Smeets et al's study (2006) necessitates further research before this factor is completely rejected.

2.3.1.7 Illness perceptions

A well designed and conducted qualitative study (Dean, Smith, Payne & Weinman, 2005) indicated that patients' illness perceptions were important to their adherence. In particular, viewing LBP as a serious condition with negative consequences made patients less likely to adhere to treatment. Patients sometimes believed that they needed a hands-on treatment and often wanted an instant cure to come from the physiotherapist rather than from their own self-management. Adherence to exercises also seemed to be influenced by patients' beliefs about the cause of their pain and therefore how long it would last. These beliefs seem to reflect illness perceptions in particular perceptions of cause, consequence, timeline and cure-control. It is known that illness perceptions are predictive of treatment adherence within a range of different settings (Chen, Tsai & Lee 2009; Molloy et al, 2009; Stafford, Jackson, & Berk, 2008) and it seems important that the relationships between these perceptions and adherence in LBP are now explored quantitatively.

2.3.1.8 Conclusions

The current evidence indicates that some patient characteristics are likely to be important determinants of patient outcomes within physiotherapy for LBP. The majority of studies in this area focus on FABs, most consistently indicating that baseline FABs about work predict disability outcomes and that FABs about physical activity are likely to mediate the relationship between treatment and disability outcomes. There is also fairly consistent evidence that expectations have a role in physiotherapy for LBP, however it is not yet clear which expectations are the most important to adherence and patient outcomes. Single studies indicate that both self-efficacy and illness perceptions are likely to be important within physiotherapy for LBP. Less consistent evidence supports a role for catastrophising, depression or distress and no evidence indicates a role for patients' locus of control. The various limitations of many of the studies included within this section hamper strong conclusions about which psychosocial factors are the most important. Future studies should aim to overcome these limitations.

2.3.2 Physiotherapist Characteristics Section

This section reviews studies of physiotherapist characteristics which have the potential to play a role within physiotherapy for LBP. It also considers research which examines how such physiotherapist characteristics affect patient outcomes. Studies have investigated physiotherapists' beliefs, their certifications, knowledge and experiences.

2.3.2.1 Beliefs

Pincus et al (2007) argued that practitioners' beliefs could contribute to disability from LBP through over-treating or under-treating, failing to use effective reactivation strategies, reinforcing patient's unhelpful illness perceptions and/or by advising increased spinal vigilance and restricting normal activities. Research on physiotherapists' beliefs has focussed on FABs and whether physiotherapists' beliefs reflect a particular model of illness and treatment, each of these will be reviewed in turn. Research in this area is still in its infancy and so far only cross-sectional surveys, vignettes and qualitative studies have been employed. Although these studies allow examination of the nature of physiotherapists' beliefs they do not allow analysis of how physiotherapists' beliefs affect patient outcomes.

2.3.2.1.1 Fear avoidance beliefs

Linton, Vlaeyen and Ostelol (2002) argue that physiotherapists may themselves hold FABs which could affect their treatment recommendations. It is known that treatment recommendations can affect patient outcomes. For instance, LBP patients advised to use self care strategies by their doctors had significantly less disability at follow up than those who were prescribed bed rest and analgesics (Von Korff, Barlow, Cherki, & Deyo, 1994). Linton et al (2002) found that although beliefs varied some physiotherapists did hold FABs. In particular, 23% of physiotherapists reported that they would worry if patients reported pain during exercises and 46% believed that a reduction in pain was a necessary pre-requisite before a patient should return to work. Physiotherapists also commonly reported that they would advise a patient to avoid painful movements (69%). These

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beliefs and recommendations are worrying as they not only reflect FABs but also are not in keeping with guidelines for the management of LBP (Waddell, McIntosh, & Hutchinson, 1999; Waddell and Burton 2000; Koes, van Tulder, Ostelo, Burton, & Waddell, 2001; NICE, 2009). However, this study used a new questionnaire made up of parts of other validated questionnaires which measure FABs, but did not re-test the reliability or validity of this measure (although the internal consistency of this new questionnaire was satisfactory). This is a cause for concern and testing of this new questionnaire seems necessary before firm conclusions can be drawn. The generalisability of this study is also questionable as all participants were recruited from a further education event. It seems possible that people attending such an event could be different in some way from non-attendees. Studies which use more representative samples would be useful to confirm the existence of FABs in the wider physiotherapist population.

2.3.2.1.2 Treatment Beliefs and Models of LBP

Four studies have investigated whether physiotherapists' treatment beliefs reflect a biomedical or bio-psychosocial model of LBP. The biomedical model has been criticised (WHO, 1986) and replaced with a bio-psychosocial model in attempts to improve outcomes for patients with LBP (Waddell, 2004; Waddell, Newton, Henderson, Somerville, & Main, 1987; Borkan, et al, 2002). This is because the biomedical model emphasised pain being a result of damage to the back and therefore treatment involved resting the back and avoiding further back stressing movements. Unfortunately, this treatment leads to more not less disability and clinical guidelines for the management of LBP emphasise patients remaining active and avoiding rest (Waddell et al 1999, Waddell & Burton 2000; Koes et al, 2001; NICE, 2009). The bio-psychosocial model emphasises that psychological and social factors are also involved in LBP and therefore should be assessed and targeted within treatments.

Cross-sectional studies have indicated that some physiotherapists hold biomedical beliefs (Ostelo, Stomp-van den Berg, Vlaeyen, Wolters, & de Vet, 2003; Pincus et al, 2007) and make recommendations consistent with a biomedical approach (Bishop and Foster, 2005). Ostelo et al (2003) found that physiotherapists held wide ranging beliefs about many aspects of diagnosis and treatment, reflecting both biomedical and bio-psychosocial viewpoints (20 items), and only showed more agreement in a small number of bio-

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psychosocial beliefs (6 items). However, the generalisability of results may be limited somewhat as a higher number of physiotherapists with an interest in CBT approaches participated. It seems possible that this sample of physiotherapists could therefore hold more beliefs consistent with the biopsychosocial model than would the average physiotherapist. Pincus et al (2007) reported that physiotherapists' beliefs mainly reflected the bio-psychosocial model of LBP. However, physiotherapists still on average endorsed biomedical views to a moderate extent indicating that physiotherapists could hold both biomedical and psychosocial views in tandem. It is not yet clear how having multiple, perhaps competing beliefs would affect practitioner recommendations or patient outcomes. Future studies would be useful to explore this issue further.

A single study explored physiotherapists' treatment recommendations and found that most physiotherapists recommended at least some activity restrictions for patient vignettes with low, moderate and high risk of LBP chronicity (Bishop & Foster, 2005). Some physiotherapists also recommended that these patients refrain from work. This is worrying as these more biomedical recommendations are inconsistent with clinical guidelines and may put patients at risk of having less successful outcomes. The authors argued that physiotherapists seemed to base their recommendations on only the biomedical and not the bio-psychosocial information that they were given within vignettes. However, this hypothesis was not tested fully due to low numbers within some cells in the Chi-squared analysis. The results of this study may also be somewhat limited in generalisability as participants were all quite experienced physiotherapists (Mean=18 years of experience, SD = 9).

Research in this area is relatively new and questionnaires used to measure physiotherapists' beliefs have not yet been proven to be reliable and valid. Consequently, it is hard to conclude whether the results of the above studies are reliable or valid. The questionnaire used by Bishop and Foster (2005) does not appear to have been validated and a previous study indicated it has only modest reliability (Rainville et al, 2004). Similarly the internal consistency of the questionnaire developed and used by Ostelo et al (2003) (the pain attitudes and beliefs scale for physiotherapists or PABS_PT) proved inadequate for the behavioural subscale (reflecting the bio-psychosocial model), although adequate for the biomedical subscale. The questionnaire used by Pincus et al (2007) (Attitudes to Back Pain Scale for musculoskeletal practitioners, ABS-mp) also has not yet

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been fully tested for reliability and validity. However, this scale did show initial face validity when tested in a small group of practitioners (Pincus, Vogel, et al, 2006). A systematic review found that there are currently no tools measuring physiotherapists' beliefs which are fully tested for reliability and validity (Bishop et al, 2007). Future research should prioritise establishing the reliability and validity of measures used within this area.

Despite the potential problems with the reliability and validity of the measures within the above studies a qualitative study by Daykin and Richardson (2004) adds credence to the idea that some physiotherapists hold biomedical beliefs. Through interviews with physiotherapists and patients, and observations of physiotherapy treatments, the authors explored the pain beliefs of physiotherapists within the context of managing CLBP. According to the analysis physiotherapists mainly seemed to display biomedical pain beliefs about the causes of CLBP and these beliefs were associated with biomedical treatments, even in the presence of psychological risk factors which were not targeted within treatment. Physiotherapists were also found to stereotype patients into 'good' and 'difficult' to treat patients, where good patients were compliant, motivated, and had simple presentations and difficult patients were more complex (for example having psychological risk factors), more passive, not compliant and had unrealistic expectations of treatment. Physiotherapists reported lower expectations of outcomes for difficult patients and did not feel confident in their ability to treat these patients successfully. Physiotherapists also admitted to switching off when treating difficult patients and to being less sympathetic towards them. The authors noted that physiotherapists' biomedical treatment beliefs may be involved in the way the physiotherapist views and responds to the patient. That is, patients who fit into a biomedical treatment model were reportedly seen as good, and those who are more complex for example with unhelpful treatment beliefs, who appeared to need treatment based on the bio-psychosocial model, were reportedly seen as difficult. This study indicates not only that physiotherapists do hold biomedical beliefs, but also that these beliefs have the potential to be detrimental to treatment in multiple ways.

2.3.2.1.3 Conclusions

The current research indicates that physiotherapists do hold some biomedical beliefs which are not in line with current guidelines and could be seen as potentially harmful to

patients. Research also indicates that physiotherapists may make recommendations which are consistent with a biomedical model (Bishop & Foster, 2005) and that biomedical beliefs have the potential to influence treatment in a number of different ways (Daykin & Richardson, 2004). However, it is not yet known whether these beliefs impact on patients' treatment outcomes. Future studies should aim to validate a measure of physiotherapists' beliefs and then investigate the relationships between these beliefs and treatment outcomes.

2.3.2.2 Experience, knowledge and speciality certifications

It has been suggested that physiotherapist expertise includes factors such as the knowledge, experience and certifications of the therapist, and that these may contribute towards patient outcomes (Whitman et al, 2004). Only one study indicated that years of clinical experience may be important to physiotherapy expertise. This well designed and conducted qualitative study indicated that less clinically experienced physiotherapists felt less confident in their own clinical skills and communicated with patients less than their more experienced peers (Daykin & Richardson, 2004). However, this analyses and another (Resnick & Jensen, 2003) high quality qualitative study also indicate that a variety of experiences and not just clinical experience contribute to physiotherapists' expertise. Daykin and Richardson (2004) found that a personal pain experience modified physiotherapists' beliefs and behaviours, encouraging empathy, different advice and different exercise recommendations.

Another well designed and conducted qualitative study found physiotherapy expertise was not dependent on the number of clinical years of experience that a physiotherapist had, but on possessing a wide variety of experiences, skills and knowledge (Resnick & Jensen, 2003). Expert physiotherapists (classifications based on the physiotherapists' patient outcomes) included both more experienced and novice practitioners. Those who were more experienced experts tended to have diverse academic backgrounds, whereas novice experts (with less years of experience) tended to have a degree in exercise science and work experience (in addition to their physiotherapy qualifications). Average physiotherapists did not have these combinations of degrees and work experience or varied academic backgrounds. The authors found that both experienced and novice expert physiotherapists had a stronger knowledge base which was not based on years of clinical

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experience, but on a wide range of different experiences that the clinician gained, (for example speciality work or personal experiences of movement and rehabilitation). Expert physiotherapists (both novice and experienced) also consulted colleagues about problems, whereas average physiotherapists only observed other colleagues. The authors report that caring combined with learning and reflection appeared to be the drivers behind physiotherapy experts' superior knowledge base. Average physiotherapists did not show the same level of enthusiasm and passion about their work as the expert physiotherapists. Physiotherapists within this study were classified as expert or average based on their patient outcomes, which adds credence to the idea that a wide variety of experiences, skills and wide knowledge base can impact on patient outcomes.

A prospective study (Whitman et al, 2004) suggested that clinical experience and certifications are not related to patient outcomes. This study found that years of clinical experience, intervention experience (manipulation or stabilisation exercises) and specialist certificates were not predictive of one week change in disability following physiotherapy. This study's results were based on a sample of physiotherapists who were mostly male (84.6%), therefore the generalisability of this study's result may be limited to male physiotherapists. Furthermore Resnick (2004) argued that the results of this study only show that experience and specialised certificates are not predictive of the physiotherapists' ability to learn and use the standardised techniques of the study (set in an RCT environment), and not of physiotherapy outcomes when treatment is clinically reasoned by the physiotherapist and individualised to the patient as in usual physiotherapy practice. Resnick also argued that classification of physiotherapists as experienced in manipulation or stabilisation exercises was problematic within this study. Therapists were classified based on the number of years that they had used manipulative techniques. Consequently therapists may have been using these techniques for a long time, but never before used the particular manipulation techniques of the study, thereby making them a novice. Misclassifying physiotherapists in this way could have created bias, resulting in a type two error (Resnick, 2004). Another limitation of Whitman et al's study was that patients were not randomised to practitioners (instead they were randomised to treatment groups), this may have meant that practitioners were not treating equivalent patients which could also have led to a type two error. Further research is clearly needed to explore whether experience and certification influence manipulation and stabilisation based physiotherapy outcomes within un-standardised real world physiotherapy treatments.

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2.3.2.2.1 Conclusion

Research exploring physiotherapists' characteristics is still in the early stages and there is still a way to go before we understand if and how these characteristics may relate to patient adherence or outcomes. However, existing studies do indicate that these clinicians hold some potentially unhelpful beliefs and further studies should explore this further in relation to outcomes. The evidence regarding physiotherapists' experience is also fairly consistent in suggesting that years of clinical experience are less important than breadth and variety of experience. Further prospective research is needed to explore this, as well as to explore whether speciality certificates are related to outcomes.

2.3.3 The Patient-Physiotherapist Relationship

Research investigating the relationship between patient and physiotherapist is still in its infancy, with the majority of studies having only identified potentially important aspects of this relationship. Studies are categorised into those which highlight the importance of the relationship and communication within physiotherapy, and those which investigate patient-physiotherapist agreement.

2.3.3.1 Relationship and communication

Qualitative research indicates that the relationship and communication between patient and physiotherapist is considered important by both LBP patients (Cooper, Smith, & Hancock, 2008; May, 2000) and the physiotherapists who treat them (Resnik & Jensen, 2003). All three of these studies appear to be well designed and conducted.

Two studies interviewed patients about their experiences of physiotherapy and highlighted the importance of the patient-physiotherapist relationship. Cooper et al (2008) found that continuity of care was important to patients, who felt it enabled the physiotherapist to get to know the patients, thereby treating them as a person and not a number. The authors found that listening, understanding, encouraging patient participation in discussions, using appropriate terminology that the patient would understand and taking time over explanations were all important to physiotherapy patients. Communication was found to be important in explaining the rationale of

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decisions to patients and in assessing how involved patients wanted to be in making decisions about treatment. May (2000) also found that the patient-physiotherapist relationship could enable patients to take an active role within their treatment. Patients wanted to be active within the consultation and to be listened to, rather than just given prescriptive treatments. Patients' satisfaction with physiotherapy was also related to the friendliness and empathy of the physiotherapist. Although May's study used a heterogeneous mix of LBP patients, patients who chose not to participate tended to have longer histories of LBP, were more likely to be older and female. It is not clear whether the results of this study would be transferable to this group of patients who chose not to participate, further research would be useful to check this.

A well conducted qualitative study involving physiotherapists also identified as important continuity of care and collaborative relationships which allowed the patient to be active within treatment (Resnik & Jensen 2003). This study found differences in the way in which physiotherapists classified as expert or average (based on their patient outcomes) discussed the relationship. Expert physiotherapists used a patient-centred approach to care, seeking to empower patients to take an active role in treatments. Expert physiotherapists were able to achieve this through establishing a collaborative relationship with the patient where they involved them in problem solving and clinical reasoning within the consultation. Average physiotherapists did use problem solving, but this was more focussed on mechanical assessment rather than collaboration. Expert physiotherapists also prioritised the relationship by exerting strict control over any delegation of the patient to other colleagues. Average physiotherapists delegated and transferred patients to other colleagues more frequently and often did not ensure continuity of care. Good communication, using simple terms was essential to teaching which expert physiotherapists believed was essential to patient empowerment.

2.3.3.1.1 Conclusions

It is encouraging that qualitative research with both patients and physiotherapists reaches similar conclusions about aspects of the relationship and communication which are important within treatments. This could be seen as evidence of triangulation across

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studies. It now seems important for prospective studies to investigate whether these factors are related to outcomes from physiotherapy for LBP.

2.3.3.2 Agreement in beliefs

Three studies were found which investigated patient-physiotherapist agreement. The two questionnaire studies (Azoulay, Ehrmann-Feldman, Truhnon, & Rossignol, 2005; Perreault & Dionne, 2006) exhibited a range of methodological problems (described below) which are likely to have biased their results, meaning that conclusions about the role of agreement must be based on a single well designed and conducted qualitative study (Daykin & Richardson, 2004). This study indicated that agreement on expectations of treatment, expected outcomes, and beliefs about LBP is likely to be important for outcomes from physiotherapy, and also that patient-physiotherapist communication may be able to influence agreement (Daykin & Richardson, 2004). Not all physiotherapists' beliefs were in agreement with patients' beliefs and physiotherapists did not always explore patients' beliefs with them. When beliefs did not match some patients were found to change their beliefs to be in line with the physiotherapists. A good explanation that made sense to the patient was crucial to this change in beliefs and the authors speculated that this contributed to good patient outcomes. Poor outcome was reported by patients whose beliefs did not match with physiotherapists' beliefs and who received no explanation, or an explanation that they did not accept. Further prospective studies would be useful to test whether the matching of patient and physiotherapist beliefs does contribute towards patient outcomes and whether this relationship may be moderated by communication.

Azoulay et al (2005) found that patient-physiotherapist agreement about the management of LBP was extremely high, making prospective analysis of the relationship between patient outcomes and agreement impossible (this study is therefore included in the cross-sectional studies table). However, this study contains a range of methodological limitations which cast doubt on its result. The reliability and validity of the measure of agreement used in this study is unknown, so agreement levels reported could be inaccurate. Also the generalisability of the study's results may be limited to those who received compensation for their LBP. Furthermore, although physiotherapists recruited

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and treated patients the exact recruitment methods are unclear. It seems possible that as physiotherapists both recruited and treated patients they could have altered their behaviour with participating patients to maximise agreement. The time-point at which patients were recruited is also unclear, if patients were recruited after treatment had begun then it is possible that only patients who knew that they agreed with their physiotherapist would participate, creating selection bias.

A second questionnaire study (Perreault & Dionne, 2006) found that patient-physiotherapist disagreement was associated with better outcomes. Reductions in pain were found where patients rated their baseline pain intensity as higher than physiotherapists (based on only four patient-physiotherapist dyads). Reductions in functional limitations were found in patients who rated their baseline pain intensity as lower than their physiotherapist (based on only two patient-physiotherapist dyads). However, these results could be the result of a type one error as this study did not make adjustments for multiple comparisons. No such relationship was found between agreement on patients' baseline level of functional impairment and changes in pain intensity or functional limitation. However, this null result should also be interpreted with caution as low numbers of patient-physiotherapist dyads may have resulted in a type two error. Furthermore, small effect sizes indicate that effects may be clinically unimportant. Patients in this study may also not be representative of the general population of LBP patients as they had low scores on psychological distress measures and were highly educated.

2.3.3.2.1 Conclusions

Little can be concluded from the available quantitative studies which have investigated patient-physiotherapist agreement due to the likely biases in results. However, as qualitative evidence suggests that agreement may be related to successful physiotherapy for LBP it seems important that further high quality quantitative studies, which overcome the limitations in current studies, explore the relationship between patient outcomes and patient-physiotherapist agreement.

2.3.4 Environment

A single questionnaire study which collected qualitative data was found to explore the role of the environment within physiotherapy for LBP (Grimmer et al, 1995). The authors explored patients' expectations of physiotherapy between country and city locations and hospitals and private practices. They found no differences in expectations between these different settings. However, it is not clear how data were analysed and the authors do not present illustrative quotes from the data, making conclusions about the credibility of this result difficult. There is a need for further studies to explore the role that locations and practice types play within physiotherapy for LBP, as well as other environmental variables such as the treatment room. Qualitative interviews would provide rich data to explore such factors.

2.4 Discussion

This review identified a number of psychosocial factors, some of which were found to be related to, predictive of or mediators of patient outcomes within physiotherapy for LBP. Some of the studies reviewed demonstrated significant methodological or statistical limitations and so provide weaker evidence. This limits the strength of conclusions that can be made and highlights a range of ways in which research in this area needs to improve (discussed below).

2.4.1 Patient Characteristics

This review provides evidence that patient characteristics are involved in patient outcomes within physiotherapy for LBP. However, the low number of studies which investigated each factor make it difficult to draw conclusions about the importance of each factor. The most consistent evidence indicated that baseline FABs about work predict disability outcomes, and that FABs about physical activity may mediate the relationship

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between treatment and patient outcomes. It is important to note that this was partly the most consistent finding as the most studies had investigated this variable. No studies investigated whether FABs about work changed during physiotherapy, this should be prioritised within future studies to enhance our understanding of this factor. There was less evidence that FABs predicted pain outcomes, or that FABs about physical activity were useful predictors of patient outcomes. Wessels et al's (2006) review (not limited to physiotherapy treatment) also found consistent evidence that FABs predict disability outcome, but inconsistent evidence that they predict pain outcome. It may therefore be that FABs are less relevant to pain outcomes than to disability. However, the limitations of studies included within this review may be responsible for this null finding and more research is needed to test whether FABs are useful predictors of pain outcomes.

The current review also found evidence that expectations predict patient outcomes. This is consistent with evidence from a systematic review which indicates that recovery expectations predicted LBP outcomes outside of treatment (Iles, Davidson, Taylor, & O'Halloran, 2009). The current review extends what is known about expectations in LBP, indicating that they are also likely important to physiotherapy outcomes. A few studies provided inconsistent evidence for a role of both catastrophising and distress/depression within physiotherapy for LBP, it is possible that these inconsistencies are due to methodological bias. Indeed previous systematic reviews have indicated that catastrophising and distress/depression are related to the aetiology and progression of LBP (Pincus et al, 2002; Linton, 2000). Further studies are therefore needed to explore these factors further to determine their importance within treatment outcomes.

Two single studies suggested that self-efficacy and illness perceptions might be important to physiotherapy outcomes. Since the completion of this review further evidence to support the importance of these variables has been published. For instance, self-efficacy has been shown to predict 6 week treatment outcomes in physical therapy for back pain (Evans, Carter, Panico, Kimble, Morlock & Spears, 2010). Furthermore, evidence suggests that self-efficacy and illness perceptions may be more important predictors of back pain outcomes than other psychosocial patient characteristics (like FABs, catastrophising, depression; Foster, et al, 2010). This study followed people attending their GP for LBP and found that when all psychological variables were entered into a multivariate model only self-efficacy and illness perceptions predicted 6 month disability outcomes. Future studies should therefore explore further the relationships between treatment outcomes and self-efficacy or illness perceptions. It would also be useful to know whether these patient characteristics might be amenable to change within physiotherapy.

2.4.2 Physiotherapist Characteristics

In this review physiotherapists' beliefs and the diversity of their knowledge and experiences (rather than simply years of clinical experience) were highlighted as important within physiotherapy for LBP. Another systematic review of GP studies also suggests that it is not simply years of clinical experience that is important to practitioners' knowledge and adherence to guidelines: GPs with the most years of clinical experience had less accurate knowledge and adhered less to guidelines (Choudhry, Fletcher, & Soumerai, 2006). Further research should prioritise examining the relationship between physiotherapists' beliefs, knowledge and experiences and patient outcomes.

2.4.3 Patient-Physiotherapist Relationship

The relationship and communication were consistently highlighted as important within this review. Since the completion of this systematic review other studies have also indicated that the therapeutic relationship is likely to be important within physiotherapy for LBP. The therapeutic alliance (a measure of the therapeutic relationship) has been shown to predict treatment outcomes within physiotherapy for LBP (Ferreira, Ferreira, Maher, Refshauge, Latimer & Adams, 2012) and a recent systematic review found the therapeutic alliance to be associated with physiotherapy treatment outcomes across a range of different conditions (including LBP) (Hall, Ferreira, Maher, Latimer & Ferreira, 2010). This suggests that relationship factors are likely to be important to treatment outcomes within physiotherapy. There is now a need for prospective quantitative studies to investigate this area further and for intervention designs to investigate whether enhancing the patient-practitioner relationship improves treatment outcomes (and how best to enhance this relationship). The current review also highlighted qualitative work which suggests that agreement in patient-physiotherapist beliefs is important within physiotherapy for LBP. However the quantitative studies reviewed were too weak in quality to draw conclusions from, so further quantitative research is needed to examine the strength of relationship between agreement and patient outcomes within physiotherapy for LBP.

2.4.4 Treatment Environment

The treatment environment was rarely investigated within physiotherapy for LBP. A single study provided only weak evidence (due to its poor reporting) that patients' treatment expectations did not vary between different environments. Qualitative studies in other areas have indicated that the healthcare environment may have an effect on patient experiences (Wiles & Higgins, 1996, Paterson & Britten, 2008). There is a need for further studies to explore the role of the environment within physiotherapy for LBP.

2.4.5 Clinical Implications

It is important to clinical practice that FABs about work were found to predict patient outcomes more consistently than FABs about physical activity. This could be due to the fact that physiotherapy interventions were able to alter FABs about physical activity but not about work. Indeed current physiotherapy interventions which aim to modify FABs concentrate on improving FABs about physical activity, for instance by exposing patients to activity. Studies within this review did not explore whether FABs about work changed during interventions, although if this was the case one would not expect baseline FABs to predict outcomes. Indeed FABs about work were not found to change within a physiotherapist led CBT programme (Woby, Watson, Roach, & Urmston, 2004). It may be useful for physiotherapy interventions to explore whether it is possible to modify FABs about work as they currently predict worse patient outcomes. Woby et al (2004) argue that gradual exposure to work related activities combined with a graded return to work could teach patients that work activities will not be harmful to their backs, therefore modifying FABs about work. However, certain FABs about work (for example "my pain was caused by my work or an accident at work"; Waddell et al, 1993) may be less amenable to change. More research is needed to explore whether this would indeed be helpful.

Evidence that expectations predict adherence and patient outcomes within physiotherapy for LBP indicates a need for physiotherapists to assess and if necessary modify expectations at the beginning of treatment. The evidence from this review concerning communication and the patient-practitioner relationship indicates that taking time to listen to the patient and getting to understand their point of view could be helpful here.

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This would give the physiotherapist a chance to get to know the patient a little so that they can frame explanations of why the patient needs to alter their expectations in a way that would make sense to the individual. Involving the patient in problem solving (a technique used by expert physiotherapists within Resnick and Jensen's, 2003 study) may also be a useful way of initially modifying treatment expectations, for instance asking the patient what potential problems they could foresee with attending treatment, and then involving the patient in problem solving what they might do if such a situations arose and how they might attend treatment anyway. This could lead to the patient having more confidence in their ability to attend treatment and therefore more favourable expectations about their attendance.

2.4.6 Implications for studies in this thesis

This review suggests a number of variables that may be useful to be aware of within the qualitative work within this thesis, or to include as variables within the planned quantitative study. The qualitative study with patients (study 1) will further contribute to the choice of variables and hypotheses explored within the quantitative study. Variables which appear potentially useful to be aware of in the qualitative and quantitative studies are patients' FABs, expectations, self-efficacy and illness perceptions. The review also highlights that practitioners' biomedical beliefs may be detrimental to their interactions with patients. Though the influence of such beliefs on treatment outcomes are not entirely clear from this review, it would be useful to bear this in mind within the qualitative study with practitioners (study 4, chapter 7). For instance, it would be valuable to explore what kinds of beliefs practitioners hold and how these might be related to their interactions with patients and whether such relationships might vary by HCS or treatment type. Holding a wide range of experiences and diverse backgrounds as well as being enthusiastic about their work might be important qualities for physiotherapists to have, which could be born in mind within the qualitative practitioner study (study 4). This review also highlights the importance of the patient-practitioner relationship, especially good communication, which will be useful to be aware of in both the qualitative and quantitative studies in this thesis.

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As a wide variety of variables have been highlighted as potentially important within the context of physiotherapy for LBP, a theoretical model may be useful to guide the focus of variables to be taken account of in this thesis (for instance it may not be possible to include all identified variables within the planned quantitative study). Such a model might also provide guidance about how the different psychosocial factors might interact to influence patient adherence or treatment outcomes. For instance, it might suggest ways in which patient characteristics might interact with aspects of treatment such as the practitioners' beliefs, the patient-practitioner relationship or the treatment environment. Theoretical models which might be suitable for this purpose will be reviewed and discussed in Chapter 3.

2.4.7 Limitations and recommendations for improving future research

Some of the quantitative studies included within this review suffered from limitations, meaning that they may provide less robust evidence. Future studies should attempt to improve on the current body of evidence by using large, representative samples, by using reliable and valid measures, controlling for known predictors of outcomes and for a range of psychosocial predictors within their analyses. Many of the studies within this review were set within an RCT environment. This may limit the generalisability of these studies to real world physiotherapy where the patient is not likely to receive standardised assessment, and treatment is likely to be individualised to the patient, their history and presenting symptoms. It is therefore necessary for future studies exploring psychosocial factors within physiotherapy for LBP to do so within the context of everyday clinical practice, rather than only within RCTs. The majority of the qualitative studies were well designed and conducted and often appeared higher quality than the quantitative studies, therefore providing more robust evidence. It is hoped that future studies would continue to uphold this high quality.

This systematic review extends other reviews which have examined psychosocial factors as it includes not only patient factors, but also studies which investigated aspects of physiotherapist characteristics, the relationship or the treatment environment (Wessels et al, 2004; Pincus et al, 2002). However, these studies mainly explored the existence of such psychosocial factors and rarely investigated how these variables could be related to patient adherence or outcomes. There is now a need to use prospective quantitative

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designs to test whether these variables are related to adherence or outcomes. The patient characteristics section contains mostly prospective designs and so does not suffer with this limitation. Qualitative designs could further improve knowledge on patient psychosocial factors, for instance by suggesting which beliefs or expectations might be most important for quantitative designs to study, and in exploring how such beliefs might differ between patients or change during treatments.

The current review has some limitations. It only reviewed evidence from peer-reviewed journal articles and did not explore unpublished studies. This may have introduced bias as unpublished studies are more likely to have found no significant relationships. However, as results included studies which did not find significant effects this prospect seems less likely. This review also only included studies published in English within the past ten years. Searches, selection, data extraction and synthesis were carried out by only one researcher, although these stages were discussed with a supervisor as they were carried out. The potential for bias introduced by human error is therefore greater than if multiple researchers had been involved in conducting this review. The lack of existing reviews in this area and the need to collate research on all potential psychosocial factors within physiotherapy for LBP meant that many factors were assessed, some of which were investigated by only a small number of studies. It is therefore difficult to form firm conclusions about the importance of some such factors. Firmer conclusions can be formed once a greater body of evidence has been collected, but it is useful now to understand what is known, what is not known and where future work needs to focus.

3. Theoretical Literature Review and Methodological Issues

3.1 Introduction

This chapter will introduce theoretical models and methodological issues which are relevant to the study of the HCS within the current thesis. The first section will provide a literature review of theory which could be useful for exploring the influence of the HCS on patients. The second section will review methodological issues facing this research and justify the mixed methods approach taken in this thesis.

3.2 Theoretical literature review

3.2.1 Background and rationale

There is currently a lack of existing theory which explains how the HCS might influence patients' beliefs, health behaviours (such as their adherence to treatment) or health outcomes from treatment (from now on referred to simply as health outcomes). Such theoretical models would be useful as they could guide further research investigating the HCS. For instance, a theoretical model could guide the selection of variables for inclusion in future studies and highlight the process by which the HCS might produce an effect on patients, providing testable hypotheses. Such a theory could also allow examination of whether all treatments might vary between HCS in the same way (that is whether the HCS might have a uniform effect on treatments). It could also guide future intervention design by identifying which factors or processes might need to be targeted in order to change patients' health behaviours (e.g. adherence to treatment) or health outcomes within a particular HCS. Theory based interventions are more likely to be successful, as they explicate the causal determinants of behaviour, allowing these to be targeted by interventions (Michie, Johnston, Francis, Hardeman and Eccles, 2008). Even a large intervention literature can offer little guidance on how to design an intervention for a new situation if it is not based upon theory (Foy, Eccles, Jamtvedt, Young, Grimshaw, & Baker, 2005).

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Despite the lack of theory dedicated to explaining the influence of the HCS on patients, a number of theories exist which explain how factors such as patients' beliefs or particular aspects of a treatment influence either patients' health behaviours (which may in turn influence the patient's health outcomes e.g. via adherence to treatment), or health outcomes directly. Some of these existing theories already include factors which have been found to differ between HCS in qualitative studies, such as the patient-practitioner relationship (Bishop et al, 2011; Paterson and Britten, 2008; Wiles and Higgins, 1996). It may therefore be possible to extend some existing theories to incorporate the HCS as a potential moderator of those variables which have already been identified as differing between HCS. It would be useful for such a theory also to be able to be extended to incorporate the influence of treatment type as a moderating variable. This would then allow testing of whether the HCS influences different treatments in the same or different ways. Such a theory would be useful to the research studies in this thesis as it could act as a guiding framework, sensitising the researcher to relevant constructs which might be important to study and indicating the processes by which such constructs can influence patient behaviour such as adherence to treatment and health outcomes. Further theories may also usefully aid the researcher by suggesting relevant theoretical constructs or mechanistic processes which could be important to study and which may not currently be incorporated into a single theory. The findings of the qualitative studies within this thesis could inform such a model of any likely differences between treatments within the two HCS, creating testable hypotheses to be explored in future work. A literature review was therefore conducted to explore theories which currently explain patient health behaviours (such as adherence to treatment), or patient health outcomes and which could be easily extended to incorporate the influence of the HCS and treatment type as moderating variables.

Theories were deemed useful to extend to incorporate the influence of the HCS and treatment type if they already included factors which occur within treatment and which are thought to differ between HCS. This meant that the theory should include factors which are experienced by patients in treatment (such as the patient-practitioner relationship), not just patients' beliefs about themselves or their LBP (believing that their pain is not curable). A suitable theory should also be supported by evidence of its utility, specifically that its constructs predict either patient health behaviours (such as adherence to treatment) or health outcomes.

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The factors which appear to differ between HCS (such as the patient-practitioner relationship) are likely to influence patient outcomes through two main pathways: an indirect route via a patient's coping behaviours (such as adherence to treatment; WHO 2003; Mannion et al, 2009) and a direct route, that is influencing healing directly through a contextual route (or placebo route if one is talking specifically about placebo treatments) (Moerman, 2002; Price, Finniss, Beneditti, 2008). Therefore theories were considered which explained either patient health behaviour or patient health outcome directly (through a contextual route). However, the most useful theory would incorporate both of these routes.

Theories reviewed included those focussing on explaining health behaviours such as adherence to treatment: including Social Cognitive Theory (Bandura, 1986, 1997) and The Theory of Planned Behaviour (Ajzen, 1988, 1991). The model of Fear Avoidance was also reviewed which explains changes in patient behaviour as well as changes in health outcomes (which are thought to be mediated by behavioural changes) (Vlaeyen and Linton, 2000). Theories which explain direct (contextual) influences on health behaviours were also reviewed including: response expectancy (Kirsh, 1985) and the meaning response (Moerman 2002; Moerman and Jonas 2002). A single theory included both direct and indirect (via patient health behaviours) influences on patient health outcomes, this was Leventhal et al's (1984) Common Sense Model of Self-Regulation. This theory was deemed the most useful to extend to incorporate the influence of the HCS and treatment type as moderators and so is reviewed first and in greater detail than the other theories as it will be used to inform studies within this thesis. Below each theory is described, supporting evidence is reviewed and a conclusion is drawn about the usefulness of each theory in terms of its application to the aims outlined above.

3.2.2 Common Sense Model of Self regulation

The Common Sense Model of Self Regulation (CSM; also known as The Self Regulatory Model or The Illness Perceptions Model; Leventhal et al, 1984) conceptualises the processes involved in an individual adapting to a health problem (known as the process of self regulation). The CSM proposes that individuals generate representations of their health problem and the emotions relating to it (known as illness representations or illness perceptions), which form a lay view of their health problem. This lay view helps them to make sense of their health problem and also guides their coping. Coping within this model includes behaviours such as seeking information, seeking treatment, adhering to treatment or more emotion-focussed coping strategies such as avoidance behaviours (Leventhal et al, 1984; Cameron and Jango, 2008). Coping strategies (for instance treatments) are appraised by the individual so that they can assess whether or not to seek an alternative means of coping. The model notes that both illness representations and appraisals of coping (e.g. treatment appraisals) can influence coping via a feedback mechanism. For instance, an illness representation that your illness is curable might mean that you seek out a treatment (a coping mechanism) that you believe will cure it; equally a treatment appraisal that your practitioner is not very caring towards you may mean that you decide to discontinue treatment. Furthermore, appraisals of treatment are thought to be able to modify illness representations directly. For example, if you appraise that your treatment is going well and that it is likely to be a success, then your belief in the curability of your health problem is also likely to increase.

Coping also mediates the relationship between both illness representations and treatment outcomes, and coping appraisal and treatment outcomes. For instance, adherence to recommended treatment exercises might mediate the relationship between believing that your back pain is controllable and pain outcomes following treatment. More recent research also indicates that illness representations are capable of influencing health outcomes directly and an updated version of this model also includes a direct route between illness representation and health outcomes (Hagger and Orbell, 2003).

The CSM identifies five dimensions of illness representations which are held by individuals (Lau & Hartman, 1983; Leventhal, Nerenz & Steele, 1984). It is important to note that these dimensions may not necessarily overlap with biomedical 'facts' about the particular illness, they are the person's individual perceptions of their illness. The first, 'identity' is the label given to the particular health problem and the symptoms which the individual

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associates with this. The second is the 'cause' of the health problem. The third is the timeline that the health problem is likely to have, that is how long it will last, for instance whether it is an acute or chronic problem. The fourth illness representation is the 'consequences' that an individual believes the health problem will mean for them, this can include physical, emotional or social consequences. Finally, the 'curability or controllability' of the health problem refers to beliefs about whether the condition can be kept under control or cured completely. Individuals also hold representations of emotions which accompany their illness representations; these include emotions such as anxiety, fear or worry (Cameron and Jago, 2008).

The representations held by individuals about their health problem are all influenced by both the opinions of others (such as health professionals, friends or societal discourses) and the individual's personal experience of the health problem (Leventhal et al, 1980; Leventhal et al., 1984). In this way representations of health threats are influenced by an individual's social environment as well as their culture (Diefenbach and Leventhal, 1996). Interactions with practitioners or other aspects of treatment could differ between HCS or treatment types, thereby influencing patients' illness representations in varying ways. Thus the HCS as a component of the social environment could have an influence on illness representations.

The other way in which this model incorporates the influence of the individuals' environment is through appraisal of coping. Coping in this model can include seeking and adhering to treatment. In this case, appraisals of coping become appraisals of treatment (or treatment appraisals). Appraisals of treatment might vary between different HCS (e.g. if treatments are shorter in the NHS this might impact appraisals of the patient-practitioner relationship).

The majority of the literature investigating treatment appraisals has concentrated on appraisals of pharmaceutical treatments which are thought to be appraised on the basis of how necessary the patient feels the medication is for their health, and any concerns they might have about taking it (Horne, 2003). This literature is less relevant to the study of the HCS as it does not include aspects of the context in which the treatment is set, and focuses purely on beliefs about medication, it will therefore not be reviewed here. However, appraisals of non pharmaceutical treatments which involve a practitioner (for instance physiotherapy) are extremely relevant and a model of treatment appraisals has been developed from qualitative research into patients' experiences of treatment. This model is called the Dynamic Model of Treatment Perceptions (Yardley et al, 2001). It proposes that

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treatment appraisals are a dynamic interplay between abstract beliefs about an illness (such as illness representations and personal or cultural beliefs or norms), concrete experiences of treatment and perceptions of symptom change. Here concrete experiences of treatment include perceptions of the practitioner (such as their interest, care, communication and their competence) and experiences of therapy (such as its cost, the amount of control available to the patient, how comfortable it is and how accessible). The HCS may influence concrete experiences of treatment, therefore influencing treatment appraisals.

3.2.2.1 Evidence for the CSM

There is evidence that illness perceptions predict coping behaviour. For instance, meta analyses indicate that illness perceptions predict adherence to cardiac rehabilitation (French, Cooper and Weinman, 2006) and a range of other coping behaviours across a wide range of health problems (Hagger and Orbell, 2003). Another recent review concluded that illness perceptions influence how well asthma patients cope with and self manage their asthma (Kaptein et al, 2010).

However, illness perceptions do not always appear to be strong predictors of coping behaviours. In one study of patients with coronary heart disease illness perceptions only explained 2% of the variance in exercise, smoking and alcohol intake (Bryne, Walsh and Murphy, 2005). Illness perceptions might have been less predictive because patients held relatively weak illness identities (i.e. they did not see their illnesses as providing many symptoms), it seems likely that experience of symptoms of a disease are important in order to perceive a health threat and start the process of self regulation.

There is evidence that illness perceptions are important to health outcomes. For instance, Foster et al (2008) found that patients' representations of their back problems were strongly associated with the amount of disability they reported 6 months later. Patients who held perceptions that their back problem would have serious consequences, last a long time and be less easily controlled were more likely to have poor clinical outcome (disability) 6 months later. Illness perceptions also seem to be more important predictors of 6 month back pain disability outcome than other well known psychological predictors of outcome such as FABs and catastrophising and depression (Foster et al, 2010). Illness perceptions prior to cardiac surgery predict disability, functional outcome and depression 3 months after surgery (Juergens et al, 2010). The influence of illness perceptions is also

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likely to be fairly long lasting, as they have been shown to predict physical and psychological health outcomes in patients 2 years later (Frosthalm et al, 2007).

Only a few studies have looked at how treatment appraisals predict coping (such as adherence to treatment) or health outcomes. For instance appraisals of treatment predict adherence to treatment in chest physiotherapy for cystic fibrosis (Bucks et al, 2009) and adherence to attending CAM therapy appointments (Bishop et al, 2008).

Although there is a lack of evidence looking at treatment appraisals specifically there is evidence from studies which have not specifically coined the term 'treatment appraisal' that aspects of treatment appraisal outlined by the dynamic model of treatment perceptions are important to patients' adherence or health outcomes. For instance, the patient-practitioner relationship has been shown to be important to coping and health outcomes in a number of studies. Testicular cancer patients are less likely to attend treatment if they perceive an unsatisfactory relationship with their practitioner (Moynihan et al, 2009). There is also a positive relationship between therapeutic alliance and treatment adherence in patients seeking physical therapy and with brain injury patients (Hall et al, 2010). Therapeutic alliance is also associated with adherence to treatment in patients with brain injury or cardiac conditions and with functional outcome in patients with CLBP (Hall et al, 2010). Furthermore, sham acupuncture combined with an empathic relationship produces significantly larger IBS symptom reductions than sham acupuncture alone (Kaptchuck, Kelley, Conboy, Davis, Kerr, Jacobson, Kirsch I, et al, 2008).

Practitioners may be able to modify patients' illness representations and treatment beliefs and in so doing influence their adherence and treatment outcomes. For instance, an intervention designed to modify the illness representations of patients post myocardial infarction succeeded in helping patients return to work sooner and have better health outcomes at one month compared to a control group (Petrie et al, 2002). Pilot data also indicates that an intervention designed to modify illness representations about cancer pain was seen as helpful by patients and made them feel more confident about using pain medication (Donavan and Ward, 2001). Initial data also indicated that the intervention helps some patients (68%) better manage their pain, however, statistical analysis of the significance of this difference was not performed. There is also evidence from an observational study that patients have better adherence to treatment and health outcomes when practitioners provide a more adaptive view of their health problem and treatment (Phillips, Leventhal and Leventhal, 2012). However, practitioners are not always successful in increasing adherence or outcomes when they modify patients' illness

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representations. For instance, one study has found that a GP consultation which aimed to teach more adaptive illness representations did not lead to greater adherence to hypertensive medication (Theunissen, de Ridder, Bensing and Rutten, 2003). Although some illness representations and treatment beliefs were favourably improved by this intervention (illness was less of a mystery and medication was seen as less harmful), patients felt less confident in their ability to take their medication as prescribed, which the CSM suggests should lead to poorer adherence.

3.2.2.2 Extending the CSM to incorporate the HCS and treatment type

The CSM could be easily extended to include the influence of the HCS and treatment type because it already recognises the interaction of the environment with patients' illness representations and treatment appraisals. The extension of this model in physical, non pharmaceutical therapies (the dynamic model of treatment perceptions) also includes aspects of treatments which qualitative studies indicate are likely to vary between HCS, such as the patient-practitioner relationship. Good evidence also supports its value in explaining both patient health outcomes both directly and also indirectly via patient behaviour (coping).

The HCS or treatment type could fit into the CSM by moderating patients' appraisals of their treatment, which could then influence their coping (for instance adherence to treatment) or feedback to influence their illness perceptions (for example through practitioner communication modifying these perceptions) and in so doing directly influence the patient's health outcomes (rather than via their behavioural coping response).

3.2.3 Social Cognitive Theory

Social Cognitive Theory (SCT; Bandura, 1997, 1986) is a model which purports to explain why people choose to engage in a given health behaviour, such as adhering to treatment. This model proposes a dynamic interplay between personal determinants (e.g. cognitive, emotional, biological), the environment (social and physical) and the individual's

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behaviour. These three components interact to influence an individual's decision to engage in a given behaviour. The theory notes that the personal determinants 'self-efficacy' (an individual's belief that they can successfully carry out a behaviour) and 'outcome expectancies' are major influences on whether a person decides to engage in a behaviour. If a person believes that carrying out a behaviour will be beneficial to them and believes that they are capable of carrying out this behaviour then they will be likely to engage in this behaviour. In addition if the person's social and physical environments are supportive of engaging in a given behaviour then they will be more likely to do so.

Patients' self-efficacy beliefs concern whether they perceive that they can successfully carry out a health behaviour. In the context of investigating the influence of the HCS and treatment type on patients, these beliefs might concern adhering to treatment recommendations.

Outcome expectations refer to the perceived costs and benefits of a behaviour, and the importance of these costs and benefits to the individual. In terms of patients, outcome expectations might include expectations of whether an exercise might reduce LBP and whether it might cause side effects.

Bandura (2001) argues that an individual's environment holds one of the biggest influences over whether they can successfully change their behaviour. Our environments (including our health systems) are argued to provide barriers or opportunities to carrying out a behaviour (Bandura, 1997). Our physical and social environments are seen as interacting with self-efficacy and outcome expectancies to create or inhibit changes in an individual's behaviour. SCT states that behaviour changes will be most successful when environments are perceived as controllable and as providing support to assist carrying out a behaviour (Bandura, 1991).

However, Bandura's explanation of environmental variables has met criticism from some authors, who argue that the environmental variables are not clearly organised, meaning that it is difficult to know which environmental variables might influence behaviour (Dzewaltowski, Estabrooks and Johnston, 2002a,b).

3.2.3.1 Evidence to support SCT

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The vast majority of evidence supporting SCT's ability to explain health behaviour has come from studies which have investigated individual variables (especially self-efficacy), rather than testing the full model. Some studies have explored more than one SCT variable at a time in patient samples and show evidence to support this theory. For instance, negative outcome expectancies, self-efficacy and environmental influences (in this case social economic status and social support) were found to explain between 35-59% of the variance in fat, fibre and fruit and vegetables intake in a dietary intervention (Anderson, Winett and Wojcik, 2000). Physical activity interventions also show support for SCT. For instance, self-efficacy and environmental barriers (such as access to footpaths safe for walking) are associated with physical activity (Booth et al, 2000) and a systematic review found that interventions designed to increase outcome expectations and self-efficacy significantly increase exercise behaviour (Keller et al, 1999). Outcome expectations and self-efficacy also predict adherence to substance abuse treatment (Kuusitsto, Knuuttila and Saarnio, 2011) and diabetes self care behaviours (Wu et al, 2007).

Additional studies showing support for SCT have investigated the influence of self-efficacy on patients' health behaviours independently of the other SCT constructs. For instance, a meta-analysis has confirmed that self-efficacy beliefs are influential across a wide range of health behaviours (Gilles, 1993). There is good evidence that self-efficacy is important to patients' performance of health behaviours. Self-efficacy has been shown to be related to a range of different health behaviours, including managing LBP, neck and leg pain (Council, Ahern, Follick, & Kline, 1988; Dolce, 1987; Kaivanto, Estlander, Moneta, & Vanharanta, 1995) and decreasing risk of osteoporosis through physical activity and calcium intake (Haran, Kim, Gendler, Froman, & Patel, 1998). Self-efficacy beliefs also predict patient behaviour, such as exercise adherence to cardiac (Ewart, 1992; Schwarzer et al, 2008) and orthopaedic rehabilitation programs (Schwarzer et al, 2008). Evidence from intervention studies also shows that increasing an individual's self-efficacy to perform a health behaviour increases their adherence to it. For instance, increasing self-efficacy to carry out exercise has been shown to increase adherence to exercise in older adults (Brassington et al, 2002), patients with chronic obstructive pulmonary disease (Toshima et al, 1992) and patients with rheumatoid arthritis (Holman and Lorig, 1992).

3.2.3.2 Extending SCT to incorporate the HCS and treatment type

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The inclusion of the environment variable in SCT makes this theory useful for exploring the behaviour of patients between public and private settings within multiple treatments. Although this model does not specifically hypothesise about the HCS or treatment type, it could easily be extended to include both of these factors as moderators of the environmental variable. However, the lack of studies which have explored the environment as a predictor of patient behaviour and the limited number of studies which have tested the full SCT model (ie all variables) means that more research may be needed to test and perhaps refine aspects of this model (for instance aspects of the environmental constructs might benefit from being more specific). Qualitative research into the HCS and its interaction with treatment type would be useful to guide specific hypotheses about the particular environmental variables to be tested using this model in physical treatments for LBP.

A further limitation of the SCT for this thesis is that it only considers behaviour and not health outcomes (such as pain). Any change in health outcomes are thought to be created through changes in health behaviours. However, it is known that SCT constructs such as self-efficacy, outcome expectancies and even environmental factors do predict health outcomes (Holden, 1991; Ulrich, 1984). It may be that with further research this theory could be extended to incorporate a direct route between its variables and health outcomes. However without this further research it seems at present unwise to adopt SCT for the purposes of this thesis.

3.2.4 Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB, Ajzen, 1988, 1991) is a motivational theory of health behaviour change, such as adhering to treatment, which views behaviour as determined by an individual's intention to perform the behaviour and the degree to which the individual perceives they have control over performing the behaviour (termed perceived behavioural control). Within this model intention to perform a behaviour is determined by three factors: attitude towards the behaviour (favourable or unfavourable evaluation of the behaviour), subjective norm (perception of social pressure to perform or avoid the behaviour), and perceived behavioural control. Each of these three constructs is in turn made up of two beliefs: the attitude construct is made up of behavioural beliefs regarding the probability that performing the particular behaviour will result in a certain

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outcome occurring and (positive or negative) evaluations of that outcome. Subjective norms are made up of normative beliefs which are perceptions of what significant social influences would think of performing the target behaviour and motivation to comply with these perceptions of significant others' opinions. Perceived behavioural control is made up of control beliefs about the perceived likelihood of facilitators or barriers to performing the behaviour and the perceived effects of such conditions making the behaviour harder or easier to perform. According to the TPB patients will be more likely to adhere to treatment when they intend to, specifically when they believe that it will result in a positive outcome, when they believe that the behaviour is socially desirable to significant others and when they perceive themselves able to adhere.

3.2.4.1 Evidence for the TPB

Meta-analyses have confirmed the TPB's predictive validity regarding a range of behaviours (Armitage & Conner, 2001) including exercise behaviour (Hausenblas, Carron & Mack, 1997; Hagger, Chatzisarantis & Biddle, 2002). Studies also confirm that the TPB predicts patients' adherence to treatment, such as exercise recommendations in cardiac rehabilitation programs (Blanchard et al, 2002; Blanchard et al, 2003) and drug treatment in renal transplant patients (Chrisholm et al, 2007). However, there is sometimes a discrepancy between patients' intentions and their actual behaviour (referred to as the 'intention-behaviour gap'). For instance, a meta analysis showed that few patients attending cardiac rehabilitation who intended to increase their physical activity were successful in doing so (Dusseldorp, Van Elderen, Maes, Meulman & Kraaij, 1999).

3.2.4.2 Extending the TPB to incorporate the HCS and treatment type

Although the TPB is often able to explain individuals' behaviour and patient adherence, it appears less useful for exploring the HCS from the patient's perspective as it is only focussed on individual level beliefs, and does not incorporate any perceptions or attitudes towards aspects of treatment. If one were to extend this model to include influences such as the patient-practitioner relationship then it is unclear how they would be incorporated.

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For instance, one could speculate that the patient-practitioner relationship could moderate the extent to which the practitioner might be included as a significant influence within the construct of social norms; with practitioners who formed more supportive relationships perhaps becoming a greater social influence. Or similarly a supportive relationship might make the patient feel more at ease and so moderate expectations of a good outcome, improving attitudes towards exercise behaviour. Further research would be needed to explore and confirm how contextual constructs might interact with individual level constructs in the existing model before this model could be applied to the study of the HCS. Therefore the TPB does not appear suitable to extend to incorporate the influence of the HCS or treatment type within a patient sample.

3.2.5 The model of Fear Avoidance

The model of Fear Avoidance (FA) was originally proposed by Vlaeyen and Linton (2000). It states that the perception of LBP combined with catastrophising thoughts (thoughts characterised by an excessive focus on the sensation of pain, exaggerated perceptions of the threat of and inability to cope with the pain situation) leads to fear of pain which is thought to be an adaptive response designed to protect the individual from further harm. This fear eventually leads to anxiety about pain and hypervigilance in guarding against pain (increased sensory sensitivity accompanied by behaviours designed to detect threats of pain) which means the individual avoids pain-related situations or activities rather than confronting them. This avoidance leads to further pain, distress and disability. Pain without catastrophising and without fear does not trigger anxiety, therefore the individual confronts pain related situations or activities and recovers.

Individuals who fear their pain are said to hold fear avoidance beliefs (FABs). These beliefs have been taken to mean a variety of things throughout the literature including: fearful beliefs about the pain or damage caused by movement, fear of particular movements or activities (such as work) and avoidance of painful/damaging activities (Pincus, Smeets, Simmonds, Sullivan, 2010).

3.2.5.1 Evidence for the FA model

There is not currently strong evidence that FABs are important to future pain and disability. A systematic review of prospective studies following people with back pain concluded that there was no convincing evidence that FABs are a risk factor for poor health outcome (Pincus, Vogel, Burton, et al, 2006). This review also found that studies which did provide evidence of a connection were compromised in terms of their methodology or analyses. The authors noted that better quality studies (for instance Sieben, Vlaeyen and Tuerlinx et al, 2002) indicate that there was no causal pathway between fear of pain, catastrophising and health outcomes. Studies within the systematic review of this thesis (chapter 2) also show that baseline FABs about physical activity are inconsistent predictors of pain and disability. Although baseline FABs about work seem to be better predictors of treatment outcomes. However, many of the studies which do show a predictive relationship have methodological limitations. Hart, Werneke, Deutscher, George and Stratford (2011) provide further evidence that baseline FABs may not be important predictors of treatment outcomes. Their retrospective analysis of 30,858 patients being treated with physical therapy for lumbar spine dysfunction found that FABs only explained an additional 0.2% of the variance in outcome when added to a multivariate model (including age, gender, symptom, surgical history and comorbidities). Baseline FABs may therefore, not be overly important to treatment outcomes.

This lack of support for the FA model could however be due to the fact that treatment changes FABs, making baseline FABs theoretically implausible predictors of treatment outcomes. Several studies have examined whether changes in FABs within treatment predict treatment outcomes. Univariate analysis indicates that reductions in FABs within treatment predict reductions in pain (George, Fritz & McNeil, 2006). However, multivariate analysis examining a range of psychological predictors found that they do not (Woby et al, 2008). Reductions in FABs do appear to predict reductions in disability within treatments for back pain in some cases though (Woby et al, 2008; George, Fritz & McNeil, 2006). However, evidence from a larger study investigating a range of psychological variables found that changes in FABs did not contribute to the prediction of reductions in disability following a GP consultation for back pain (Foster et al, 2010). Changes in illness perceptions, depression and self-efficacy were the only constructs which did predict changes in disability.

3.2.5.2 Extending the FA model to incorporate the HCS and treatment type

There is some evidence which supports the FA model's constructs being related to future pain and disability or treatment outcomes. However, evidence is often inconsistent and no studies have confirmed the full FA model or that its constructs interact in the ways proposed by this model. Further to this the FA model does not incorporate any aspects of treatment, focussing only on the individuals' beliefs, behaviour and health outcomes. It consequently does not appear possible that the FA model could be extended to incorporate the HCS or treatment type as moderators, as it is not clear what in particular they might moderate. This model was therefore not deemed useful for the current thesis.

3.2.6 Contextual/Placebo theories

The next two theories consider how aspects of treatment might have a direct influence on health outcomes through a contextual or placebo mechanism. Several aspects of treatment are known to cause contextual or placebo healing, including treatment characteristics (such as the shape, size or colour of a drug or the credibility of a treatment), patient characteristics (such as their anxiety, beliefs or adherence to treatment), the patient-practitioner relationship, the practitioners' characteristics (such as their gender or beliefs) and the healthcare setting itself (such as the room in which treatment takes place (Di Blasi et al, 2001). Placebo healing is therefore not limited only to the healing produced by actual placebos (e.g. inert sugar pills), but can occur in the absence of any placebo in any active therapy which includes any of these ingredients. As this thesis investigates two active treatments and not placebos the term contextual healing seems more appropriate and will be used when referring to healing within active treatments. Contextual healing is thought to occur through several different means including through classical conditioning, the meaning of a particular aspect of treatment to the patient, the patient's expectations or changes in their affect created by healing (Benedetti, Amanzio, Baldi, Casadio & Maggi, 1999; Kirsh, 1985; Moerman, 2002). These psychological changes produce a physiological response which improves symptoms. Changes in immune and endocrine systems, endogenous opioids, hormone secretions, release of dopamine and changes in activity of neurons in the subthalamic nucleus have all

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been linked with the placebo response and are thought to be the mechanisms by which beliefs alter health outcomes (Benedetti et al, 2003, Benedetti et al., 2004; de la Fuente-Fernandez et al., 2001; Petrovic et al, 2002; Price, Finniss & Benedetti, 2008). In turn these physiological changes are linked with improvements in health conditions (such as pain).

3.2.7 Response expectancy

Response expectancies are expectations of one's personal response to a particular situation or behaviour, for example expecting to feel less pain after taking a pain killer. Response expectancies are theorised to influence health outcomes directly, through a contextual route (Kirsh, 1985, 1997). The theory states that unlike other expectations (such as expectations about the external world) these expectations actually produce the anticipated outcome, in other words they are self confirming. Kirsh (1997) argues that response expectancies are an important part of the therapeutic response in many health problems, although he recognises that other mechanisms (e.g. the patient-practitioner relationship) are likely to also enhance recovery, though he does not theorise about these other factors specifically.

3.2.7.1 Evidence supporting response expectancy

The theory of response expectancy has gained much support from experimental research. For instance, Montgomery and Kirsh (1997) carried out an experiment to investigate the effect of manipulating expectations on pain outcomes. A pain stimulus controlled by the experimenter was secretly lowered when a placebo analgesia was given. Later when a placebo was administered without the pain stimulus being secretly lowered, participants still reported feeling less pain, demonstrating a conditioning effect. In a second condition the authors carried out the same procedure except for this time telling participants that they were lowering the pain stimulus when the placebo was administered. These participants did not show a conditioning effect, their expectations completely reversed

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this effect. Furthermore, regression analysis revealed that participants' verbal pain expectations completely mediated the conditioning effect. The authors concluded that expectations influence perceptions of pain.

Non-experimental research also indicates that response expectations are likely to be important to outcomes in clinical settings. Johansson et al (2010) found that low expectations of being well enough to return to work 3 months after lumbar disc surgery predicted residual leg pain, back pain, disability and sick leave 12 months after this surgery. In a pooling of four large acupuncture trials treating pain conditions, Linde et al (2007) found that higher response expectancies were associated with better improvements in pain.

Although expectations are associated with outcome in clinical settings, two meta-analyses indicate that effect sizes may be smaller in real world settings than those found in experimental lab-based studies. One meta-analysis indicates that expectations have a small but significant positive effect on treatment outcomes in psychotherapy (Constantino et al, 2010). A second meta analysis found that expectations have a small effect on side effects from cancer treatments (such as nausea, vomiting) (Sohl et al, 2009). Interestingly this study also found that effect sizes were larger in studies which assessed expectancy after patients had already had some treatment than studies which assessed expectancy before treatment had begun, indicating that measurement timing may be important, probably because expectations can change during treatment (Stone et al, 2005). There are also some studies which have failed to find a positive relationship between response expectancies and health outcomes. For instance, expectations do not predict outcomes following knee arthroplasty (Mannion et al, 2009).

3.2.7.2 Extending the theory of response expectancy to incorporate the HCS and treatment type

Although the majority of evidence indicates that response expectancies may be important to health outcomes, the smaller effect sizes in clinical settings do cast some doubt over its real world predictive validity. It is also hard to see how to expand the theory of response expectancy to include the HCS or treatment type as moderators, because it focuses only on the individuals' response expectations and does not include any factors which are specific

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to the treatment context which might vary between HCS or different treatments (for instance the patient-practitioner relationship). Therefore, this model appears less useful for the purposes of exploring differences between HCS. However, expectations about the effectiveness of treatment are incorporated into other models such as the CSM which also incorporates aspects of the treatment context, so expectations could still be explored within the context of other theoretical models.

3.2.8 The meaning response

Moerman (2002) proposes that the meaning of a particular treatment can cause contextual healing, he calls this the 'meaning response'. The meaning response can vary depending on how meaningful an aspect of treatment is to the patient. For instance, four placebos are more powerful than two in healing stomach ulcers (de Craen et al, 1999). Moerman (2002) argues that in this case both placebo treatments cause some (placebo/contextual) effect, but four means more than two, and therefore four pills must be a stronger dose which will create a more powerful effect than two pills. This meaning of a more powerful dose in itself creates the healing.

It could be argued that the meaning response is a similar theory to response expectancy. One could argue that response expectancy might explain why taking more placebos creates a bigger healing response (because expectations of a stronger effect are produced). However, Moerman (2002) argues that meaning is a more likely explanation than people's expectations, as people are unlikely to consciously think about how they expect to respond to a particular aspect of a treatment, but they might think about what something means to them (based on their particular culture and past experiences). Moerman (2002) also argues that actually asking people their expectations of a treatment could create those expectations, creating a link between expectations and healing, which may have influenced the research into response expectancy.

3.2.9 Evidence for the meaning response

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A variety of evidence has been argued to show support for the meaning response. However, it should be noted that these studies do not attempt to measure meaning directly.

One piece of evidence supporting the meaning effect is that knowing that you are receiving a treatment means something and makes that treatment more effective, whereas if you do not know that you are receiving a treatment then it cannot mean anything to you. Post surgery patients who were given pain relief through an intravenous line required significantly larger doses of analgesia to relieve their pain if the analgesia was given to them without them knowing (Amanzio et al, 2001). Patients required significantly less medication when informed that they were receiving analgesia whilst the intravenous drug was administered.

What doctors tell patients is also meaningful: when doctors say that they are positive of the diagnosis of a health problem, patients are significantly more likely to get better than if the doctor says they are not sure, irrespective of whether they are prescribed medication for their symptoms (Thomas, 1987).

An empathic relationship is also likely to be meaningful to patients, showing that their practitioner cares for them and would do the best to help them. Sham acupuncture is more effective in reducing IBS pain when the practitioner adopts an empathic relationship, compared to when they do not (Kaptchuck et al, 2008).

The branding of a drug also has meaning to patients. Braithwite and Cooper (1981) found that placebos which had branding were more powerful pain relievers than placebos which were not branded. The same was found for active drugs, aspirins which were branded produced greater pain relief than those which were unbranded. Moerman and Jonas (2002, page 2) notes that “aspirin relieves headaches, but so does the knowledge that you are taking a good one”.

Although there appears to be much experimental research that supports the theory of meaning response, it is not clear whether meaning is definitely the mechanism responsible for the contextual effects, or whether other theories, such as response expectancy might explain these effects. This problem stems from the fact that it is not clear how one would go about measuring meaning and as Moerman (2002) proposes that measuring expectancies might have influenced such expectations, it is highly likely that he would also believe that measuring meaning might also have the same influence. Without being able to

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measure meaning however, one is left unsure whether meaning is definitely the responsible mechanism for the healing in the above studies and so it remains unclear exactly how much evidence there is for the theory of meaning response.

3.2.9.1 Extending the meaning response to include the HCS and treatment type

The lack of clarity over whether meaning is the mechanism responsible for contextual healing in the above studies means that it seems unwise to use it at this time to explore the influence of the HCS or treatment type.

Being unable to measure meaning also poses a problem in that it is unclear what might be classed as meaningful within a complex treatment like physiotherapy or osteopathy which contain multiple treatment techniques and a practitioner. Some meanings are more likely to be shared across many people, like wanting a practitioner to be caring and to be convinced of a diagnosis. However, others such as particular treatment technique may be less clear. For instance, ultrasound could be meaningful to some patients, but other patients who may have read in the press that this is no better than a placebo treatment may feel that this treatment is inert and will not work for them (and therefore potentially might not work because of not producing a meaning response).

Aside from the problem of measurement, it is also not clear how the meaning response could be extended to incorporate the HCS or treatment type, since both of these things might contain multiple different meanings. Therefore it seems that this theory is too general to use to further explore questions about either the HCS or treatment type within this thesis.

The theory chosen for the current thesis

A variety of theories which attempt to explain patients' health behaviours or health outcomes were considered in their capacity to be extended to incorporate the HCS and treatment type as moderators. The theory deemed most suitable was the CSM which considers the interaction between perceptions of the individual's health problem, appraisals of their treatment and the impact of these perceptions and appraisals on the

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patients' coping (such as their adherence to treatment) and health outcomes. Some other theories appeared to contain relevant constructs which are also incorporated into the CSM. For instance, the SCT's environment construct is similar to appraisals of treatment (which are a more specific and relevant environmental construct and better suited to the purposes of this thesis). One construct not included in the CSM which is strongly supported by evidence is self-efficacy (from SCT). This may be a useful additional variable to consider in terms of its potential influence on patients' health behaviours, such as adherence to exercises recommended in physiotherapy or osteopathy. However, it is not clear how this variable might interact with other CSM variables, for instance, how it might interact with appraisals of the patient-practitioner relationship (perhaps a poor relationship might lower self-efficacy to perform exercises) or illness perceptions (perhaps higher self-efficacy might increase feelings that one can control their illness, but this might only happen in situations where a treatment was actually successful). Therefore further research seems necessary if self-efficacy were to be employed in combination with the CSM to explore further differences between HCS and treatment types.

The CSM will be drawn on throughout the empirical chapters in this thesis, guiding variables to be considered and possible hypotheses to be investigated. The CSM highlights the importance of considering patients' appraisals of treatment, not just their experiences of treatment, which will be incorporated into the qualitative investigation comparing patients' experiences of physiotherapy and osteopathy between the NHS and private practice (chapter 4). The CSM (combined with finding from the patient qualitative study in chapter 4 and the systematic review in chapter 2) will also inform the selection of variables and hypotheses to be tested in the quantitative study (study 4, chapter 6). Figure 2 shows a diagram of the CSM that will be used in this thesis. This figure shows a version of the CSM proposed by Hagger and Orbell (2003), whereby illness perceptions can influence both coping and health outcomes (as discussed in section 3.2.2). The figure also shows that appraisals of treatment can influence coping, as proposed in Leventhal et al's (1984) original model.

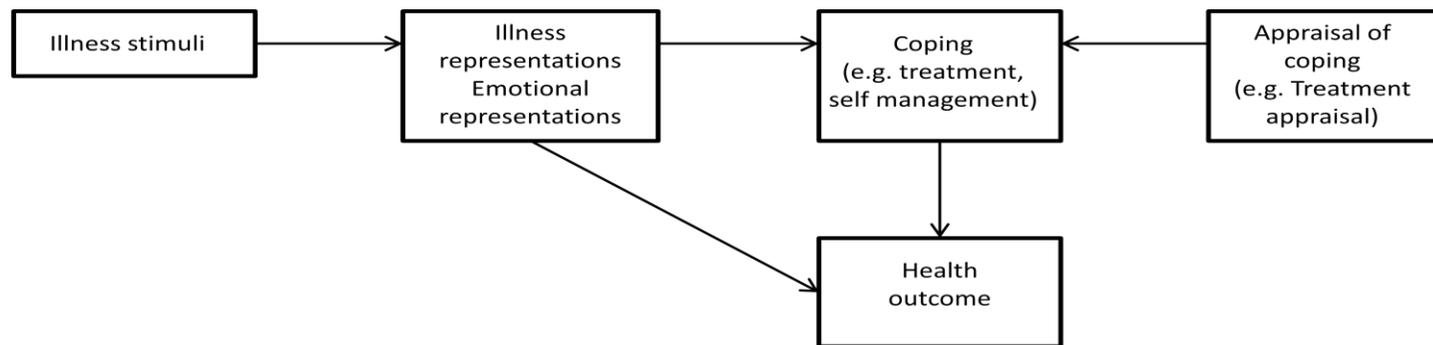


Figure 2 Diagram of the CSM

3.3 Methodological issues

The following section will discuss the methodological issues relevant to researching how physiotherapy and osteopathy vary between HCS. Specifically, it will discuss the differences between qualitative and quantitative methods, how these two approaches can be combined in 'mixed methods' designs and how these two methodological approaches will be combined within the current thesis. Further methodological details are provided in the relevant chapters.

3.3.1 Combining Qualitative and Quantitative methods

Empirical research is underpinned by epistemological perspectives. These can range from positivist paradigms, which are usually adopted by quantitative designs, to alternative paradigms such as constructivist, contextualist, interpretive or perspectivist which are most frequently adopted by qualitative studies (Eliot, 2003; McGrath & Johnson, 2003; Yardley & Bishop, 2007). The positivist paradigm assumes that there is a single, fixed objective reality, which can become known through scientific study. Within this paradigm a studied phenomenon is observed independently of its surrounding context and is assumed to be free from the influence and values of the researcher. In contrast, alternative paradigms purport that knowledge of reality is subjective and is constructed through socio-cultural experiences. In this case, the phenomenon being studied is located within its particular context and is viewed as interdependent with the influence and values of the researcher.

As a result of the different paradigms associated with qualitative and quantitative research, each have different strengths and limitations (Camic, Rhodes & Yardley, 2003; Curry, Nembherd, & Bradley, 2009; McGrath & Johnson, 2003; Yardley & Bishop, 2007). Quantitative methods impose high levels of precision and control on data collection and analysis and therefore provide good internal validity. This is advantageous as it means that the effects of a variable can be isolated and causal inferences can be drawn. Quantitative methods are therefore well suited to theory-based deductive or top-down

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hypothesis-testing. One of the down sides of the high level of precision and control associated with quantitative methods, is that they can provide poor external validity as phenomena are rarely studied within their natural context. Non-naturalistic studies may only provide a narrow interpretation and understanding of phenomena of interest. Quantitative methods also usually require participants to answer questions in a format designed by the researcher. This means that only answers predicted by the researcher can be included and novel answers which might have expanded what is known about phenomena cannot be captured. Quantitative methods may therefore be less suitable for exploring individuals' perceptions or for investigating less well-known topics where answers to questions cannot easily be anticipated.

Qualitative methods provide better external validity than quantitative, since they examine phenomena within their socio-cultural contexts (Howitt, 2010). Inductive approaches often adopted in qualitative research overcome the problem of the researcher needing to anticipate responses in quantitative studies, as novel, unexpected insights can emerge directly from the data. The interdependence between the researcher and participant and the potential influences of this on the research process are openly acknowledged within qualitative research. Indeed, the researcher is encouraged to be reflexive about their interdependence with the research process (Howitt, 2010). These features mean that qualitative methods are ideally suited to inductive theory generation and the exploration of understudied phenomena. The high levels of external validity found in qualitative studies result in a lack of internal validity, precision and control which are inherent to quantitative research. Consequently, qualitative methods are not suitable for isolating the effects of specific variables and cannot draw causal inferences. The decision to adopt a qualitative or quantitative approach is therefore dependent on the purposes of the research and the questions to be answered (Yardley & Bishop, 2007).

As qualitative and quantitative methods have different strengths and are better suited to answering slightly different questions, there is a strong argument for combining these two approaches to form a 'mixed methods' approach (Ostlund, Kidd, Wengstro and Rowa-Dewar, 2010; Yardley & Bishop, 2007). When both methods are used together they can provide a rich comprehensive and coherent understanding of a given phenomena (Bennett & Glasgow, 2009; McGrath & Johnson, 2003; Yardley & Bishop, 2007). Such mixed methods designs usually specify the order in which the quantitative and qualitative approaches are adopted, the priority given to each approach and how the findings of each

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approach are related to one another (Denscombe, 2008; Dures et al, 2011; OStlund et al, 2010).

It has been argued by many that mixed methods research is best seen as theoretically underpinned by a pragmatist perspective (Creswell, 2003; Denscombe, 2008; Dures et al, 2011; Fishman, 1999; Morgan, 2007; Yardley & Bishop, 2007). Here a pragmatic view states that the methods or theories most useful to addressing the research question or most feasible for explaining a particular phenomenon should be adopted. Likewise assumptions about the nature of reality and truth should also be the most suitable for the particular phenomena of study and the research question. Therefore, researchers are able to choose the methods and approaches that best suit their research as neither qualitative or quantitative research are viewed as inherently superior (Creswell, 2003; Dures et al, 2011).

It is important that mixed methods studies have a clear rationale for using both qualitative and quantitative methods together. This should articulate why using only one of these methods would be insufficient for answering the research question(s) of interest (Bryman, 2006; Creswell, Fetters, & Ivanoka, 2004). Once a decision has been taken to adopt a mixed methods design, several practical considerations then become important. Researchers must decide whether to collect data concurrently or sequentially (if so in which order) and the priority which will be given to the qualitative and quantitative components of the study (Creswell, & Piano Clark, 2007; Creswell et al, 2004; Denscombe, 2008; Tashakkori & Teddlie, 1998). It is also important to consider the point in the research at which the data from each method will be mixed or related to each other (Creswell et al, 2004; Moran-Ellis et al, 2006). For instance, some researchers choose to integrate data from qualitative and quantitative studies at the analytic stage, after both sets of data have been turned into either qualitative or quantitative data so that the data sets can be easily merged (Onwuegbuzie & Teddlie, 2003). However, this approach is likely to lose useful features in the data, for instance, qualitative data can lose their rich descriptive detail if they are turned into numbers (quantified). A superior alternative may be composite analyses approach, where both quantitative and qualitative components are conducted as complete components and data are analysed separately before being integrated for discussion (Yardley & Bishop, 2007). Conducting separate rather than mixed analyses ensures that the unique characteristics of the data in each method are not lost (Yardley & Bishop, 2007).

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It was advantageous to adopt a mixed methods research design within the current thesis, since both qualitative and quantitative methods were needed to address the research questions. Qualitative methods were most appropriate for exploring how LBP patients' experiences of physiotherapy and osteopathy varied between HCS. They were also most appropriate for exploring how physiotherapists' and osteopaths' experienced treating LBP in NHS and private settings. Furthermore, a qualitative approach was also useful for establishing the face validity of the new questionnaire designed for a quantitative study within this thesis. Quantitative methods were most appropriate for providing a preliminary test of some aspects of reliability and validity of the newly designed questionnaire. They were also most appropriate for isolating the extent to which particular aspects of treatment appraisal (highlighted as important within the qualitative work) varied between treatment types and HCS. Neither quantitative nor qualitative approaches on their own would have been sufficient to address all of these aims.

A composite analysis approach was adopted to combine the qualitative and quantitative studies in this thesis. A sequential design was employed, with the patient qualitative study (study 1) informing the development of a questionnaire, the reliability and validity of which were then tested with further qualitative (study 2) and then quantitative approaches (study 3), before the questionnaire was finally used in a cross-sectional quantitative study (study 4). An additional qualitative study (with practitioners, study 5) was then employed to attempt to complement the patient qualitative study (study 1) and to explore whether practitioners views could highlight any factors which might further explain and elaborate the patient data. Each method was assigned equal weight within the research.

4. Chapter 4: Patients appraisals of NHS and private physiotherapy and osteopathy: A qualitative study

4.1 Rationale and aims

The current study explored how patients' experiences and treatment appraisals vary between NHS and private physiotherapy and osteopathy. As discussed in chapter 1 at the start of this study (in 2008) there was already some qualitative (but not quantitative) evidence that treatments might vary between NHS and private settings. For instance, practical aspects of care (such as waiting times) appeared to be appraised more favourably in the private sector compared to the NHS (Hancock et al, 1999; Paterson and Britten, 2008; Wiles and Higgins, 1996). There was also evidence that patient-practitioner relationships were more supportive, mutual and consumerist in private practice, compared to more paternalistic relationships available in the NHS (Wiles and Higgins, 1996). In addition there was beginning to be evidence that treatment might be more holistic in the private sector compared to in the NHS (Paterson and Britten, 2008). However, important questions remained, specifically, do patients' experiences of different treatments vary in the same way across the two HCS? Or might some treatments vary more greatly between HCS than others? This study set out to explore these questions within two treatments for LBP, physiotherapy and osteopathy. Specifically this study sought to answer how LBP patients' experiences and appraisals of their treatments vary between NHS and private physiotherapy and osteopathy.

As described in Chapter 3 the CSM (Leventhal et al, 1984) highlights the importance of looking at patients' appraisals of their treatment and not just their experiences. The CSM purports that patients appraise their treatments in order to establish whether they are working as desired, or whether a more suitable alternative might need to be found. Appraisals therefore guide subsequent behaviours, such as adherence to

treatment or seeking new treatments. The CSM was used as a guiding framework within this study, to sensitise the researcher to notice how patients' appraise their treatments and whether their appraisals might be related to any subsequent behaviour (for example adherence to treatment).

4.1.1 Aims

The aim of the current study was to explore the similarities and differences in LBP patients' experiences and appraisals of physiotherapy and osteopathy when they are delivered within the NHS and private practice. Given the lack of existing evidence in this area, this study used qualitative methods. This approach allowed determination of which issues are relevant to patients within the different treatments and settings, rather than prematurely assuming the answers to this important question and adopting a researcher-designed questionnaire approach (see methods chapter 2 for more on this). This study will also inform a quantitative study (Study 4, Chapter 6) which will measure the extent to which variables identified as important within the current study vary between osteopathy and physiotherapy within each HCS.

4.2 Method

4.2.1 Design

This qualitative interview study used semi-structured interviews with patients who had experienced physiotherapy or osteopathy for LBP. The majority of interviews were carried out in person, a few were carried out by telephone (discussed further below).

Ethical approvals for this research were gained from both the University of Southampton and NHS ethical committees. Research and development approvals were also obtained from both the University and NHS trusts.

4.2.2 Recruitment

Purposive maximum variation sampling was used to capture a wide range of potentially different viewpoints. Participants were sought from different socio-demographic backgrounds, genders, number of treatment sessions attended (appraisals might differ between those who had experienced more or less treatment) and experiences of treatment (positive or negative). Several different recruitment strategies were used. Patients were recruited from adverts around the University of Southampton (3 participants recruited), newspaper adverts (5 participants), contact with chronic pain groups (4 participants) and in-clinic recruitment from NHS (10 participants) and private-sector practitioners (13 participants). NHS and private clinics were chosen from a range of rural and city locations, and from practices where the location was more deprived or more affluent (deprivation indices enabled this approach). All participants received a participant information sheet and had opportunity to speak to the researcher about the study and ask questions before giving written consent. The maximum variation sampling was partly achieved by recruiting participants using a range of different strategies (and from a range of clinics), but was also ensured by firstly checking the gender of participants (determined from participants names/voices when speaking to them); secondly checking the practice that they were recruited from, which gave a sense of whether they were currently living in a more or less affluent area and in a rural or city location. Thirdly, participants were asked at initial phone calls whether they had received treatment in the NHS or private practice (or both), how many episodes of treatment they had experienced and whether they would describe their overall experience of treatment as positive or negative. Fourthly, participants were asked at initial phone calls whether they were currently employed, participants who were working all volunteered information about their job at this point, which gave further information about the participants' background, but also gave information about what type of time might be most suitable for an interview. These initial checks helped ensure that participants were sampled from a diverse range of backgrounds.

4.2.3 Selection and exclusion criteria

Participants had experienced physiotherapy or osteopathy (or both) for (non-specific) LBP, within the NHS or private practice (or both) within the last two years (to reduce recall bias). Participants were English speaking. Participants' LBP had persisted for four weeks or more.

4.2.4 Recruitment from practitioners

The majority of participants were recruited from practitioners, who offered patients who fit the study's selection criteria an information pack. The patient then read this information and decided whether to find out more about the study. Participants expressed an interest in the study by either completing a reply slip, phoning or emailing the researcher. In the case of telephone interviews participants completed a consent form and returned this with their completed reply slip. Participant information sheets and consent forms were slightly different for those who were interviewed by telephone because of the need to collect consent by post, rather than face to face. These forms differed with respect to the procedure that the participant would need to carry out, i.e. telephone or face to face interviews (all participant information sheets, cover letters, reply slips and consent forms can be found in appendix A-F). Once participants had expressed an interest in learning more about the study or taking part then the researcher phoned them to answer any questions and to check they met the inclusion criteria. If the participant wanted to take part and met the inclusion criteria then an interview date was arranged.

Practitioners were able to offer patients an information pack at any point during their treatments. Many practitioners chose to give information packs out at the end of treatment as they felt this would be less intrusive for their clinical practice. This meant it was harder to recruit patients who were early on in their treatments. Some practitioners were happy to give information packs to patients earlier in their treatment, although these practitioners often reported that their patients were not generally happy to participate early on in their treatments as they wanted to wait and see what their treatments were like before they were interviewed about them.

4.2.5 Recruitment from chronic pain groups, University adverts and newspaper adverts

The study was advertised (for advert see appendix G) in a local chronic pain group, online on chronic pain group websites, in the Daily Echo newspaper and in and around the University of Southampton. People could telephone or email the researcher directly to find out more about the study and request a participant information pack. If they read this pack and expressed an interest in the study (by returning the reply slip, emailing or telephoning the researcher) then the researcher telephoned the participant to discuss the study further, answer any questions that the participant had and check that the participant met the study's selection criteria. If the participant decided to take part in the study then they consented as described above.

4.2.6 Participants

Table 2 describes the characteristics of participants within this sample. Private physiotherapy, NHS physiotherapy, private osteopathy and NHS osteopathy will all be referred to as groups throughout this chapter, but it is important to note that these groups are not mutually exclusive. The majority of participants had experienced more than one therapy and these experiences were explored within the interviews. This meant that although 35 participants were interviewed there were 54 treatment experiences. The table therefore displays the characteristics of experiences within each group, rather than people within each group. It was only possible to recruit a few participants who were very early on in their treatments and had only experienced one or two treatment sessions. It was not possible to recruit any of these patients within private physiotherapy practice.

Participants came from a range of socio-demographic backgrounds and occupations (e.g. carpenter, doctor, computer programmer) and were recruited from both rural and urban practices. Participants' occupations were split into blue collar (unskilled or semi-skilled workers) and white collar workers (higher skilled, or managerial level worker).

Broadly similar characteristics were present among the different treatment groups (Table 2).

4.2.7 Procedure

Most interviews were conducted face to face, seven were conducted by telephone to allow people from more remote locations to participate.

Interviews were arranged at times suitable to participants. The face-to-face interviews took place in a location of the participants choosing, either their own home or at the University of Southampton. All participants were advised that they could take a break or stop the interview at any point.

The researcher introduced herself to participants as a postgraduate student studying health psychology. It was emphasised that the researcher was not an expert in LBP, physiotherapy or osteopathy and was interested in hearing about the participant's own experiences and thoughts about their treatment. The researcher then re-iterated the aims of the research, went through the participant information sheet and answered any questions that the participant had before starting the interview. In the case of face-to-face interviews consent was then sought at this point, before starting the interview.

The interview itself consisted of a number of open questions. The interview guide was developed based on the previous work of the supervisors and the existing literature in the area. The main question was "I'm really interested in hearing about your experiences of having physiotherapy or osteopathy, so please could you tell me all about it?" Further questions surrounded patients' thoughts before having their treatment, how they came to try their treatment, their experiences of physiotherapy or osteopathy consultations and treatments and reflections on their treatments (for interview schedule see appendix H). Participants who had experiences of both physiotherapy and osteopathy, or of both private and NHS treatment were asked to compare these experiences. The use of open ended questions meant that participants sometimes raised additional issues that were relevant to the aims of the study, these were therefore followed up with non-directional prompts (e.g. "can you tell me more

about that?”). This inductive approach meant that the interviews were able to cover topics that were important to participants but which had not been anticipated by the researcher. All interviews were audiotaped with the permission of the participant. No participants reported being distressed by the interview.

Table 2: Participant characteristics

	NHS osteopathy	Private osteopathy	NHS physiotherapy	Private physiotherapy
Total N in each group*	9	19	15	11
Age	30-60 Median= 41	27-67 Median= 41	24-60 Median= 40	27-82 Median= 55
Gender: % female	67%	63%	67%	55%
Education				
GCSE	25%	47%	27%	27%
A Level	37.5%	6%	20%	18%
Degree	37.5%	47%	53%	55%

N experienced multiple therapies	5	13	11	8
N experienced only one treatment, but > 1-2 sessions	3	5	2	3
N Only received 1-2 treatment sessions	1	1	2	0
Occupations				
Blue collar	4	7	5	5
White collar	5	8	6	4
Unemployed	0	1	1	0
Retired	0	3	3	2

* In this table patients who described multiple treatment experiences contribute to more than one group: total N=54.

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After the interviews participants completed a short questionnaire either in writing (in the case of face-to-face interviews) or verbally with the researcher (in the case of telephone interviews). This short questionnaire concerned the participants' age, gender, level of education and current occupation. This information allowed description of the overall sample and ensured that we were able to sample participants from a range of backgrounds.

All audiotaped interviews were transcribed verbatim and the transcripts were checked against the recordings for accuracy.

Participants were offered a summary of their interview which acted as a check to see whether the researcher's interpretation of the interview was deemed accurate by the participant. No participants responded to say that they disagreed with the summary of their interview.

Participants continued to be interviewed until no new codes or themes were being identified and the data were considered to have reached saturation (Glaser and Strauss, 1967).

4.2.8 Analysis

The aim of the analysis was to look at the similarities and differences between patients' experiences and appraisals of physiotherapy and osteopathy treatments within the NHS and private practice. An inductive approach to data analysis was adopted to ensure that the findings emerged from the data. A thematic analysis (Braun and Clarke, 2006) was conducted which firstly involved listening to the interviews, reading and re-reading and transcripts. The interviews were then coded line-by-line (Charmaz, 2006) using Nvivo (a qualitative software programme). A coding manual was created after around a third of the interviews had been coded, codes which appeared most useful to the research question were applied to all of the transcripts (Charmaz, 2006). After the initial creation of the coding manual, further interesting features of the data not currently captured by existing codes were sometimes identified in the subsequent transcripts, these were also coded and the coding manual was updated and refined to reflect the analysts' understanding of the data. This analysis was therefore iterative, involving constant comparison and refinement between codes and transcripts to ensure that codes were being used consistently and

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reflected the data (Glaser and Strauss, 1967). An audit trail was maintained including memos. Codes identifying similar aspects of the data were clustered together under themes and subthemes. Data which did not fit the themes (deviant cases) were sought to identify the limits of the analysis. The interviews, themes and codes were discussed with a supervisor (FB); both used the CSM as a guiding framework to guide interpretation of the data (not as a framework for coding data). For instance, to help think about how appraisals of treatment might be related to patients reported adherence to treatment.

Charting techniques were adopted from framework analysis (Ritchie and Spencer, 1994). Charting involves displaying in a chart summaries of what each participant said in relation to each theme. This allowed themes to be compared across participants and helped to gain an overview of the patterns and key issues within themes between participants and between the different treatment groups. This allowed analysis of the similarities and differences between participants who had received the different treatments (physiotherapy and osteopathy) within the different HCS. Memos and diagrams were also used in the later stages of the analysis to identify how themes might link together and might differ between the different therapies and HCS.

4.3 Findings

4.3.1 Overview

The analysis resulted in 41 codes which were organised into themes and sub-themes. Three themes were identified which contributed directly to patients' treatment appraisals: 1) Choice and control; 2) Vulnerability; and 3) Trust. Trust also appeared to modify perceptions of vulnerability. These relationships are illustrated in Figure 3. Trust was further divided into aspects which related to 'Practitioner characteristics', being 'Cared for as an individual', 'Perception of symptom change', 'Understanding LBP and treatment' and 'The credibility of CAM'. Table 3 displays a list of these themes, subthemes and the codes which related to each.

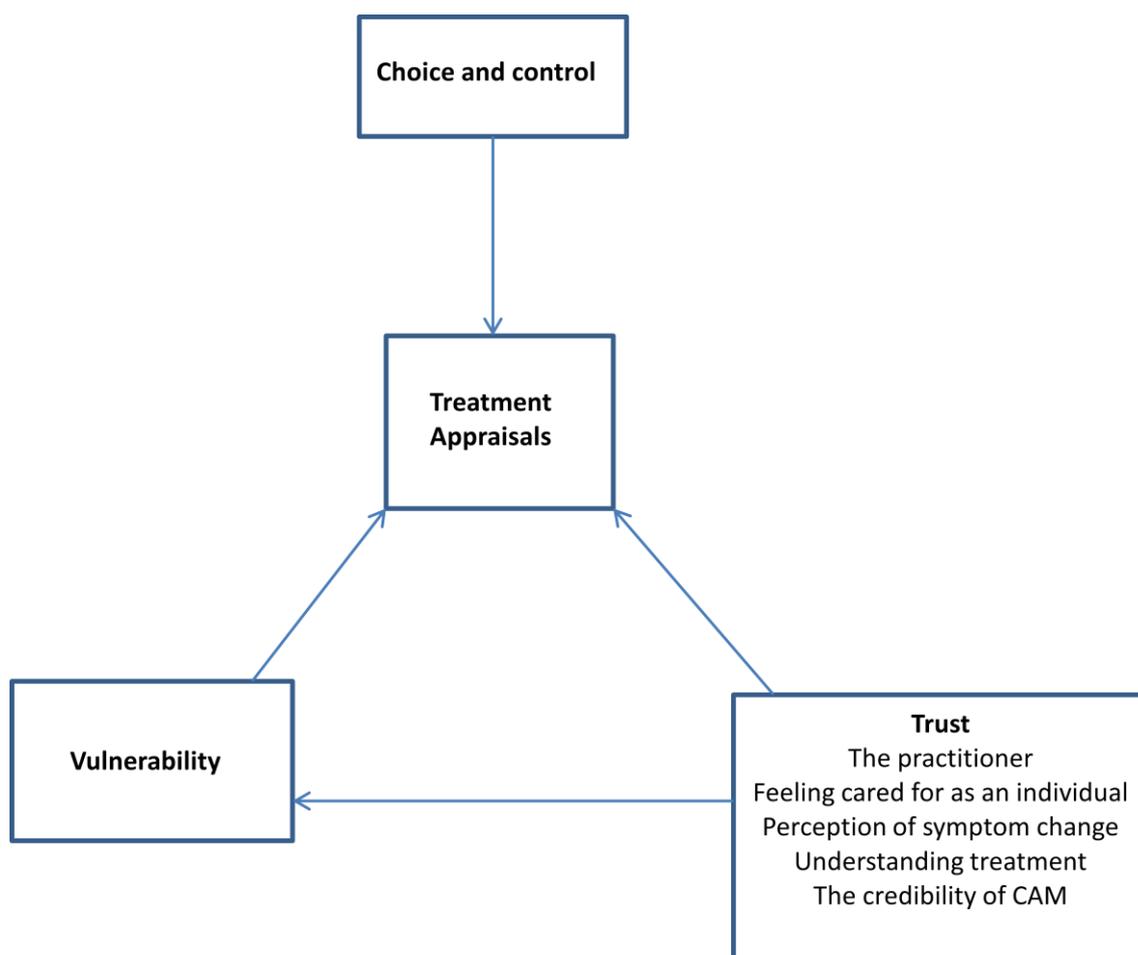


Figure 3: Graphic representation of the relationship between factors influencing treatment appraisals

The analysis indicated that patients within both treatments appraised their treatment based on whether it offered them choice and control, provided symptom relief, was individualised to their needs, made them feel vulnerable, whether they understood aspects of their treatment, the credibility of CAM and whether their practitioner appeared trustworthy. Concrete treatment experiences and the patients’ abstract beliefs interacted through the patients’ judgements of whether aspects of their treatment fit with their own illness perceptions, health beliefs and other more global values, beliefs and norms. These beliefs, values and norms appeared to be influenced by patients’ previous experiences of treatment.

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Treatment appraisals differed when treatments were provided within the NHS, compared to private practice. Table 4 shows a breakdown of the similarities and differences between the HCS for each treatment and for each of the themes/subthemes. Where differences existed treatments were always appraised more negatively within the NHS compared to private practice. Table 4 shows that physiotherapy and osteopathy varied in different ways between HCS.

Table 3: Themes derived from the analysis

Themes	Sub Themes	Codes
Choice and Control		<ul style="list-style-type: none"> • Backs and Doctors do not mix • Waits for treatment • Flexible practitioners • Choice of practitioner • Convenient location • Control over amount of treatment • Playing the system • Consumerist relationship • NHS allowing control over health
Vulnerability		<ul style="list-style-type: none"> • Financial Vulnerability • Pain • Manipulating bones • Popping sounds alarming • Uncomfortable being undressed within treatment • Being believed • Sexual vulnerability
Trust	Private practitioner	<ul style="list-style-type: none"> • Recommendation and reputation • Honesty • Belief 'he knows what he is doing'
	Treated as an individual	<ul style="list-style-type: none"> • Treatment tailored to the individual • Being understood

	<ul style="list-style-type: none"> • Non individualised treatment • Examination • Scan as evidence of what is wrong • Takes notes • Focussed on me • Having enough time • Holistic consultation • Friendship • Treatment environment
Perception of symptom change	<ul style="list-style-type: none"> • Importance of symptom change • Osteopathy an actual treatment, physiotherapy self-management • Using treatment to self-manage • Important to learn from treatment • Trial and error • Treat elements • Communication shaping beliefs
Understanding	<ul style="list-style-type: none"> • Understanding the cause of LBP • Diagnosis • Tangible treatment
The Credibility of CAM	<ul style="list-style-type: none"> • Belief about CAM

Both physiotherapy and osteopathy varied between the HCS with respect to choice and control available within treatment and vulnerability experienced within treatments. Patients receiving physiotherapy and osteopathy appraised their practitioners as similar across both HCS, although additional criteria were used to judge private practitioners (honesty and recommendations). NHS and private osteopathy were similar in patients' perceptions of the credibility of CAM, this theme was specific to osteopathy and not discussed by physiotherapy patients.

NHS and private physiotherapy had further differences between the two HCS that were not noted within osteopathy treatments. NHS physiotherapy patients reported differences in whether they were cared for as an individual, in aspects of treatment which affected

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their perception of their symptoms and differences in how treatment was explained to them which impacted on their understanding of treatment.

The similarities and differences between patients' appraisals of treatments within physiotherapy and osteopathy within the NHS and private practice will now be discussed under the main themes of the study. While the findings are presented in the patients' own words it is recognised that other people's (for instance practitioners) versions of events may differ. All participants were given pseudonyms to protect their anonymity and identifiable data was removed. The therapy which participants received is also listed after their pseudonym. Where participants had multiple therapies the therapy which relates to the quote they are discussing is listed first. Participants will be referred to as patients throughout the results section.

Table 4: The similarities and differences in patients' appraisals of NHS and private physiotherapy and osteopathy

Theme/subtheme	Physiotherapy	Osteopathy
Choice and Control	D	D
Vulnerability	D	D
Trust:		
<i>Practitioner characteristics</i>	S	S
<i>Cared for as an individual</i>	D	S
<i>Perception of Symptoms</i>	D	S
<i>Understanding LBP and treatment</i>	D	S
<i>The credibility of CAM</i>	--	Specific to osteopathy

Notes: D= differences between the two HCS, S= similarities between the two HCS.

4.3.2 Choice and Control

Patients valued choice and control within their treatments. Treatments which provided this were reported as empowering to the patient and were appraised positively. Aspects of choice and control differed between HCS, and treatment types.

Many patients discussed disempowering NHS consultations with their GPs where patients felt that their GP did not offer an acceptable treatment for the patients LBP. Those who could afford to turned to private healthcare, which offered them the treatment which they felt they needed.

“the reason I went down that (private) road in the first place was wholly surrounded by the experience I had with the GP. So I went to the GP and he was like so your back’s not broken, so try and lose a bit of weight... and for me that was really unsatisfactory.” **Gary, private osteopathy**

Patients disliked waiting for treatment as they were in pain and often unable to perform daily activities. Some patients also believed that waiting for treatment would be detrimental to their back problem, causing their pain to become harder to treat. In the NHS, patients reported short waits for osteopathy (a few weeks) and long waits for physiotherapy which they found frustrating. Patients who sought private treatment could access treatment quickly without a waiting list and reported that this was involved in their decision to seek private treatment.

“(In the NHS) you could be on a waiting list for so long that you know it either gets considerably worse or it makes it more difficult to treat so you know by the time you get to, so if I felt that it was important for me to have treatment immediately I think I’d always go for the BUPA option.” **Jane, private osteopathy**

Some patients reported that their private practitioner would try to offer them some immediate advice, or fit them in for treatment on the same day. This offered the patient much more control in accessing help when they needed it compared to the NHS. Patients

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appeared to interpret this as a sign that their private practitioner cared about them and so appraised their practitioner positively. The private sector also offered patients greater control over the time of day that they were treated, in comparison to both NHS treatments where treatment times were usually given to the patient.

“I said to my husband what a lovely lady, I mean I just walked in there and she told me a few things to do before I’d even really got an appointment so you know I took a likeness to her from the very beginning.” **Tessa, Private physiotherapy, NHS physiotherapy.**

“I was just sent the appointment, I couldn’t kind of make an appointment at the time that suited me and so I had to get, sometimes miss lectures, or sometimes disrupt the day by having to go in the middle of the day.” **Emily, NHS physiotherapy**

“He put me in at the end of his, sort of a 9 o’clock session when he would normally have finished so his flexibility in doing that, of course makes you feel positive doesn’t it.” **Ethel private osteopathy**

Private treatment also allowed the patient to choose a practitioner who used treatment techniques which they preferred.

“I wouldn’t want to be with a physiotherapist who didn’t use a manipulative or manipulating approach, I’d want to have some input and how I selected my physiotherapists, therapist. I don’t think I have the capacity to do that in the NHS.” **Roger, private physiotherapy**

Some NHS physiotherapy patients spoke about inconvenient treatment locations which were not local to them or had a lack of available parking. Private patients often chose

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practitioners who were local to them for this reason. No NHS osteopathy patients discussed this problem as NHS osteopathy services were generally delivered in local GP surgeries or clinics nearby.

“Get two buses there, and two buses back and it just took so long, it just took so much time out of the day. And this was, it really annoyed me, especially because it actually made my pain feel worse because of all the waiting around and sort of carrying my bags.” **Emily, NHS physiotherapy**

“It was brilliant because it wasn’t in the local hospital it was in a clinic, where it was very easy to park, and in (place name removed) that’s wonderful, because it’s not so easy to park at the main hospital.” **Yvonne, NHS osteopathy**

Private patients could access as much treatment as they needed. In contrast NHS therapies were time limited, allowing the patient less control as they could only access a limited amount of treatment. However, patients reported differences in their perceptions of how much treatment they could access between physiotherapy and osteopathy. NHS physiotherapy patients often reported non-collaborative discharges where they were not involved in the decision to end treatment. This decision was often based on the physiotherapists’ judgement that there had been no improvement in the patient’s symptoms. This approach was perceived as not helpful as patients were left in pain without any support. NHS osteopathy patients reported being involved in deciding how much treatment they should have, and when their treatment should end. Patients who did not show improvement in symptoms within NHS osteopathy reported that their practitioner referred them on to alternative treatments.

“to be finally told (by the NHS physiotherapist) that I wasn’t responding to treatment so I just had to go away and hope it would get better on its own, it was horrible and I had a fair bit of depression after that because I you know I was still in loads of pain... I was able to talk to the, negotiate with the (NHS) osteopath and discuss with him about how the treatments control my symptoms and what

would be a good frequency of appointments so I get the most.” **Richard, NHS physiotherapy, NHS osteopathy, private osteopathy**

Patients with CLBP who were less likely to see improvements in their pain, were frustrated by NHS physiotherapy discharges being based on lack of progress in reducing pain and felt that their problems did not fit in with the NHS system. These patients were often using treatment to help them to self-manage their backs and felt they could improve their quality of life and mobility through treatment. A few patients were prevented from accessing NHS osteopathy if their LBP was perceived as chronic, as some NHS osteopaths were contracted only to see acute patients. These patients therefore had to make their problem fit with the NHS’s model.

“(the NHS physiotherapist said) we have to discharge you from the service, because we have to be showing there is an increase in your mobility or there’s a decrease, massive decrease in your pain....I think that’s wrong, I think, again it needs to be looked upon as an individual, you know case by case thing, because there are conditions that are never going to be better and it is a case of your quality of life” **Sarah, NHS physiotherapy**

“I don’t actually like the idea that whatever this is, it’s being called chronic because that closes doors as well, I had to convince my GP that it was a flare up a difference in the condition for me to be referred because she said well it’s chronic so I can’t refer you for this, you have to learn the language, yes it’s a flare up therefore I’m referred” **Tina, NHS osteopathy, private osteopathy, NHS physiotherapy**

A few patients who received private treatment felt that paying for treatment entitled them to receive the treatment that they wanted. This more consumerist relationship allowed patients to ask questions and negotiate the treatment that they perceived was right for them.

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“you can go and explain that to a private practitioner and he will and then you’re setting him a goal, you’re saying that is what you have to do, you have to do your job and get me mobile and then I’ll keep on seeing you.” **Richard private osteopathy, NHS osteopathy, NHS physiotherapy**

“With BUPA (physiotherapy) you can say well hang on a minute I’m paying for this you know, I want you to spend a bit more, why are you doing this, what do you expect to get out of this, why can’t we try something else?...” **Dave, private physiotherapy, NHS physiotherapy**

Although the private sector offered patients more control over their treatment, the cost often meant patients could not afford to access this extra control. However, some patients discussed the value of the NHS which appeared to give them control over their health, as without it they would not be able to afford treatment.

“I think it’s good because at the end of the day where people like us haven’t got that sort of money to go private and have that done, have MRI scans and everything and if it wasn’t for the NHS we’d be really struggling.” **Luke, NHS physiotherapy, private osteopathy**

4.3.2.1 Summary of choice and control

Overall patients reported that the NHS offered them much less choice and control than the private sector. However, the more convenient locations, more collaborative relationships and shorter waiting lists for NHS osteopathy treatment meant that it often offered patients somewhat more choice and control within treatments than NHS physiotherapy, although still less than the private sector. Lack of control within treatments was often frustrating or distressing for patients and treatments which provided less control were appraised negatively.

4.3.3 Vulnerability

The additional choice and control available within the private sector was contrasted with a perception of certain vulnerabilities. Many patients perceived a potential financial vulnerability, wherein practitioners could easily recommend superfluous treatments. Patients typically felt that practitioners they trusted would not take advantage of their potential financial vulnerability. Only three people discussed experiences where they felt their practitioner had actually tried to rip them off. One of these patients (Luke) reported that his practitioner had later been exposed as unqualified.

“...they also tend to be on the sell most of the time in other words, you know send you for some x-rays you know, he’s paying doesn’t matter, doesn’t come off my budget so again that’s the down side to it.” **Dave, private physiotherapy, NHS physiotherapy**

“I know he’s genuine and I implicitly trust him and know he just wouldn’t rip me off...” **Gail, private osteopathy**

“...she says you need to come again, I say hold on a minute I can’t afford to keep coming £30 a time each week and I said I’m going to leave it, I’m not happy... (the osteopath) was seeing them on the first time, then he was just booking them in on a block booking at £30 a time and just that was it, you’d never see him again, it was always like his students or somebody else, he must have earned a fortune and then we saw in the paper that he wasn’t even qualified!” **Luke, private osteopathy, NHS physiotherapy**

Many patients who were treated with mobilisations and manipulations discussed how their treatments could often be painful, either during the session, or the next day. However, patients generally reported that this pain was worth enduring for the improvements in symptom relief that these techniques produced. A few patients also discussed how exercises prescribed in their physiotherapy sessions caused them greater

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pain. Patients reported putting up with pain during spinal manipulations, but did not continue with exercises at home if they caused pain, often believing that they might cause further damage. NHS physiotherapy therefore appeared at a distinct disadvantage in that it relied mostly on exercises being performed alone at home while the other three treatments were delivered in person by the practitioner.

“There is not gain without the pain as they say” **Ryan private osteopathy, NHS physiotherapy**

“The exercises she give me that they I don’t know if that what I’m meant to do, but it really pulled on my back and it aggravated it, so I left it and I’m just happier having the painkiller on the morning and night and living with like constant ache at the bottom of my back I’d rather live with that than go through aggravating it more...” **Luke, NHS physiotherapy, private osteopathy**

Some patients who were new to osteopathy feared that the manipulations performed on their spine could cause damage. It was therefore important for the patient to trust their practitioner and believe that they knew what they were doing. This was not discussed by physiotherapy patients, probably because the private physiotherapy patients who were new to treatment had not received the same kind of spinal manipulations. More experienced patients (who had received many spinal manipulations) did not speak about this vulnerability. A few patients also spoke of their alarm at the popping sounds (cavitations) which occurred during spinal manipulations.

“I was kind of terrified, cause I knew that they were like gonna push down and make my back crack and stuff like that, and that kind of frightened me cause if they get that wrong, huh [nervous laugh], then I could end up with some, some damage.” **Gary private osteopathy**

“...you hear a series of popping sounds and they are quite alarming.” **Amy, private osteopathy**

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Many female (but not male) patients who received osteopathy from a male practitioner discussed feeling uncomfortable being treated in their underwear. Some of these patients also did not like being touched whilst undressed which was necessary during the treatment. Female patients treated by female practitioners did not discuss feeling uncomfortable being undressed or touched within osteopathy. Patients usually overcame these feelings in time as they built up more of a relationship with their practitioner. No female private physiotherapy patients mentioned this type of vulnerability, most likely because they were treated by female practitioners. No female NHS physiotherapy patients reported being asked to undress during treatments (as they were rarely treated with mobilisations or manipulations which required this).

“I’m not particularly comfortable with um you know that you have to get undressed and I, it’s just I’m not very comfortable with that, better now because obviously I’ve got to know him but it’s not something I look forward to doing...”

Helen, private osteopathy, NHS physiotherapy

A single patient discussed the potential risk of sexual vulnerability within treatment. She highlighted how the treatment environment, an independent clinic with only her practitioner around, added to this perception of vulnerability. She discussed how trust in her practitioner was therefore important.

“but you are vulnerable there is no one else there, so you are alone um (pause) I mean as I said one of the few advantages of getting older is that you’re no longer at any sort of risk, but um I do trust him um absolutely but I suppose you know there is a vulnerability he is a youngish man treating women um with no one else there but it, but I think what, what is comfortable I think he feels professional.”

Kathleen, private osteopathy, private physiotherapy

A few patients discussed situations in which they were not taken seriously or believed by their NHS physiotherapist. This was a frustrating experience and detrimental to the

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patient-practitioner relationship. This experience was not reported within private physiotherapy or either osteopathy setting.

“he said you’ve only been like this for a couple of months, it’s absolutely nonsense it’s all in your head (laughs) I think at the time I’d been like it for about 10 years so I said I’ve been like this for about 10 years, have you read my notes and he said no... I got so frustrated with him I shouted at him, I think I cried, then he said I was being silly.” **Sarah, NHS physiotherapy**

4.3.3.1 Summary of vulnerability

Most patients discussed sometimes feeling vulnerable within treatment. The consequences of these vulnerabilities often included feeling tense, uncomfortable, upset or scared, however few patients reported ending treatment because of this. The only time that patients did report leaving a treatment was when they felt strongly that they were being ripped off. Most patients put up with feeling vulnerable because of the pain relief that treatment provided, or found that their perceptions of vulnerability decreased over time as their trust in their practitioners increased. This indicates that vulnerability perceptions may be more important to treatment appraisal at the beginning of treatments. Vulnerabilities varied between HCS in that financial vulnerability was perceived in private treatments, but not in the NHS where treatment was free. Feeling more uncomfortable being undressed within treatment appeared specific to osteopathy and not physiotherapy.

4.3.4 Trust

Patients in both treatments and both HCS discussed the importance of trust in their practitioner and the treatment that they received. Several factors contributed to patients’ appraisals of trust, these included perceptions of the practitioner, their perceptions of being cared for as an individual, whether treatment provided symptom relief, understanding LBP and treatment, and the credibility of CAM therapies.

4.3.4.1 Practitioner Characteristics

Practitioner characteristics contributed to patients' appraisals of trust in their practitioner. Patients in both treatments and HCS reported more trust in their practitioner if they seemed friendly and kind, interpreting this as a sign that their practitioner wanted to help. Patients reported confidence in their practitioner's skills when the practitioner appeared knowledgeable and confident.

"...and (osteopath's name) himself is very nice, you sort of feel as though, um you know they want to help you rather than they're just doing their job." **Jane, private osteopathy**

"I was quite confident in their ability they all seemed very confident and very knowledgeable about the area so I thought I could completely trust what they were thinking and the advice they were giving me." **Jonathan, NHS physiotherapy, private physiotherapy, private osteopathy**

Patients' confidence in their private practitioner in particular was increased when their practitioner was recommended to them by someone they knew and when they perceived their practitioner as communicating with them honestly. This helped patients to feel less financially vulnerable within private treatments.

"when somebody who you know tells you or gives you that advice, hey go along and see this guy because yes, I had a good experience, before you get there you're feeling pretty good about it aren't you, whereas if you're just picking it out of page 500 of Yellow pages, you're thinking oh I wonder if he's got a hat (laughs) is he a cowboy." **Ryan private osteopathy, NHS physiotherapy**

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“I suppose a fear you have when you go to see someone who is taking money off you is that they’ll insist on seeing you when you don’t really need to go and it’s costing you money that it needn’t do but I always feel with him that he’s very honest and when he’s done what he needs to do he says so and then I don’t go for maybe a couple of years in between. So I feel quite relaxed that he doesn’t try and string it out.” **Ethel private osteopathy**

4.3.4.2 Cared for as an individual.

Patients in all treatments spoke about the importance of being cared for as an individual, and believed that their LBP had an individual cause and would therefore require tailored treatment to be right for them.

“your body is very individual...How you sit, how you interact with people and I think that there isn’t a one-size-fits-all approach. So I want somebody who’s prepared to treat me as an individual.” **Roger, private physiotherapy**

Patients noted that it was important for the practitioner to listen and take time to understand their pain and individual situation, this was perceived as caring. Patients also felt that if they were properly understood by their practitioner then they could receive the correct treatment for their individual problem. Patients therefore awarded trust in their practitioner and appraised treatment more positively when they were listened to and understood.

“ I kind of felt yes, he understands what I’m talking about, yes he’s taken the time and trouble to understand what my pain is about, and I was quite happy to let him treat it and I always have been since then” **Gail, Private Osteopathy**

Patients within both private treatments and NHS osteopathy reported that their practitioners took time to listen to and understand them. Patients who received NHS physiotherapy often reported a different experience in which they were not listened to, or

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where their practitioner launched into a treatment before the patient felt they had fully explained the situation. This made patients feel that treatment could not be individualised to their needs. This more paternalistic approach frustrated patients and they sometimes reported less motivation to adhere to treatment. NHS physiotherapists also often gave exercises on a sheet of paper which had been prepared prior to the practitioner meeting the patient. This added to patients' perceptions that they were being given a generic (non-individualised) treatment.

“...they've got their own set idea of what you should be feeling and doing and they're not prepared to listen, so it makes you feel, I don't know, it just feels a bit pointless going I think.” **Sarah, NHS Physiotherapy**

“... it was more about, describe the pain and here are some exercises and they were pre-printed exercise sheets, so it's a kind of sense of no matter what kind of pain you go in with, this is the sheet you are going to get...” **Sue NHS Physiotherapy, private osteopathy**

“I think if it was exercise tailored to me it would have really motivated me to do the exercise and to feel like it was going to make a difference.” **Claire, NHS physiotherapy**

Physical examinations were important to patients as they provided evidence that the practitioner had understood the patient's individual problem and could therefore treat it. NHS physiotherapy patients sometimes reported that their examinations were rushed, or did not involve the amount of touch that they thought necessary within an examination. Patients appraised these examinations negatively as they perceived that the practitioner could have missed something and given them the wrong diagnosis. This seemed to be based on patients' beliefs about how the body should work and how it should therefore be examined. Patients often reported believing that their backs must be injured somehow and that the body would show physical signs of this injury which could be picked up through examinations or scans. Patients often felt that a scan could be helpful to practitioners to aid their understanding of the spine, so that they could avoid creating any

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further damage to the spine. Illness and treatment perceptions therefore appeared to interact with treatment to contribute to treatment appraisal and preferences within treatment.

“I don’t feel that she examined me enough if I’m honest, it was very basic, she came up with what she thought was wrong with me, very, very quickly, she didn’t sort of and she hardly touched my lower back at all, she didn’t sort of check all my spine or anything which I thought she may have done...” **Liz, NHS physiotherapy**

“I expected them to feel the different muscles in my back which they did but very gently as if to stroke them rather than feeling the individual muscles. I thought they would be able to tell if any of them were damaged in that way in doing that so if that how it works, that’s how I, if you go for a massage that’s what they do they give you a massage and they tell you, oh you’ve got a big knot here and you need to do this exercise and that will help.” **Claire, NHS physiotherapy**

“Certainly an x-ray something like that just don’t twist that because you might break something, push something else out, I think that would help.” **Dave, NHS physiotherapy, private physiotherapy**

Taking notes within treatment was seen as good practice by patients, as it was felt that the practitioner would then be able to remember details about the individual patient and would be able to treat them correctly next time.

“they are taking some notes so there’s some record of what’s happened which they can look back on next time, so you know they’re not doing, they’re not doing unnecessary procedures.” **Ethel private osteopathy**

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Patients reported that it was important for the practitioner to be focussed on them during treatment, this made them feel cared for and that treatment was more personal. If the practitioner was rushing, distracted or did not have enough time with the patient then treatment was appraised more negatively. This happened occasionally within NHS physiotherapy but not within NHS osteopathy or either private treatment. This may have been partly because NHS physiotherapy sessions generally lasted 10-20 minutes, whereas NHS osteopathy and private treatments generally lasted for at least 30 minutes.

“...he’s switched onto you and I think that’s the bit that gives me the extra confidence that I have in him and the reason that I’m happy to keep going back to him.” **Gail, private osteopathy**

“the physiotherapist would just pop up to get something but then start doing something else whilst she was out and then she’d be gone for 5 or 10 minutes rather than just a few seconds, so that’s frustrating. Being good would be to, you know, to be concentrated on me the patient whilst I’ve got an appointment.”

Claire, NHS physiotherapy

Some patients discussed receiving holistic consultations in which their practitioner looked beyond their LBP and tried to understand them as a whole person. These consultations were appraised positively as patients felt cared for and that their practitioner would be able to treat their problems more easily as they fully understood the patient. More holistic consultations were sometimes available within NHS and private osteopathy, and within private physiotherapy, however they were not discussed within NHS physiotherapy. Not everyone reported that holistic consultations were important. Some patients treated by practitioners who other patients had reported as holistic did not mention holistic consultations. It therefore appeared that holistic consultations were only more important to patients who saw holistic elements as essential to treatment, i.e. there was a fit between treatment and the patient’s own values or beliefs. Some NHS physiotherapy patients also discussed the importance of looking at the patients’ mental wellbeing indicating that they felt they could have benefitted from a more holistic approach.

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“but it (private osteopathy) feels to me more about looking at me as a whole person um and very much my lifestyle and the kind of maintaining factors were the tensions I’m carrying in my body um so I think how I felt during the session is I feel engaged with and cared for and um listened and like he’s genuinely trying to really help.” **Sue private osteopathy, NHS physiotherapy**

The physical environment also added to perceptions that the patient was receiving personalised care. NHS physiotherapy environments were seen as impersonal, offering little privacy and were likened to a production line. Private treatments and NHS osteopathy provided superior environments (more spacious, cleaner, nicely decorated); a few patients interpreted these better environments as meaning that they would receive better care.

“the physical environment didn’t lend itself well to a kind of a nice caring sort of encounter, it was more like you know, you go and get behind the curtain and I can hear somebody else behind the curtain and um I think probably for you know, if for nothing else perhaps for that reason alone it didn’t feel very kind of a one to one thing, it kind of felt a bit impersonal like I was in a production line and there are other people having their treatments...” **Sue, NHS physiotherapy, private osteopathy**

“you go to the BUPA one and you walk in, there will probably be 2 or 3 people in this huge waiting room you know, um and like I say it’s clean and nice lines, it’s just a quietness about it you know that um you never, ever see at the (NHS hospital name removed) for obvious reasons... you are thinking I’m going to be looked after a lot better here.” **Dave, Private physiotherapy, NHS physiotherapy**

Many patients described how they built up a relationship with their practitioner over time. Patients valued this deeper relationship as they felt confident that their practitioner understood them and their backs. The private sector offered patients the opportunity to use treatment for longer, in comparison to the NHS. Some private patients therefore built

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up friendships with their practitioners over time, this helped them to relax within treatments. This also occasionally happened in NHS osteopathy where patients could sometimes see practitioners for longer periods of time.

“I’ve been going there for so long now it’s kind of like going to see an old friend (laughs) he’s an extremely nice person and um I feel totally at ease with him now...” **Jane, private osteopathy**

4.3.4.3 Perception of symptom change.

Patients appraised treatments based partly on whether it altered their physical or psychological symptoms of LBP (such as pain, disability or distress). Both treatment techniques (such as manipulations) and practitioner communication seemed to influence patients’ perceptions of their symptoms and appraisals of their treatment. Symptom change (or lack of it) also contributed to adherence through modifying patients’ beliefs about their LBP and what they needed to do to control it. There were differences between treatment techniques used within NHS physiotherapy and the other three groups, this led to differences in symptom relief and therefore differences in appraisals of treatment effectiveness.

Patients’ primary reasons for attending treatment were usually for pain relief or improved mobility and patients reported trusting in treatment and practitioners who provided this.

“I’ve already had benefits from you know the treatments that I’ve had so um I have no hesitation in sort of, I wouldn’t have any hesitation in recommending him and I certainly as I say have no hesitation in placing my trust in him” **Gail, Private Osteopathy**

As mobilisations and manipulations frequently offered patients rapid pain relief these techniques matched most patients’ expectations and were valued. Patients who had received more than one treatment type viewed NHS physiotherapy as being more about

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teaching and empowering a patient to improve or self-manage their own back problem (mainly through exercises). In contrast, private physiotherapy and osteopathy (in both HCS) were seen as “actual treatment” because they provided pain relief through mobilisations and manipulations (often along-side exercises).

“...it (osteopathy) almost felt like more of a course of treatment as opposed to a physio which was like a system with lifestyle. I don’t know, physio felt like they were assessing and giving me things to do, whereas the osteopathy felt almost like a cure in itself.” **Jonathan NHS physiotherapy, private osteopathy**

“it (NHS physiotherapy) seemed that they concentrated on just diagnosing what the problem was and then giving you exercises for you to do, but I was in so much pain that I couldn’t even do the exercises. Whereas I think (private physiotherapists name removed) approach was to get rid of the pain first and then to sort of start the rebuilding process of strengthening my back.” **Rose, NHS physiotherapy, Private Physiotherapy.**

Some patients (who had received previous treatments) wanted to use treatment to help them to control and self-manage their conditions, rather than as a cure. These patients reported that it was important for the practitioner to do something to relieve their pain that they could not do for themselves, through their own self-management. These patients had already learned exercises and were usually already self-managing their conditions. There was therefore not a good fit between what experienced patients believed they needed and what NHS physiotherapy provided, consequently it was appraised negatively.

“I appreciate that the (NHS physiotherapy) theory seemed to be that they empower the person to look after themselves but I tend to do quite a lot of looking after myself anyway and it’s when, I just think again, I just need somebody to touch my back and do stretches that I can’t do and do manipulations that I can’t do... physiotherapy is not going to do that for me, osteopathy will do much more.” **Monica NHS physiotherapy, NHS osteopathy, private osteopathy**

As NHS physiotherapy was perceived as infrequently providing patients with symptom relief patients rarely returned to it if they required further treatment. One patient (Sarah) returned to NHS physiotherapy repeatedly, she could not afford private treatment and NHS osteopathy was not available in her area. Others usually chose private treatments, or NHS osteopathy (where available). Patients who had recently had NHS osteopathy could not be re-referred because of institutional policies governing referrals and so used private osteopathy instead. Patients' choices of further treatments were guided by experiences of symptom relief in previous treatment, financial constraints and by the recommendations of others.

“If I had another flare up in the next, too soon to be referred through the NHS (osteopath) I would again choose opportunistically a (private) practitioner, I would have to choose the cheapest treatment available... I wouldn't want to have anything to do with it (NHS physiotherapy) anymore...there was no, there was absolutely no focus on relieving the symptoms.” **Tina NHS osteopathy, private osteopathy, NHS physiotherapy**

Treatments which provided mobilisations and manipulations were experienced as relaxing and enjoyable. They were therefore appraised positively as the patient received immediate positive feedback of treatments' effect. Patients often talked about these sessions as if they were a treat in addition to a treatment, which seemed to add to the psychological benefits of treatment. Treat elements were not reported within NHS physiotherapy.

“I also see it as me time, as having four children and a full time job I don't get much free time, so it's a bit of a strange pamper session for me...” **Denise, NHS osteopathy, private osteopathy**

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A few patients (who had often not received previous treatments) saw exercises as more important than manipulations as they wanted to learn about how to improve their LBP in the longer term and felt it would have a longer lasting cure than manipulations.

“But I do understand that a physical manipulation on a chronic problem one time, I don’t see how it can do much but a diagnosis and exercise plan I think has much more of an effect.” **Joe, NHS osteopathy, private osteopathy**

Some patients would try out exercises or other treatment recommendations on a trial basis to see whether they worked or not, ones that did not improve symptoms were abandoned.

“...if you do a certain stretch everyday you can feel after a while actually you do start to feel a little bit more mobile or you can walk that little bit further so those kind of things you think oh actually that one really works I will continue to do that and then there’s others that you kind of start doing them, you do them for a set amount of time and you just think actually it hurts to do it or I can’t see any difference at all and so you stop doing those.” **Sarah, NHS physiotherapy**

Some patients who were newer to treatment often initially expected treatment to provide a quick cure for their pain. However, quick cures were not always possible and discussions between patient and practitioner sometimes helped to change this expectation. In a few cases lack of pain relief also changed patients’ understanding of and adherence to treatment. These patients (who had often not received previous treatments) reported not adopting exercise advice straight away as they believed that their treatment alone would provide a cure for their pain. When, after time symptoms did not change patients some started to take their practitioners’ exercise advice.

“to start with I thought it was going to be a miracle cure, you know I’ll go along a few times and he’ll pull everything back into place and I’ll be fine and I can carry on in the sloppy way I was before (laughs) but um no I mean once we’d gone past

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the first two months and I thought this is really not how it's supposed to be, I thought I'm obviously going to have to put in more work and it's benefitted me a lot in that I can do a lot more now." **Jane, private osteopathy**

Some patients discussed how communication from their practitioner on how they were presenting within treatment sessions was important in letting patients know how their LBP was progressing and whether their treatment was working. This was reassuring for patients and in some cases appeared to alter their perceptions of their symptoms.

"they could tell that I was moving more and that sort of thing... I dunno cos it was, most of it's in your head, not feeling confident. When they've said that, all of a sudden you feel a lot better, I suppose a little bit less tense but you suddenly realise, oh I can, I can move (sounds surprised) quite a lot, yeah it's pretty good. And I came away from that feeling, you know very good." **Gary, private osteopathy**

4.3.4.4 Understanding LBP and treatment.

Not everyone understood the cause of their LBP and this was a source of frustration for those who did not understand, diagnosis were therefore an important aspect of treatment.

"the back pain's quite frustrating cos I'm quite fit, and um not knowing how I've done it and not having anything, not having a diagnosis is quite annoying." **Megan, private physiotherapy**

Patients believed that a diagnosis would mean that their practitioner would know how to treat their LBP properly. Patients judged whether diagnoses were credible based on whether they fit with their own beliefs. A credible diagnosis added to the patient's trust in their treatment and patients reported adhering less to treatments if they did not trust the

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diagnosis. Liz stopped doing her exercises because she was not convinced they were treating the correct problem.

“I suppose I’d been doing the exercises but I’m not convinced that that is what’s wrong with me, it doesn’t, thinking that it’s my hamstrings, the pain that I get from it, I can’t quite see how it could be linked, I have got no background obviously in medicine, it just doesn’t seem that it would be quite right.” **Liz, NHS physiotherapy**

Patients usually reported that their practitioner explained the rationale for the treatment approach in NHS osteopathy and both private treatments. This was reported less in NHS physiotherapy treatments. These explanations were important to the patient as if they did not understand how treatment worked and it did not seem to provide immediate pain relief then they often declared less confidence in it, and did not adhere. Claire did not understand how her exercises were going to help her LBP and did not adhere to them.

“I: why did you feel that they weren’t going to make much of a difference?

P: Um, because they were so basic, they were things like standing up straight and lifting your leg... which I thought you know they were quite simple exercises so I didn’t think they’d make any difference.” **Claire NHS physiotherapy**

“...that I understand what it is that they are doing, if they are doing the manipulation or that I understand what they are trying to achieve by me doing the manipulation, good communication I suppose, most important bit.” **Violet, private physiotherapy, NHS physiotherapy**

A few patients who trusted their practitioner let their practitioners perform less tangible treatments so long as they were provided alongside treatments which the patient saw as important.

4.3.4.5 Credibility of CAM.

A few osteopathy patients discussed their beliefs about the credibility of CAM therapies. The majority of these patients felt that osteopathy's credibility should be judged on its outcomes for the patient. One patient discussed their perceptions of osteopathy as separate to other CAM therapies because of its more obvious physical mechanism, which made it more credible to this patient. A single patient discussed her scepticism of CAM treatments because of her perceptions of the lack of evidence base, however she continued to use both osteopathy and chiropractic despite this as she trusted her practitioners.

"I don't know about the status of osteopathy as a, I don't know whether it's considered a, something that is scientific enough...it doesn't matter if it's not backed up by decades of scientific research, if it still works." **Tina, NHS osteopathy, private osteopathy, NHS physiotherapy**

"I don't know everything about it but from my experiences of osteopathy it's quite scientific and I get a little bit cross when it's lumped into alternative health therapies like, Reiki or reflexology which are border-line whacky, whereas osteopathy for me is, I have tight immobile joints which are causing me pain and stopping me from doing things, go and see an osteopath he increases my mobility and I have less pain and I can do things, it's not witch doctor stuff, it's not alternative alternative..." **Richard NHS osteopathy, private osteopathy, NHS physiotherapy**

"obviously I think it must work, otherwise I wouldn't go back, but I'm always very, very sceptical about any form of complementary medicine um I don't know what the evidence base is like now...I prefer to do things that are evidence-based or have things treated to me that are evidence-based that are not anecdotal, I don't know I would say on the whole I was very impressed with the chiropractor, I'm very impressed with this man here (osteopath)..." **Kathleen, private osteopathy, private physiotherapy**

4.3.4.6 Summary of Trust.

Overall participants trust in their treatment and practitioner was based on whether the practitioner seemed trustworthy, whether patients were treated as individuals, whether treatment relieved symptoms, was understandable and fit with the patient's beliefs about treatment and LBP and in the case of osteopathy, whether CAM treatments were seen as credible. Patients appraised treatments more positively when these elements were present in treatment and in some cases these aspects of trust also appeared to motivate patients' behaviour (for instance choosing and adhering to treatment). Overall patients appraised private physiotherapy and osteopathy in both HCS more favourably than NHS physiotherapy in relation to factors contributing to trust.

4.4 Discussion

This study provides evidence of differences between patients' experiences and appraisals of NHS and private treatments. This is consistent with other qualitative research (Bishop et al, 2011; Paterson & Britten, 2008; Wiles & Higgins, 1996). However, this study extends this previous research showing that differences may be more pronounced for some therapies than others. Whilst osteopathy was more similar and positively appraised across both HCS, physiotherapy varied more between HCS and was appraised more negatively in the NHS than in private practice. More positive appraisals of treatment appeared to sometimes be associated with better adherence to treatment and with more positive psychological outcomes (less distress or frustration), highlighting the potential importance of treatment appraisals varying between HCS and treatment types. Quantitative studies are now needed to test the extent to which patients' treatment appraisals vary between HCS and treatment types. Longitudinal quantitative designs would be particularly useful, to examine the extent to which variations in appraisals between HCS or treatment types predict subsequent patient behaviour (such as adherence to treatment) or treatment outcomes. If for example, the worse treatment appraisals in

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NHS physiotherapy were found to predict worse treatment outcomes, then interventions designed to improve treatment appraisals in NHS physiotherapy might be possible.

This study's findings contribute to theory by helping to elaborate the CSM (Leventhal, 2003), illustrating how the context of treatment (HCS) shapes treatment appraisals. This occurs partly because concrete treatment experiences vary between different contexts, and partly because patients' perceptions of what treatment *should* include vary depending on the HCS. For instance, paying for treatment in the private sector introduces more consumerist values for some patients, these perceptions of what treatment should include are then used to judge the concrete treatment experiences (of choice and control within treatment).

The factors which make up concrete treatment appraisals within this study overlap with those identified by the dynamic model (experiences of therapist, treatment and perception of symptom change) (Yardley et al, 2001). However, this study delineates some of the criteria which patients use to appraise their treatments, that is the choice and control they have over their treatments, vulnerabilities felt within treatment and how much they trust in their treatment and practitioner. These themes are consistent with other studies examining patients' experiences of treatments, providing evidence of their validity. Choice and control have been highlighted elsewhere as important to patients (Hancock, Calnan, & Manley, 1999; Verbeek et al, 2004) and this may reflect the more equal relationships that patients now wish for during treatments. Consumerist values have also been reported previously by patients using private healthcare (e.g. Wiles and Higgins, 1996). Trust has also been extensively identified as important to patients (see Calnan and Rowe, 2004 for a review) and is perhaps unsurprising given the vulnerabilities identified by patients here and elsewhere (Lupton, 1996). In the current study patients appeared to be looking for signs that their treatment and practitioner were trustworthy, trust has been found elsewhere to be earned (rather than just assumed in previous paternalistic models of healthcare) through interpersonal relations and the practitioner's competence (Calnan and Rowe, 2008). It is therefore unsurprising that patients had greater trust in and more positive appraisals of the treatments which provided these factors.

Many of the factors which contributed to appraisals of trust in the practitioner and treatment in this study have also been discussed as being important to treatment by patients in previous qualitative work or surveys, providing support for their validity and generality. The importance of individualised treatment approaches and the patient-practitioner relationship have been consistently cited as factors appreciated by patients in

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physical (non-pharmaceutical) therapies (May, 2000; Cooper et al, 2008; Westmoreland, Williams, Wilkinson, Wood, & Westmoreland, 2007; Leach, Cross, Fawkes, Mandy, Hawkins, Friske, Bottomley, et al, 2011). A competent practitioner (Strutt, Shaw, & Leach, 2007; Leach et al, 2011), thorough examination (Laerum, Indahl, & Skouen, 2006) and having enough time during treatments (Dean et al, 2005; Wiles & Higgins, 1996) have also been reported as important. Holistic approaches which include the consideration of psychosocial factors have also previously been reported as valued by back pain patients (Laerum et al, 2006) and patients receiving osteopathy (Strutt et al, 2007; Leach et al, 2011). Another study has also shown that female osteopathic patients feel uncomfortable being undressed whilst being treated by male osteopaths (Strutt et al, 2007), which reflects vulnerability expressed by osteopathic patients within this study. The current study extends this body of research to show that patients' appraisals of many of these factors may differ between the two HCS and that this does not happen in a consistent way across different physical therapies.

In the current study both private treatments were appraised positively and as containing treatment elements usually associated with CAM therapies (for instance, supportive patient-practitioner relationships and individualised, holistic approaches; Batter et al, 2003; Bishop et al, 2010; Bernstein and Shuval, 19997; Boon et al, 2000; Furnham and Kirkaldy, 1991; Hsiao et al, 2003). This suggests that private practice might allow any therapy (not just CAM) to provide better psychosocial care. It may be that the differences in psychosocial factors thought to exist between complementary and mainstream therapies are actually a reflection of the HCS rather than the specific therapy type. However physiotherapy and osteopathy were appraised quite differently within the NHS, with the complementary therapy reportedly containing more positive psychosocial components. It is not clear at this point why this might be; possible reasons are suggested below.

There are a number of potential reasons for the differences between the two NHS treatments. One, NHS osteopathy sessions were often reported as longer than NHS physiotherapy sessions. Longer treatment times may have meant that practitioners had more opportunity to listen and explain treatment to patients, therefore providing more mutual and supportive relationships rather than the paternalistic ones which patients often reported within NHS physiotherapy. Physiotherapists have previously reported that time restrictions in the NHS affect their performance and their ability to win over patients (Dean et al, 2005). Longer treatment sessions may also have meant that practitioners could provide more individualised and holistic treatments. Indeed, limited time in primary

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care has been highlighted by GPs as the main barrier to providing a holistic approach (Hasegawa, Reilly, Mercer, & Bikker, 2005). However, it seems unlikely that time alone could explain all the differences shown in this study between the two NHS treatments. A small number of NHS physiotherapy treatment sessions were reported as being longer (the same length as NHS osteopathy sessions) and patients still received treatments which were viewed as not individualised, not holistic, not collaborative in the decisions to end treatment and involved very brief examinations.

Two, the longer waiting times found in NHS physiotherapy were frequently reported as frustrating and could have set up a negative impression from the start thereby negatively influencing patients' overall appraisals of NHS physiotherapy. Further research would be useful to explore the impact of waiting lists on treatment appraisals.

Three, the skill set of NHS physiotherapists might differ to the skills of osteopaths and private-practice physiotherapists. Patients reported NHS physiotherapists rarely (compared to osteopaths or private physiotherapists) used manipulations or mobilisations (this has also been reported elsewhere; Foster et al, 1999). Typically, osteopaths are trained in these techniques as undergraduates but physiotherapists are not (requiring specialist postgraduate courses). As new physiotherapists often first work in the NHS before later moving to private practice, private physiotherapists are probably more likely to have trained in manipulative techniques. However, some of the NHS physiotherapists within this study held senior positions, so additional factors probably encourage or discourage the use of manipulative techniques.

Four, NHS osteopaths may be deviant NHS practitioners in that they work in the NHS in a similar way to how they do in their private practice. Osteopaths usually start their careers within the private sector, where the practitioners' financial success has been linked to patients' satisfaction (Brown et al, 1993) and only a few work in the NHS part-time, usually later in their careers alongside ongoing private practice. Incentives to make money and sustain a practice within the private sector may motivate private practitioners to form more mutual and supportive patient relationships (Wiles and Higgins, 1996; Strong, 1979). Practitioners who have been trained in the NHS might have developed the opposite motivation; they are paid to treat as many people as quickly as possible and to discourage continued (or chronic) service use. Deviant practitioners have been reported in other settings, for instance Dew (2000) argued that medical acupuncturists in New Zealand appeared to be deviant insiders who were able to maintain practice from a traditional

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Chinese approach and yet appear orthodox to their medical colleagues in order to maintain their medical status.

A final reason could be the different environments in which NHS physiotherapy and NHS osteopathy are delivered. NHS osteopathy was often delivered in treatment environments more similar to private practice, where as NHS physiotherapy environments were often described as less private and less pleasant. Some parts of the NHS have been described as islands of holistic practice which differ from the rest of the NHS (Saks, 1997). Many of the clinics and GP surgeries that NHS osteopathy was delivered in could be described as holistic practices. They appeared to have a more holistic ethos, offering a range of complementary and mainstream therapies within one setting. They were also set within more pleasant (spacious, well designed and well decorated) environments. It is possible that these environments not only alter patients' appraisals of treatment, but also encourage more holistic approaches and support more mutual and supportive relationships with patients rather than paternalistic ones, due to the more holistic ethos of these clinics (in comparison to the rest of the NHS). However, it seems unlikely that this could be the sole reason for the differences between the two NHS treatments as a few NHS osteopathy patients who were treated in a hospital setting reported similar experiences to patients treated within the other NHS settings.

It is most likely that a combination of factors led to NHS osteopathy being appraised differently to NHS physiotherapy. Exploring practitioners' experiences of working in the NHS and private practice might provide answers to why patients' experiences appeared to vary between the two NHS treatments.

A limitation of the current study was that it was difficult to find patients who were very early on in their treatment. Although the sample did include a few patients who had had only one or two treatment sessions the majority took part after having more. It was extremely hard to recruit patients with this little amount of experience, as neither patients nor their practitioners wanted treatment to be appraised during these early stages. Nevertheless, it would be useful to learn more about appraisals during early treatment as participants within this study did discuss how their appraisals changed over the course of their treatment, and their retrospective accounts may be less accurate compared with interviewing patients during their first few sessions of treatment. Retrospective accounts might also be less accurate than would have been obtained if all patients had still been in treatment, although 16 patients were still in treatment when interviewed.

4.5 Conclusion

This study adds to what is known about how appraisals of treatments vary across different HCS. It shows that whilst osteopathy is appraised positively and as fairly similar across the NHS and private practice, physiotherapy is perceived to vary more greatly between the two HCS, with more favourable treatment appraisals reported in private practice. These findings demonstrate that treatments may not always vary across the NHS and private practice in the same way. Further research should attempt to identify what factors allow osteopathy to maintain positive treatment appraisals across both HCS. In particular, exploring practitioners' experiences of providing treatment across the NHS and private practice may aid our understanding of why patients' appraisals differed so greatly between the two NHS treatments.

5. Chapter five: Appraisal of physical treatments questionnaire (APTQ): Questionnaire Development and Validation

5.1 Rationale and aims

As shown in study 1 (chapter 4), appraisals of physiotherapy appear to vary more between HCS than appraisals of osteopathy, indicating that the HCS may not have a uniform influence across different treatments. Though initial insights have been made in this area using qualitative methods, an important next step is to be able to examine how treatment appraisals vary across HCS and treatment types using quantitative methods. Quantitative methods can test the findings of the existing qualitative evidence in larger, representative samples and test the strength of relationships between treatment appraisal, the HCS and treatment type. As the CSM theorises that treatment appraisals influence coping (such as adherence to treatment) such studies might also explore whether differences in treatment appraisals between HCS or treatment type predict subsequent patient adherence or to treatment outcomes. Insights from quantitative studies could eventually lead to interventions to improve healthcare for patients within treatments and HCS which are more negatively appraised.

There is a paucity of questionnaires which measure those key aspects of treatment appraisal which patients identified as important and varying between HCS or treatment types in Chapter 4. These aspects of treatment appraisal included perceptions of practical aspects of treatment, such as how much treatment a patient could have, the length of waiting times, and whether the treatment location was easy to get to. They also include perceptions of whether the patient is being treated as an individual (such as whether they were listened to, examined thoroughly, treated as a whole person and given a treatment that was matched to their individual needs). They also include perceptions of various aspects of vulnerability highlighted in study 1 (such as feeling uncomfortable being treated in underwear or perceptions of financial vulnerability). Other aspects of treatment appraisal that were highlighted as important within study 1 can be measured by existing well-validated questionnaires (such as the Working Alliance Inventory which measures aspects of the therapeutic relationship; Hovarth and Greenberg, 1989).

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Practical aspects of treatment contributed to participants' feelings of choice and control within treatment in study 1. They have rarely been measured and previous measurement tools have tended to use single items (for instance, Bishop, Yardley and Lewith, 2008). It seems useful to explore whether some of these practical aspects might be combined to form a scale, because multi-item scales often prove more responsive (Bernhard, Sullivan, Hurny, Coates and Rudenstam, 2001) and have more reliable responses over time than single items (Fayers & Machin, 2000; Sloan, Loprinzi, Kuross et al, 1998). There is also a lack of measures of perceptions of being treated as an individual, including, but not only focussing on, aspects of holistic care. It is important to note that tools exist which measure beliefs about whether care should be holistic, but not perceptions of whether care received *is* holistic. Finally participants in study 1 spoke about feeling vulnerable within treatment; no existing questionnaires measure these perceptions. Therefore, in order to measure some of the aspects of treatment appraisal identified as important to patients in study 1 in a quantitative questionnaire study within this thesis (study 4, Chapter 6) it was necessary to develop a new measure of three aspects of treatment appraisal: practical aspects of treatment, being treated as an individual and feeling vulnerable within treatment.

The studies in this chapter aimed to develop and address the face validity of items which will form a new questionnaire, and to assess the structural validity and internal consistency of this new questionnaire. Face validity is important to assess as it gives an initial estimate of how well a measure is unambiguously tapping a construct that it aims to assess (Bornstein, 2004). When the purpose of a test is clear to the participant it is said to have high face validity. Structural validity assesses whether the structure of the scored questionnaire items are consistent with the conceptualised constructs that those items are supposed to be part of (Messick, 1995). In this case scores should be consistent with three separate subscales (or constructs): practical aspects of treatment, being treated as an individual and feelings of vulnerability within treatment. Internal consistency will also be assessed, which is the degree to which items on a proposed subscale or scale are correlated with each other (and therefore thought to measure the same thing) (Mokkink et al, 2010).

The first study in this chapter (study 2 of this thesis) aimed to establish the face validity of the new measure of treatment appraisals using qualitative methods. The second study (study 3 of this thesis) aimed to establish the internal reliability and structural validity of the newly developed questionnaire using quantitative methods.

5.2 Study 2: Development of the new questionnaire

5.2.1 Methods

5.2.1.1 Item generation

Study 1 described participants' appraisals of physiotherapy and osteopathy in detail. Quotes from these interviews relating to practical aspects of treatment, being treated as an individual and vulnerability were examined and used as the basis for items in the three subscales of the new questionnaire. Participants' quotes relating to each aspect of treatment appraisal were collated in tables. The researcher then reviewed these quotes and worded questionnaire items to best fit with participants' conceptualisation of constructs and the words that they used. This meant that participants' own language and concepts would be incorporated which would likely enhance the comprehensibility of items and ensure that constructs remained consistent with how participants described experiencing them, rather than simply imposing the researcher's ideas of useful questionnaire items. Components of treatment appraisal which were mentioned by very few participants were not included. For instance, the perception of being sexually vulnerable in treatment was not included.

A first draft of the questionnaire was discussed with the academic supervisor (FB) in order to ensure items reflected aspects of treatment appraisal identified in study 1 (chapter 4) and to refine items. The response scales for subscales of practical constraints and of individualised treatment were chosen to be a seven point agree-disagree likert scale. The vulnerability subscale was originally conceptualised as best scored on a frequency scale, but based on feedback from participants was also changed to a seven point agree-disagree scale (discussed further below). This questionnaire was named the Appraisals of Physical Therapies Questionnaire (APTQ), items in this first version are shown in the 'before' column of tables 5, 6 and 7 (in sections 5.2.2.1, 5.2.2.2 and 5.2.2.3).

5.2.1.2 Refining questionnaire items using cognitive interviews

5.2.1.2.1 Participants

Participants replied to poster adverts placed in around the University of Southampton and in waiting rooms of private physiotherapy and osteopathy clinics. Once they had voiced an interest in the study they were sent a participant information sheet (see appendix I). Consent was sought face-to-face, prior to starting the cognitive interview (see appendix J for consent form). Patients were currently or had recently (last month) received physiotherapy or osteopathy for their non-specific (mechanical or simple) LBP.

In total ten participants (six female, four male) consented to take part in face-to-face cognitive interviews. Six of the participants who volunteered had also taken part in study 1 (chapter 4). These participants were included in the present sample for two reasons; firstly, because they had relevant experiences of physiotherapy or osteopathy for LBP and so would be suitable candidates for the current study. Secondly, because time was limited and recruitment was slow, it was more feasible to use these six participants than to wait for further participants to volunteer to participate (incidentally no further participants volunteered after these ten were recruited, so it would also have meant using further recruitment strategies to collect a larger sample at this point). Participants were aged between 25 and 70 (median 45 years old). The cognitive interviews lasted between 20 and 37 minutes (median 28.5 minutes).

5.2.1.2.2 Interview process

Cognitive interviewing allows evaluation of whether a questionnaire generates intended information (i.e. measures the concepts it is proposed to) and can be used to establish the face validity of a questionnaire (Beatty, 2004). Cognitive interviews are theorised to provide detailed information about several processes which participants use in answering survey questions (Collins, 2003). Firstly a participant's comprehension, that is how well they understand the question and the answer that is required. Secondly, their recall of the information from memory. Such information should be easy to recall if a questionnaire is to give accurate information. Thirdly, judgement, that is how participants formulate their answers to a question. This judgement will depend partly on how participants understand the question and the information that they can recall, as well as whether they feel the information is personally relevant to them. Finally, responding to the questionnaire items

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includes both forming a response (based on the previously described processes) and editing a response, for instance participants may edit their responses in order to appear socially desirable. Editing responses for social desirability is especially common with questions which inquire about sensitive topics. Cognitive interviewing was employed to gain an understanding of how participants answered the questionnaire, how they understood the questions and formulated their answers. The purpose was to refine items by identifying problematic items or wording and highlighting how participants conceptualise key questionnaire issues. This technique combines both think aloud and verbal prompting techniques (De Maio, 1998). The interview schedule is included in Appendix K.

Think aloud techniques involved participants saying their thoughts out loud as they completed the questionnaire. Participants were encouraged to read the questionnaire items aloud as they answered and to say what came to mind on reading each item. Probes (a verbal prompting technique) were used to actively search for problems as well as to explore any identified problems in further detail (Willis, 2004). Specifically probes (for example “can you tell me in your own words what that question was asking?”) were used if participants appeared confused, took a long time to answer an item or changed their mind when answering a question. Probes were also used to get participants to elaborate on why they answered in the way that they did and how they estimated their answer, how they interpreted the question, how comfortable they felt in answering the question and how confident they were in the accuracy of their answer. In some cases two differently worded versions of an item were included in order to see which participants found easier to understand. Items from each subscale were put together in order to make the questionnaires easy for participants to answer.

The cognitive interviews were recorded and later transcribed verbatim. A table was then created whereby each questionnaire item was listed on the columns and comments from each participant relating to each item were included along rows. The researchers’ observations about participants (for instance about hesitation) were also included alongside each participant’s comments. Participants’ and the researcher’s comments were then reviewed to judge whether each item had problems with readability, comprehensibility or overall face validity (for instance whether participants interpreted them as asking about the particular aspect of appraisal that the item was constructed to ask about). Items which appeared to be problematic for one or more participants were altered or deleted. However, some participants found particular items irrelevant for them personally (for instance being understood as a whole person), but if others valued the item

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it was retained. Participants' comments are summarised in the results section. All participants have been given pseudonyms to protect their identities.

5.2.2 Results

Instructions on how to complete the questionnaire were originally separated into three separate sections referring to each subscale. They were clear and easy to understand but later changed to a single explanation and all three subscales put together for brevity. This was also helpful as it avoided introducing the notion of feeling vulnerable in the introduction to the vulnerability subscale, which men found off-putting (women did not react to this).

Further details of items which were changed or deleted are presented below. A limited number of quotes from participants are shown for brevity. Tables 5 to 7 outline the items in each subscale before and after the interviews.

5.2.2.1 Practical aspects of treatment

Table 5: Questionnaire items in the practical aspects of treatment subscale, before and after interviews

Subscales	Before	After
Practical aspects of treatment	I had to wait too long for treatment	I had to wait too long for treatment
	I can always get appointments at a convenient time	I can always get appointments at a convenient time of day
	My treatment sessions feel rushed	
	My treatment location is convenient to me	My treatment location is convenient to me
	I have enough time during my treatment sessions	I have enough time during my treatment sessions
	I know that I can have more treatment if I need it	
	I can access as much treatment as I need	I can access as much treatment as I need

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5.2.2.1.1 Items that were changed

“I can always get appointments at a convenient time.” Some participants interpreted “convenient time” to refer to how long they had to wait for treatment, rather than a convenient time of day. The question was therefore reworded to “I can always get appointments at a convenient time of day.”

5.2.2.1.2 Items that were deleted

“My treatment sessions feel rushed.” Some participants took a long time to answer this question as although some of them felt that their treatments were not long enough, they could not think of specific examples where they felt that their practitioner was rushing or carrying out aspects of treatment faster than they should have been. Some tried to base their answers solely on whether they had enough time as they did not feel confident in answering whether or not their practitioner had rushed their treatment.

5.2.2.2 ‘Treated as an individual’ subscale

5.2.2.2.1 Items that were changed

“I feel I was given a generic treatment which wasn’t individualised to my needs.”

Some participants struggled to understand the words “generic” and “individualised”. This item was therefore re-worded to “I feel I was given a general treatment which wasn’t matched to me as an individual.” This question was understood and answered easily by participants.

“Gen, generic? Um, to be honest I’m not really sure what to put, cos I’m not sure what that means...” **Matthew**

Table 6: Questionnaire items in the treated as an individual subscale, before and after interviews

Treated as an individual subscale	My therapist listens to me	My therapist listens to me
	My therapist understands me as a whole person	My therapist understands me as a whole person
	My therapist tailored treatment to suit my individual needs	
	I feel I was given a generic treatment which wasn't individualised to my needs	I feel I was given a general treatment which wasn't matched to me as an individual
	My therapist examined me thoroughly	My therapist examined me thoroughly

5.2.2.2.2 Items that were deleted

“My therapist tailored treatment to suit my individual needs.” A few participants were less confident in answering this item as they were not sure what their therapist definitely had to tailor their treatment, or what their individual (medical) needs were. However these participants were much more confident in answering the other question relating to whether treatment was generic or individualised (the rephrased item worded “I feel I was given a general treatment which wasn't matched to me as an individual”). The current question was therefore deleted.

“I know that I can have more treatment if I need it.” One participant took a long time to answer this question as he did not feel he was qualified (medically) to know if he needed more treatment. In interviews participants had spoken about not always being able to have as much treatment as they liked in the NHS, whereas private patients could access as much as they wanted. This question was designed to pick up on such differences. However, many private patients noted that they could have as much treatment as they liked theoretically, but not practically as they did not have an endless supply of money. This question was therefore removed as it seemed unlikely that it would pick up on the differences that participants had discussed in interviews. However a second question relating to this aspect of treatment appraisal “I can access as much treatment as I need” did not appear to suffer from these same problems and was seen as relevant and important by participants.

“I guess I’m thinking that [practitioner’s name removed] would give me more treatment, perhaps forever if I wanted it [laughter from participant], um but whether, whether I could afford it is another story, so I’m going to have to say not really because I couldn’t afford a lot more treatment.” **Mike**

5.2.2.3 ‘Vulnerability in treatment’ subscale

Table 7: Questionnaire items in the 'Vulnerability' subscale, before and after interviews

Vulnerability subscale	I feel judged by my practitioner	I feel judged by my therapist
	I worry that my practitioner doesn't know what he/she is doing	I worry that my therapist doesn't know what he/she is doing
	I worry that the exercises	

my practitioner
recommends may hurt my
back more

I worry that the exercises
my therapist recommends
may hurt my back more

I find the spinal
manipulations within my
treatment painful

I worry that my practitioner
could do damage to my
back during treatment

I worry that my therapist
could do damage to my
back during treatment

I feel uncomfortable being
undressed during my
treatment sessions

I feel uncomfortable being
undressed during my
treatment sessions

I feel uncomfortable with
my practitioner seeing my
body

I worry that my practitioner
may try and rip me off

I worry that my practitioner
may recommend that I have
more treatment than I
actually need

I worry that my therapist
may recommend that I have
more treatment than I
actually need

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5.2.2.4 Items that were changed

Several items within this subscale referred to my “practitioner”. Some patients did not understand this term so it was in all cases rephrased to my “therapist”. Apart from this phrasing no other items were changed.

“By practitioner do you mean my GP? I’m not sure who you mean exactly here, my practitioner.” **Kathleen**

5.2.2.5 Items that were deleted

“I find the spinal manipulations within my treatment painful.” A few participants were not confident in answering this question because they were not sure which of the particular hands on treatments they’d had were the manipulations. As others discussed the pain they had found during their manipulations they also talked about how great the manipulations were and in some cases how they were enjoyable but painful at the same time. It therefore appeared that it may be hard to predict how this item might perform as not everyone viewed this pain as a vulnerability, particularly where their practitioner reassured them that the pain was not a sign of damage. For these reasons this item was removed from the questionnaire.

“I feel uncomfortable with my practitioner seeing my body.” In study 1 (chapter 4) many patients felt uncomfortable being undressed during their treatment. This item and a second item (“I feel uncomfortable being undressed during my treatment sessions”) tried to measure this construct. Whilst the second item was successful the current item was problematic as participants felt the practitioner needed to see their body to carry out treatment which they were comfortable with as a concept, but still did not want to be undressed throughout treatment. This conflict made participants change their answers and caused a dilemma for a few people. Therefore it was deleted and the second more successful item measuring this construct was retained.

“I worry that my practitioner may try and rip me off.” A few participants were not sure whether this question related to the practitioner trying to recommend superfluous treatment in order to make more money (which was the intended meaning), or whether this related to them being ripped off because their treatment was generally too expensive. This item was therefore deleted.

“Well yes, it is a bit of a rip off isn’t it, I mean, it’s very expensive, but I suppose, um it’s I suppose it’s what they all charge and it does seem to work so...” **Emily**

5.2.3 Conclusions

Cognitive interviews highlighted problems with the wording of some questionnaire items, the wording of these items were changed based on participants’ feedback. In some cases two items which measured the same particular aspect of treatment appraisal (for instance being ripped off by your practitioner) had been included in the cognitive interviews in order to assess how best to phrase such an item. For brevity the item least well-understood by participants was deleted and the better understood item was retained. At this point the questionnaire included 3 proposed subscales, practical aspects of treatment (5 items), treated as an individual (4 items) and perceptions of vulnerability (5 items). One of the items from the vulnerability scale assessing financial vulnerability (I worry my therapist may recommend I have more treatment than I need) was at this point conceptualised as a single item rather than included in further analyses of the vulnerability subscale. This was because it was only to be answered by those having private (not NHS) treatment, so many (NHS) participants in the quantitative validation study would not answer this question.

5.3 Study 3: Questionnaire validation

5.3.1 Methods

5.3.1.1 Design and Hypotheses

The internal reliability, structural validity and convergent validity of the newly designed APTQ were assessed in a sample of 91 adults receiving treatment for LBP. Ethical approvals and research governance approvals were gained from both NHS and the University of Southampton committees. It is important to note that the dataset within this study was the same dataset used to carry out the cross-sectional questionnaire study (study 4, chapter 6). The main recruitment methods for this study are described in chapter 6.

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The existing Perceptions of Therapy subscale from the Treatment Appraisal Questionnaire (Bishop, Yardley, Lewith, 2008) was used to assess the convergent validity of the APTQ. This subscale measures perceptions of the likelihood of treatment being successful and forms a more global treatment appraisal than those measured by the APTQ, which focus on specific aspects of treatment. Participants in study 1 based their judgements about whether treatment was likely to be successful (a component of their trust in treatment) partly on the extent to which they were treated as an individual. Aspects of vulnerability in treatment and practical aspects of treatment also contributed to participants' overall appraisals of their treatment, but did not appear to be so strongly related specifically to perceptions of likely treatment outcomes. Based on the findings of study 1 it was therefore hypothesised that the treated as an individual subscale would be highly correlated with the perceptions of therapy subscale (demonstrating convergent validity), but the practical aspects of treatment and vulnerability aspects would show smaller correlations with this scale.

5.3.1.2 Participants and Procedure

Participants were adults currently receiving physiotherapy or osteopathy for their LBP and were recruited through their treating practitioner following their first treatment session. Participants completed the questionnaires and returned them to the researcher by freepost. Eligibility criteria included participants experiencing non-specific (also known as simple or mechanical) LBP which was not caused by fracture, infection, malignancy or any inflammatory conditions (such as ankylosing spondylitis). Participants are described in full in study 4, Chapter 6, section 6.3.1.

5.3.1.3 Measures

Participants completed the APTQ alongside a host of other measures that were used in the cross-sectional questionnaire study (chapter 6), these measures are described in full in section 6.3.4, as they were not used in the current study.

The Perceptions of therapy subscale from the Treatment Appraisal's questionnaire (Bishop, Yardley and Lewith, 2008) was used in the current study to assess the convergent validity of this new measure. This subscale measures whether participants believe their treatment will be helpful to their health condition (in this case LBP). This measure has

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demonstrated good internal consistency ($\alpha=.88-.92$), structural validity and concurrent validity (Bishop et al, 2008). Within the current study this subscale also demonstrated good internal consistency ($\alpha=.931$).

5.3.1.4 Statistical analyses and sample size considerations

The data were inputted and checked. Data were analysed using SPSS (version 19). Principle Component Analysis (PCA) was used to assess the component structure of the questionnaire (Field, 2005). This technique reduces the number of variables, to explain the same amount of variance with fewer variables (principle components) and is commonly used to assess the component structure of questionnaires (Field, 2005; Suhr, 2005; Tabachnick and Fidell, 2007).

There is a debate in the literature about the most appropriate method for calculating the sample size needed to perform a PCA in a questionnaire validation study. Some have argued for a certain ratio of sample size to the number of variables included in the PCA (a common rule is using 10-15 participants per variable; Field, 2005), whereas others suggest that a sample size of 100-200 should be adequate in most cases (see Guadagnoli and Velicer, 1988 for discussion of these two approaches). However, studies which have attempted to model the effects of different sample sizes and the number of included variables have shown that the size of component loadings and communalities are more important in determining whether a particular sample size is sufficient to make interpretation of the CPA worthwhile (Guadagnoli and Velicer, 1988; MacCallum, Widaman, Zhang and Hong, 1999). These studies also indicate that the approaches of both ratios and suggesting a minimum sample size of 100-200 suggested above are invalid. Guadagnoli and Velicer (1988) and MacCallum et al (1999) suggest that if communalities are larger than .6 and components larger than .8 then a CPA solution is worthy of interpretation, even in small samples such as that used in the current study. However, of course these values would not be known in advance of data being collected. The size of the communalities and components will therefore be considered below.

Oblique rotation was used in the PCA, since conceptually it was assumed that the subscales of the APTQ would be correlated with each other as they all contribute to global appraisals of treatment. The selection criterion was eigenvalues greater than 1 (Kaiser, 1960). Cronbach's alpha was then computed to assess the internal consistency of the

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APTQ subscales. Alpha levels greater than .7 were considered to demonstrate adequate internal reliability (Kline, 1999).

In all analyses lower scores on each subscale of the APT reflected less positive appraisals of treatment and higher scores reflected more positive appraisals. This meant that negatively worded items were reverse-scored, including all items on the vulnerability subscale.

Correlations between subscales of the APTQ were also checked to confirm that they were indeed correlated and that oblique rotation was therefore the most suitable choice.

Correlations between the subscales of the APTQ and an existing measure of treatment appraisal (the perceptions of therapy subscale from the Treatment appraisals questionnaire; Bishop, Yardley, Lewith, 2008) were also examined to test the hypotheses concerning convergent validity.

5.3.2 Structural Validity and Internal consistency

PCA was performed to assess the structural validity of the APT and to determine which of the items best represent each dimension of treatment appraisal. The Kaiser-Meyer-Olkin measure of sampling adequacy was acceptable (.69) (Kaiser, 1974). Barlett's test of sphericity was significant ($p=.001$) indicating that PCA is appropriate.

All fifteen items of the APT were entered into the PCA. This produced five components, which together accounted for 69.97% of the variance. Three items ('I had to wait too long for treatment', 'My therapist tries to understand me as a whole person' and 'I worry that my therapist doesn't know what he/she is doing') loaded onto components that were not related conceptually and one item ('I feel judged by my therapist) did not load onto any components, therefore these item were removed. The remaining eleven items were entered into a second PCA which produced three components and accounted for 66.45% of the variance. Two of the items ('I worry that the exercises my therapist recommends may hurt my back more' and 'I worry that my therapist could do damage to my back during treatment') loaded onto components that were not conceptually related and so were removed. The two remaining items which were thought to make up the vulnerability subscale('I feel uncomfortable being undressed during my treatment sessions' and 'I worry that my therapist may recommend that I have more treatment than I actually need') loaded onto the same component, and were indeed moderately correlated ($r=.367$,

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$p=.004$). However, it was judged that keeping these items as a two-item scale would be problematic, as they appeared too diverse to measure a single aspect of vulnerability and so it would be hard to interpret what a score on such a subscale would actually mean, these items were therefore removed and a final PCA was completed. This PCA produced a 2 component solution with eigenvalues greater than 1 accounting for 75.34% of the variance (see Table 8). The curve of the scree plot also levels off at the third point, providing further evidence that a two component solution is appropriate (figure 4). These components were labelled 'Practical aspects of treatment' and 'Treated as an individual'.

The correlation matrix (table 9) shows correlations between all variables in the newly developed subscales. No variables had correlations lower than 0,05 or larger than 0,9, indicating that no variables needed to be eliminated and that singularity was not a problem in this dataset (Field, 2005).

The component loadings on the two new subscales were all larger than 0.8 (table 8) and therefore interpretation of the PCA solution was considered appropriate, even in this relatively small sample (Guadagnoli and Velicer, 1988). Furthermore, the communalities were all larger than 0.7 (table 10) providing further evidence that it was appropriate to interpret this PCA solution in this sample (MacCallum et al, 1999). The final scale is in appendix L.

Table 8: PCA pattern matrix

	Component 1	Component 2
Practical aspects of treatment subscale		
Can always get appointments at a convenient time	.86	-.03
Treatment location is convenient	.87	-.06
I have enough time during treatment	.91	.03
Access as much treatment as I need	.80	.09
Treated as an individual subscale		
Therapist listens to me	.02	.84
Examined me properly	.05	.88
Given a general treatment not matched to me	-.05	.86

Table 9 : Correlation matrix

	1	2	3	4	5	6	7
Can always get appointments at a convenient time (1)		.61**	.70**	.63**	.23*	.32**	.32**
Treatment location is convenient (2)			.75**	.56**	.30**	.34**	.17*
Enough time during treatment (3)				.75**	.38**	.41**	.27**
Access as much treatment as I need (4)					.35**	.36**	.34**
Therapist listens to me (5)						.70**	.53**
Examined me properly (6)							.66**
Given a general treatment not matched to me (7)							

**= Correlation is significant at the 0.01 level; *= Correlation is significant at the 0.05 level

Table 10: PCA Communalities

Aspect of Treatment appraisal	Extraction
Can always get appointments at a convenient time	.72
Treatment location is convenient	.73
I have enough time during treatment	.86
Access as much treatment as I need	.71
Therapist listens to me	.72
Examined me properly	.82
Given a general treatment not matched to me	.71

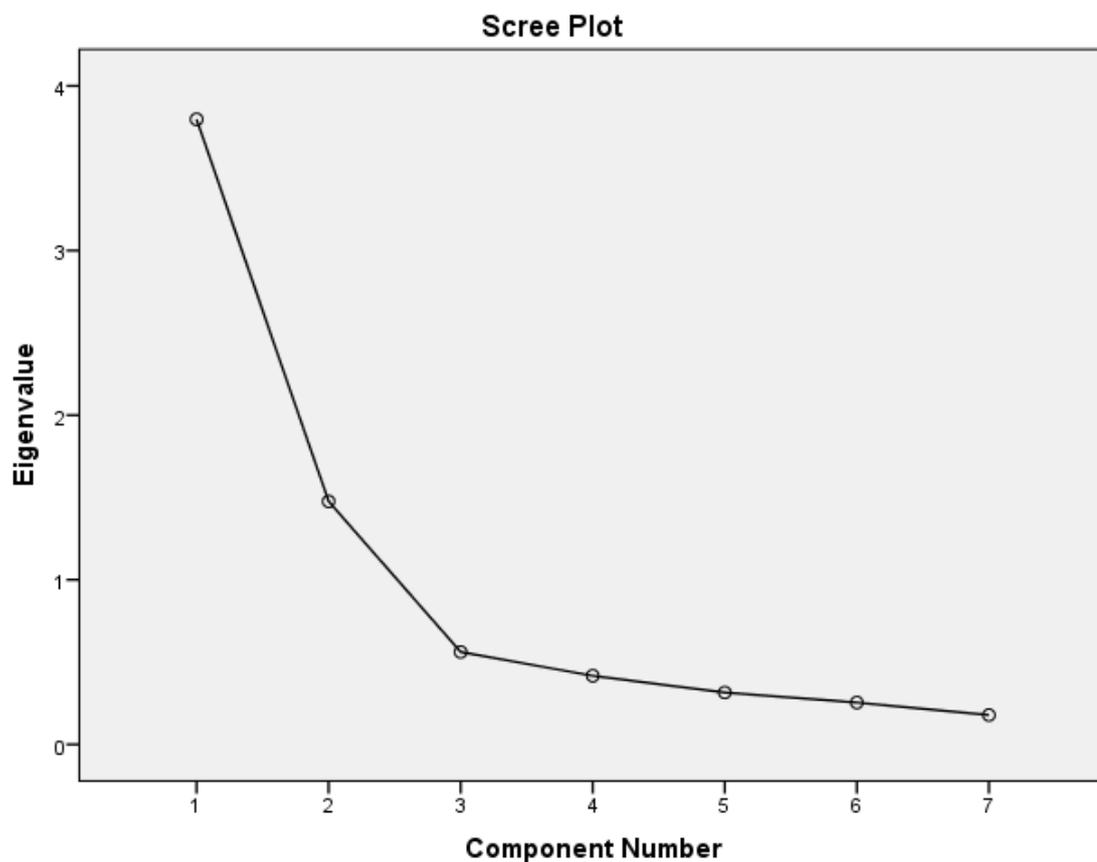


Figure 4: Scree plot

Both of the new subscales demonstrated good internal consistency (treated as an individual $\alpha=.82$, practical aspects of treatment $\alpha=.89$). Table 10 shows the inter item correlations of the new 'Practical aspects of treatment' subscale and table 11 shows the inter item correlations of the new 'treated as an individual' subscale. These inter item correlations demonstrate that the items on each subscale are highly positively inter-correlated.

Table 11: Inter-item correlations for the Practical aspects of treatment subscale

	Location convenient	Enough time	Access as much treatment as need
Appointments convenient time	.64	.72	.64
Location convenient		.75	.56
Enough time			.75

Table 12: Inter-item correlations for the Treated as an individual subscale

	Examined me thoroughly	Given a general treatment not matched to me as an individual
Therapist listens to me	.70	.52
Examined me thoroughly		.70

5.3.3 Correlations between subscales, the convergent validity of the APTQ and correlations between subscales and single item vulnerability appraisals

The treated as an individual and practical aspects of treatment subscales were correlated ($r=.433$, $p=.000$) which provided evidence that oblique rotation was in fact the most suitable choice for this data.

The correlations between the APTQ subscales and the perceptions of therapy subscale were examined to assess the convergent validity of the APTQ subscales. As the vulnerability subscale had not been confirmed by the PCA this was not examined. There was a large positive correlation between the treated as an individual subscale and the perceptions of therapy subscale ($r=.609$, $p=.001$). There was also a smaller, but still medium sized correlation between the practical aspects of treatment subscale and the perceptions of therapy subscale ($r=.362$, $p=.001$). These correlations confirm the convergent validity of the APTQ subscales and the existing measure of treatment appraisals. As hypothesised this was especially strong for the treated as an individual scale.

The correlations between the two newly formed subscales and the individual vulnerability items are shown in table 12. Some of these items were correlated with one or both of the newly formed subscales. The relationships between these aspects of vulnerability and the new subscales were not specifically hypothesised about. However, it is perhaps not surprising that some are correlated given that some aspects of vulnerability (such as feeling judged or that your therapist knows what they are doing) could potentially be influenced by practical aspects of treatment (such as having enough time) and how individualised care is (for instance whether the patient feels listened to).

Table 13: Correlations between single item aspects of vulnerability and the two newly created subscales

	Practical aspects of treatment subscale	Treated as an individual subscale
Feel judged by therapist	.285**	.350**
Worry therapist doesn't know what they are doing	.275**	.577**
Worried exercises prescribed may hurt back	.153	.399**
Worry therapist may damage back	1.28	.399**
Uncomfortable being undressed during treatment	.106	.178
Worry therapist may recommend more treatment than is needed	.060	.233

** Correlation is significant at the 0.01 level

*Correlation is significant at the 0.05 level

5.4 Discussion

The qualitative and quantitative studies in this chapter outline the development and preliminary validation of the APTQ. Cognitive interviews with participants with LBP helped to improve the face validity of the questionnaire by improving clarity and comprehensibility of the meaning and wording of questionnaire items. The quantitative validation study indicated that the practical aspects of treatment subscale and the treated as an individual subscale of the APTQ appear to be structurally valid and internally consistent for assessing appraisals of physiotherapy and osteopathy for LBP. They also demonstrated convergent validity with an existing measure of treatment appraisal. The items measuring aspects of vulnerability within treatment do not form a subscale and would be better treated as single items.

Structural validity and internal consistency were established for the practical aspects of treatment subscale and the treated as an individual subscale. One item of the practical aspects of treatment subscale ('I had to wait too long for treatment') was removed as it was not structurally related to other items in its proposed scale. It seems possible that this is because this item assesses perceptions before treatment start and so is different to the other items in this subscale which are based in the period of the treatment itself. One item relating to being understood as a whole item was removed from the 'treated as an individual' subscale as it also did not load on a component with its conceptually related items. Study 1 (chapter 4) and the face validity study (study 2, chapter 5) indicated that being understood and treated as a whole person was particularly important to those who desired it, but that not everyone did. If this item was only important to some then it may not have been appraised in the same way as the other items which appeared to be used consistently across all the qualitative interviewees as criteria by which to appraise the extent to which treatment is individualised. Alternatively, it may be that being understood as a whole person takes more than just one treatment session and so this item might be more consistently associated with the other items on the 'treated as an individual' subscale later in treatment.

Items which were expected to form the vulnerability subscale did not load onto the same component, most likely because these items assess a diverse range of aspects of vulnerability within treatment. Despite this, it would still be useful to explore whether people did experience feelings of vulnerability in their treatments within the planned cross-sectional questionnaire study, and to look at whether these aspects of vulnerability

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vary between HCS or treatment types. Indeed these items have already demonstrated face validity in the cognitive interview study (study 2).

The convergent validity of the APTQ subscales and an existing measure of treatment appraisal (the perceptions of therapy subscale) was confirmed. Correlations showed that as hypothesised the treated as an individual subscale was more strongly related to the perceptions of therapy subscale, which is consistent with participants' reports in study 1. Scores on practical aspects of treatment were also moderately related to scores on the perceptions of therapy subscale. This is perhaps unsurprising as they were shown to contribute to an overall (or more global) appraisal of treatment in study 1. As expected, this correlation was smaller than that between the treated as an individual subscale and the perceptions of therapy subscale.

There is preliminary evidence that the new questionnaire measures patients' appraisals of practical aspects of treatment and being treated as an individual and appears reliable, valid and useful for its intended purpose in the questionnaire study for this PhD (Study 4, Chapter 6). However, further development and validation would be necessary if it were to be used in other studies. For instance, it was not possible in the current cross-sectional design to measure the predictive validity of this new measure or its test-retest reliability. Furthermore, treatment appraisals may change over the course of several treatment sessions and it is not clear from this study whether the scale might hold its reliability and validity if assessing later treatment appraisals. Despite this many NHS practitioners have reported that they often only see patients for one or two treatments, meaning that this scale would likely still be useful in such situations.

Three limitations in the development of this questionnaire should be acknowledged. Firstly, whilst two researchers (KB and FB) were involved in the analyses of the original qualitative interviews (study 1, chapter 4) upon which this questionnaire is based, only one researcher (KB) drew up items for the questionnaire based on this original qualitative study. This may have introduced bias as the researcher may have been blind to other potential items because of her own expectations. However, the questionnaire items were checked carefully against the original data and discussed with the supervisor (FB) who had been involved in the original analysis. Secondly, some of the participants who took part in the cognitive interviews also participated in the previous qualitative interviews, which could have made the questionnaire relevant only to this group of people. However, the questionnaire was checked with others who had not taken part in the previous qualitative study, indicating that it is likely also be acceptable to those outside this original

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cohort. A further problem with using some participants from the previous study is that they knew the researcher a little and so may have felt less able to express negative opinions about the researcher's questionnaire. The data however, did not support this as negative opinions were expressed about several items and some of the participants who had taken part in the previous study were quite critical. Thirdly, the sample of participants was not large, although was indicated to be acceptable by the Kaiser-Meyer-Olkin measure of sampling adequacy. However, a larger sample may have been more representative of the wider population of patients receiving physiotherapy or osteopathy for LBP.

The development of the APTQ will allow assessment of several aspects of treatment appraisal that have not been previously assessed between private and NHS settings, or between treatment types. This is an important first step in understanding more about both treatment appraisals and how these appraisals might differ between HCS and treatment types.

6. Chapter 6: A cross-sectional study exploring how treatment appraisals vary between HCS and treatment types

6.1 Rationale and aims

The current study¹ examined how patients' treatment appraisals vary between NHS and private physiotherapy and osteopathy using quantitative methods. The qualitative findings from study 1 (chapter 4) were used to guide this study. Aspects of treatment appraisals identified as important within study 1 were examined to investigate whether they varied between HCS and treatment types as they did in the qualitative work in a larger, more representative sample using quantitative methodology. This study was also informed by Leventhal et al's (1984) CSM, which illustrates that treatment appraisals are part of a larger framework which people use to try to make sense of their health problem in order to actively return to a problem-free (in this case pain-free) status. Patients appraise their treatment in order to decide whether it is likely to be helpful to their health problem and whether they should continue to adhere to it, or whether it is unhelpful and they should search for an alternative. Thus, treatment appraisals are important determinants of coping behaviours (such as adherence to treatment) and through their influence on coping can influence patient health outcomes (Leventhal et al, 1984). Furthermore, treatment appraisals can influence patients' illness perceptions, which in turn can also influence patients' coping behaviours and health outcomes (A more detailed description of the CSM is provided in section 3.2.2). It is therefore important to understand treatment appraisals and in particular how they might vary between different

¹ Originally this study was designed to be a longitudinal study examining whether patients' treatment appraisals differed between HCS and treatment types at 3 time points (after the first treatment session, at 4 weeks and 3 months). It also aimed to examine whether patients' treatment appraisals predicted health outcomes, patient adherence to treatment and patient enablement. The details of this original longitudinal study and the reasons for changing to a cross sectional design are outlined briefly in appendix M. ¹

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contexts (Leventhal et al, 1984) such as the NHS and private practice. Yardley et al's (2001) dynamic model of treatment perceptions outlines the constructs involved in treatment appraisal. This model describes how treatment appraisals are a dynamic reciprocal interaction between concrete treatment experiences (such as experiences of the therapeutic relationship) and more abstract beliefs (such as global beliefs, expectations based on past experiences or cultural norms) (Yardley et al, 2001) (this model is discussed in more detail in chapter 3). It was therefore recognised that both concrete experiences of treatment and abstract beliefs would be likely to contribute to patients' treatment appraisals within the current study.

In study 1 several aspects of treatment appraisal were highlighted as varying (or not varying) between HCS and treatment types, these findings were used to inform the selection of factors and hypotheses in the current study and are discussed below. As a large number of aspects of treatment appraisal were to be examined within this questionnaire study it was necessary to be selective about which particular factors to choose, as not all could be included. Aspects of treatment appraisal were included if they were spoken about by many participants (not just a few) in study 1. It was hoped that this would reduce patient burden from a lengthy questionnaire, maximise recruitment (i.e. avoid patients not wanting to complete the questionnaire because it was too lengthy) and ensure that factors selected were likely to be seen as relevant by as many participants as possible. For this reason several factors were not examined within this study that were reported within study 1, for instance perceptions of the CAM aspect of osteopathy and aspects of consumerism, which were only spoken about by a smaller number of participants. The factors which were chosen and the rationale for their inclusion will now be briefly outlined.

6.1.1 Choice and Control within treatment

It was clear from study 1 that patients' appraisals of choice and control within treatment were influenced by experiences of practical aspects of treatment (such as waiting times, how much treatment a patient could access). Study 1 suggested that practical aspects of treatment would be more constrained in NHS compared to private settings, this has also been observed in other studies examining differences between private and public healthcare (Bishop et al, 2011; Hancock et al, 1999; Hughes, 2009; Paterson and Britten, 2008; Wiles and Higgins, 1996; Wong et al, 2010). It has also been reported in a study

which looked at experiences of public care alongside expectations (but not experiences) of private care (Rudzik, 2003). Appraisals of choice and control within treatment (including waiting times) were therefore included in the present study.

6.1.2 The Therapeutic Relationship

The therapeutic relationship contributed to more than one theme in study 1. Appraisals of choice and control were partly influenced by the therapeutic relationship. For instance, NHS osteopathy patients were involved in decisions to end treatment through a discussion with their practitioner, whereas NHS physiotherapy patients were not (instead the physiotherapist made this decision alone). The therapeutic relationship also contributed to participants' trust in their treatments in study 1, particularly in making patients feel understood and that their care was individualised. The therapeutic relationship has also been shown to vary between HCS in a number of studies, where patients often report more paternalistic relationships in NHS care and more supportive or patient-centred relationships in private care (Bishop et al, 2011; Paterson and Britten, 2008; Wiles and Higgins, 1996; Wong et al, 2010). However, study 1 indicated that this difference may be more pronounced in some therapies, as whilst physiotherapy relationships appeared to vary in this way, osteopathy was appraised as providing supportive, patient-centred relationships across both HCS. Evidence from the systematic review (chapter 2) also suggested that the therapeutic relationship is likely to be important to patients' satisfaction with physiotherapy and was therefore an important variable to study. Appraisals of the therapeutic relationship were therefore included in the present study.

6.1.3 Being treated as an individual

The extent to which treatment was individualised to the patients' needs appeared to contribute to the patients' trust in the treatment and their practitioner. Holistic elements of treatment also contributed towards this perception of individualised care for some patients. Care seemed to be more individualised and holistic in NHS osteopathy and both private treatments in study 1 and less so in NHS physiotherapy. Patients have also previously reported less individualised or holistic care within NHS compared private acupuncture (Bishop et al, 2011; Paterson and Britten, 2008). Appraisals of being treated as an individual were therefore included in the present study.

6.1.4 Perceptions of the likely effectiveness of treatment

Perceptions of how effective a treatment is likely to be in improving a health problem (response expectations) form part of the abstract appraisals described in the dynamic model of treatment perceptions (Yardley et al, 2001). Leventhal et al (1999) noted that such abstract representations of a treatment will likely be shaped by concrete experiences of treatment. Likewise concrete treatment experiences are also influenced by abstract expectations of change in health (Pennebaker & Skelton, 1981; Yardley et al, 2001). Appraisals of perceived effectiveness were useful to explore, as they represent a form of response expectation, which the systematic review (chapter 2) highlighted as important to patient adherence and outcomes within physiotherapy for LBP. Given their links with pain outcomes (Kaluokalani et al, 2001; Linde et al, 2007) it would be useful to know whether these perceptions might also vary between HCS and treatment types. Perceptions of the likely effectiveness of treatment were therefore included within the current study. In study 1 treatment was seen as likely to be more effective when care was individualised to the patients' needs, when they understood how the treatment would help them, when treatment fit with their ideas of what was needed in order to improve their symptoms and whether they had already experienced some changes in their symptoms. All of these factors were appraised more favourably in private physiotherapy and osteopathy and NHS osteopathy, but less favourably in NHS physiotherapy and patients reported more trust in NHS osteopathy and both private treatments because of this. It was therefore anticipated that perceptions of the likely effectiveness of treatment would also vary in this way.

6.1.5 Feeling vulnerable

Patients in study 1 reported a large range of ways in which they felt vulnerable in treatment (for instance feeling their back might be damaged by treatment or that they might be ripped off by their private practitioner recommending they have superfluous treatment). Such perceptions have been noted elsewhere. For instance, perceptions of financial vulnerability have been noted in the private sector (Hancock et al, 1999; Yardley et al, 2001). Patients have also previously reported feeling uncomfortable being undressed within treatment in osteopathy (Strutt, Shaw, Leach, 2008). Appraisals of feelings of vulnerability within treatment were therefore included within the current study. In study 1 few perceptions of vulnerability varied by HCS, except for financial vulnerability which did not exist in the NHS, as NHS patients did not pay for treatment. Feeling uncomfortable

being undressed within treatment seemed to vary by treatment type, as it was more prevalent within osteopathy than physiotherapy in study 1. Patients sometimes felt judged by their practitioner within NHS physiotherapy, but not within private physiotherapy or osteopathy within either HCS. Other perceptions (such as feeling the practitioner or exercises prescribed might damage your back further, or feeling that the practitioner may not know what they are doing) did not vary between HCS or treatment types in study 1 and so were not expected to within the current study.

6.1.6 Previous studies which have explored how appraisals of treatment vary between HCS using quantitative methods

Very few existing studies have explored how patients' treatment appraisals vary between HCS using quantitative methods. One previous study examined how patients' experiences of treatments vary between public and private GP services in Hong Kong (Wong et al, 2010). This study found that private GP care was rated as more accessible (for example people were more likely to be seen by their doctor on the same day if they were ill) and more person centred (for example better communication between patient and doctor) than public GP care. However, this study's findings cannot be used to inform the current study as it included many aspects of access and person centred care (e.g. how well the practitioner knows the patients' family) that were not applicable to the experiences of patients receiving physiotherapy or osteopathy. It is also likely that perceptions of care and actual provision of care might differ between the UK and Hong Kong. Furthermore, this study also does not report the effect sizes of the differences between experiences of private and public GP care, so it is not clear what size effects one might expect, even in a Hong Kong sample.

The current study would make comparisons of many different aspects of treatment appraisals between HCS and treatment types within a relatively small sample, consequently there could be a risk of type 1 errors (as many variables would be compared) or type 2 errors (due to the small sample size). The current study therefore focussed on interpreting effect sizes to avoid these potential problems. This approach would provide valuable preparatory work by generating effect sizes that could be used to power future definitive studies.

6.2 Aims

The aim of this study was to examine whether aspects of treatment appraisals differ between HCS (NHS and private) and treatment types (physiotherapy and osteopathy). This study aimed to generate effect sizes of differences in treatment appraisals between HCS or treatment types.

Demographic and clinical factors (pain and disability) were examined to see if they varied between HCS or treatment types, in order to fully describe the sample of participants in each treatment and HCS. No specific hypotheses were made regarding how these characteristics and perceptions might vary.

Based on the qualitative findings of study 1 it was hypothesised that treatment appraisals of physiotherapy and osteopathy will vary differently between the NHS and private practice. Specifically it was hypothesised that:

Practical aspects of treatment:

Appraisals of practical aspects of treatment (as measured by the APTQ) will be more negative in the NHS than in private practice.

Appraisals of waiting times will be more positive in the private sector, more negative in NHS osteopathy and most negative in NHS physiotherapy (as longer waits have been documented in NHS physiotherapy compared to NHS osteopathy; study 1).

Individualised care:

Appraisals of whether the patient is treated as an individual will be more positive in private physiotherapy, private osteopathy and NHS osteopathy than in NHS physiotherapy.

Appraisals of whether the patient is treated as a whole person will be more positive in private physiotherapy, private osteopathy and NHS osteopathy than in NHS physiotherapy.

Appraisals that treatment will be helpful:

Appraisals of whether the treatment will be helpful will be more positive in private physiotherapy, private osteopathy and NHS osteopathy than in NHS physiotherapy.

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Appraisals of vulnerability:

Appraisals of feeling judged by the practitioner will be more positive in NHS osteopathy and both private treatments than in NHS physiotherapy.

Appraisals of aspects of vulnerability relating to perceptions that the practitioner may damage the patients back, that exercises may hurt the patients back or that the practitioner does not know what they are doing are not expected to vary between HCS or treatment types.

Appraisals of vulnerability associated with being undressed during treatment will be higher (more vulnerability) in osteopathy, than in physiotherapy, regardless of the HCS that the treatment is set in.

Appraisals that the treating practitioner may recommend that the patient has more treatment than they actually need are not expected to differ between private physiotherapy and private osteopathy (these will not be measured in the NHS as patients do not pay for treatment here).

Appraisals of the therapeutic relationship:

Appraisals of the therapeutic relationship will be more positive in private physiotherapy and in both private and NHS osteopathy than in NHS physiotherapy.

6.3 Method

6.3.1 Participants

Participants were 91 adults with non-specific (simple or mechanical) LBP, whose pain was not due to red flags (fracture, infection, malignancy, infections or inflammatory disorder such as Ankylosing Spondylitis).

6.3.2 Design and Procedure

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This was a cross-sectional questionnaire study. Ethical and Research Governance approvals were granted by both NHS and School of Psychology committees. Participants were recruited between May 2010 and April 2012.

One hundred and thirty practitioners (physiotherapists and osteopaths) agreed to recruit patients to this study, of these only 36 actually did. These practitioners were identified through their professional governing bodies or through their NHS clinics (all NHS physiotherapists and osteopaths have to be registered with their professional governing bodies). Physiotherapists and osteopaths were given a copy of the inclusion and exclusion criteria and identified suitable patients. Patients were also asked to list any long-term health conditions that they had, which acted as a check that the inclusion criteria were met. Practitioners provided patients who met the study inclusion criteria with an information pack after their first treatment session. The information pack included an invitation letter (see appendix N and O), a participant information sheet (see appendix N and O), and a questionnaire booklet which included all the study measures (see appendix P) and a freepost envelope addressed to the researcher. Return of this completed questionnaire to the researcher was taken as consent and separate consent was not sought (as suggested by the NHS ethics committee).

6.3.3 Design

This study used an observational 2x2 design. The two independent variables were the HCS and treatment type (physiotherapy or osteopathy) and the dependent variables were the dimensions of treatment appraisals outlined above.

6.3.4 Measures

All measures were incorporated into a single questionnaire booklet. The measures are detailed below.

6.3.4.1 Demographic and clinical information

The demographic questionnaire recorded participant's age, gender, education, work status, duration of current LBP, number of previous episodes of LBP and previous use of physiotherapy or osteopathy.

6.3.4.2 Treatment appraisal

Several measures were used to capture different aspects of treatment appraisal.

The APTQ was designed for the purpose of this study and measures two aspects of treatment appraisal found to be important to patients in appraising their physiotherapy or osteopathy in study 1: Practical aspects of treatment and whether the patient is treated as an individual. The development and validation of the APTQ in this sample of patients was reported in chapter 5; its subscales have good internal reliability ($\alpha=.82, .89$) and structural validity.

The perceptions of therapy subscale from the Treatment Appraisals Questionnaire (Bishop et al, 2008) was used to measure patients' perceptions that their treatment would be helpful. This measure has demonstrated good internal consistency ($\alpha=.88-.92$), structural validity and concurrent validity (Bishop et al, 2008). Within the current study this subscale also demonstrated good internal consistency ($\alpha=.931$).

Several single items were used from the original APTQ which were excluded from the main subscales in the PCA. These items were retained despite not contributing to the APTQ subscales as they were important to participants' appraisals of their treatments in study 1 and had demonstrated face validity in study 2. These included single items assessing waiting times (I had to wait too long for treatment), being understood as a whole person (My therapist understands me as a whole person) and several items relating to perceptions of vulnerability within treatment, these are outlined in table 11 which also shows their specific item wording.

Table 14: Included aspects of vulnerability and their item wordings

Aspect of vulnerability	Item wording
Feeling judged within treatment	<i>I feel judged by my therapist</i>
Worrying that the practitioner doesn't know what they are doing	<i>I worry that my therapist doesn't know what he/she is doing</i>
Worrying that exercises may hurt the patients back further	<i>I worry that the exercises my therapist recommends may hurt my back more</i>
Worrying that the practitioner may damage the patients' back	<i>I worry that my therapist could do damage to my back during treatment</i>
Feeling uncomfortable being undressed during treatment	<i>I feel uncomfortable being undressed during my treatment sessions</i>
Financial vulnerability	<i>I worry that my therapist may recommend that I have more treatment than I actually need</i>

Aspects of the therapeutic relationship were measured by assessing patients' appraisals of the working alliance. The working alliance represents the interactive or collaborative dimensions of the therapeutic relationship, including an affective bond between patient and practitioner (Constantino, Castonguay, & Schut, 2002; Munder, Wilmers, Leonhart, Linster and Barth, 2009). It was chosen because it captures the aspects of the therapeutic relationship which seemed most important within study 1, specifically collaborative working (including understanding each other properly and agreeing on aspects of treatment) and a supportive bond (which includes the rapport between patient and practitioner, trust and confidence in the practitioner). The Working Alliance Inventory is by far the most popular questionnaire measuring working alliance (Hanson, Curry, Bandalos, 2002). The client version of the Working Alliance Inventory-short (WAI-S) was chosen for the purposes of this study since it is short and easy to complete. The WAI-S demonstrates good reliability, concurrent and predictive validity (Hovarth and Greenberg, 1989). The WAI-S includes three subscales measuring patients' perceptions of the therapeutic alliance. The 'bond' subscale, measures the bond between patient and

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practitioner (including rapport between patient and practitioner, trust and confidence in the practitioner). The 'goal' subscale measures the extent to which the patient and practitioner agree on the goals (outcomes) of treatment (how much both parties understand what the patient is trying to achieve in treatment and that they agree on the goals of therapy, what the clients problems are and the kinds of changes that are needed). The 'task' subscale measures the patients' perceptions of the amount of agreement between them and their therapist in terms of the treatment approach being used (perceptions of agreement between patient and practitioner in the way that they are working to improve the patients back pain). In total the WAI-S includes 12 items, all three subscales are scored on 1-7 likert scale of strongly disagree to strongly agree. The WAI-S has shown good reliability across a number of different studies ($\alpha=.0.91-0.97$; Hanson, Curry, Bandalos, 2002). In the current study the three subscales also showed adequate internal consistency ($\alpha=0.71-0.83$).

6.3.4.3 Health Status

Two aspects of health status were measured, pain and back-specific function. Pain intensity over the past 24 hours was measured with a 0 to 10 Numerical Rating Scale (NRS), labelled no pain to most pain possible (McCaffery & Beebe, 1993). Back specific function was assessed using the 24 item Roland Morris Disability Questionnaire (RMDQ; Rolland and Morris, 1983). This measure consists of 24 items, which describe daily tasks (such as getting out of a chair); patients tick the items that they agree with and the total number of items is summed to give the final score. The RMDQ has good internal reliability ($\alpha=.91$; Roland and Morris, 1983; $\alpha=0.82$ in the current sample).

6.3.5 Statistical analyses

All statistical analyses were conducted using SPSS version 19.0. The statistical analyses were treated as exploratory (not definitive) in order to assess how multiple aspects of treatment appraisals varied between HCS within a small sample and without knowing which variables might vary to greater or lesser extents. Consistent with this approach, p values were not adjusted (for example using a Bonferroni correction) in the case of multiple comparisons. Effect sizes of treatment appraisals were generated in order to inform future definitive tests. Whilst the significance of results is also reported, emphasis

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will be placed on interpreting the effect sizes. This will avoid any type 1 errors (from the large amount of comparisons that are to be made) and any type 2 errors (from the study potentially being underpowered).

Inspection of the data revealed that the practical aspects of treatment (APTQ) and WAI-S subscales all had between 3-6 missing data points. Therefore, when at least 70% of data for each scale was provided the mean for the other items in the scale was used in order to substitute a total score. Where more than 30% of data items were missing from any one subscale, a score was not computed and that participant was excluded from analyses involving that variable. Where single items (e.g. vulnerability items) were missing data were not replaced. The perceptions of therapy subscale had more missing data than other items due to researcher error (a student employed to help with sending out questionnaire packs for this study accidentally sent out an older version of the questionnaire which had not included the perceptions of therapy subscale).

Several variables had non-normal distributions. The WAI subscales, the APT subscales and the perceptions of therapy subscale were all negatively skewed. Log, square root and reciprocal transformations were attempted (after first reversing all scores), but did not correct this skew and skewed many other items positively, so the original untransformed data were used in all analyses.

Parametric analyses were used to examine how demographic variables and treatment appraisals varied between HCS and treatment types, since there are no widely used alternative non-parametric tests which examine factorial interactions between two independent variables. Factorial 2 way ANOVAs were conducted to examine differences between HCS and treatment types in terms of demographic factors and aspects of treatment appraisal. Simple effects analyses were used to explore any significant interactions in order to understand how the DV varied at different levels of the IVs. A one way ANOVA was used to examine differences between private osteopathy and private physiotherapy in perceptions that the treating practitioner could recommend more treatment than the patient needs.

Log linear and Chi squared analyses were used to test differences in categorical demographic variables between HCS and treatment type.

It is important to note that throughout the results section effect sizes of the factorial ANOVAs are reported in omega squared. Where effect sizes were larger than 0 the comparable r value are also reported (by taking the square root of the omega squared

value; Field, 2005). In the discussion only the r values are reported. This was because whilst it is convention to report the effect size of factorial ANOVAs using omega squared, it is easier to visualise the r effect size, making it simpler to discuss the meaningfulness of each effect size in the discussion section. A cut off point needed to be chosen to determine which size effects might be meaningful and worthy of interpretation and which were likely to be too small to be clinically meaningful. As there was no literature to inform this decision a conservative value of $r=0.1$ was chosen. Therefore, where r values were greater than 0.1 the result is highlighted and discussed, even if the effect is not significant (to avoid type 2 errors). Any effects which are significant, but which have effect sizes of $r<0.1$ will be highlighted and treated with caution, since they are more likely to represent a type 1 error.

6.4 Results

6.4.1 Characteristics of participants across HCS and treatment types

Ninety-one participants were recruited; 17 were receiving osteopathy within the NHS, 24 were receiving private osteopathy, 15 were receiving NHS physiotherapy and 35 were receiving private physiotherapy.

6.4.1.1 Differences in demographics

Participants were aged between 22 and 80 years old (median=48). The majority (72.5%) had experienced previous episodes of LBP and previous treatment for their LBP. On average participants scored 8.6 out of a possible 24 on the RMDQ and were in moderate pain (5.4 out of a possible 10). There were no statistical differences in age, previous episodes of LBP experienced, previous use of treatments for LBP, pain, or disability across HCS or treatment types and no significant interactions between HCS and treatment in any of these variables (see table 12 for ANOVA results). However, the effect size ($\omega^2=.017$, $r=.130$) indicated that there might be a small effect of the HCS on episodes of LBP. Examining the means of demographic variables between the four treatment groups (table 13) showed that participants in private treatments had previously experienced more episodes of LBP than NHS patients.

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The sample included more female (63%) than male (37%) participants. Gender did not differ significantly between HCS, $X^2(1)=.041$, $p=.839$, or treatment type, $X^2(1)=.795$ $p=.373$. There was also not a significant interaction between HCS or treatment type, $X^2(1)=.075$, $p=.785$. Most people (75.3%) were currently in full or part time employment, 16.8% were retired and only 7.8% were unemployed. Occupational status could not be compared between HCS and treatment types as cell counts would be too small for analyses to be reliably computed (Field, 2005). A similar proportion of participants were unemployed in both NHS groups and private physiotherapy, but none were unemployed in private osteopathy. Table 14 shows percentages of gender and occupational status in each of the four treatment groups.

Table 15: Factorial ANOVA results- How demographic and clinical characteristics varied between HCS, treatment types and the interaction between HCS and treatment type

	df	F	p	ω^2 (r)
Age				
HCS	1,85	.048	.838	.000
Treatment type	1,85	.327	.569	.000
HCS*Treatment type	1,85	.163	.688	.000
Episodes of LBP				
HCS	1,87	2.674	.106	.017 (r=.130)
Treatment type	1,87	.093	.761	.000
HCS*Treatment type	1,87	.041	.839	.000
Previous use of physiotherapy or osteopathy for LBP				
HCS	1,87	3.189	.078	.001 (r=.032)
Treatment type	1,87	.614	.435	.000
HCS*Treatment type	1,87	2.528	.115	.000
Pain				
HCS	1,87	.653	.421	.000
Treatment type	1,87	.102	.751	.000
HCS*Treatment type	1,87	.347	.557	.000

Disability				
HCS	1, 87	.933	.337	.000
Treatment type	1, 87	.333	.565	.000
HCS*Treatment type	1, 87	.683	.411	.000

Table 16: Demographic and clinical characteristics

Means (standard deviations)				
Demographic variable	Private osteopathy	Private physiotherapy	NHS physiotherapy	NHS osteopathy
Age	49.08 (13.47)	49.65 (13.87)	48.47 (16.48)	51.714 (17.20)
Episodes LBP	4.46 (4.92)	5.14 (8.24)	2.53 (2.94)	2.67 (3.98)
Number of times used treatment in the past	5.25 (6.33)	3.23 (6.34)	1.234(1.48)	2.87 (4.22)
RMDQ total	8.042 (5.09)	8.31 (4.57)	10.00 (4.95)	8.467(5.50)
Pain	5.38 (2.18)	5.26 (1.89)	5.47 (2.03)	5.87 (1.69)

Table 17: Categorical demographic variables, percentages (and frequencies) between HCS and treatment types

Categorical demographic variables				
Demographic variable	Private osteopathy	Private physiotherapy	NHS physiotherapy	NHS osteopathy
Gender	29% male (7)	36% male (12)	42% male (6)	29% male (5)
	71% female (17)	64% female (21)	58% female (8)	71% female (12)
Occupational status	92% employed (22)	71% employed (24)	72% employed (10)	66% employed (11)
	8% retired (2)	18% retired (6)	21% retired (3)	23% retired (4)
	0% unemployed (0)	11% unemployed (4)	7% unemployed (1)	11% unemployed (2)

6.4.1.2 Treatment appraisals

Participants in all four treatment groups reported highly positive treatment appraisals which meant that ceiling effects were present in the APTQ subscales, the WAI-S and the Perceptions of Therapy subscale. The means and standard deviations of each aspect of treatment appraisal are shown in table 15.

Table 18: Treatment appraisals, means (standard deviations).

	Private osteopathy	Private physiotherapy	NHS osteopathy	NHS physiotherapy
Practical subscale	23.08 (7.01)	22.97 (6.85)	23.56 (4.29)	22.13 (4.59)
Treated as an individual subscale	20.08 (1.38)	18.80 (3.68)	20.12 (1.61)	19.07 (2.25)
Perceptions of therapy subscale	31.23 (4.61)	30.28 (5.49)	33.63 (1.41)	29.20 (5.05)
Appraisals of vulnerability				
<i>Feel judged by the practitioner</i>	6.21 (1.41)	6.54 (1.12)	6.77 (0.44)	6.533(0.92)
<i>Therapist may damage back further</i>	6.33 (1.13)	6.18 (1.47)	5.82 (1.92)	6.53 (0.83)
<i>Exercises may hurt back</i>	6.00 (1.28)	6.03 (1.69)	6.31 (1.08)	6.13 (1.41)
<i>Therapist doesn't know</i>	6.54 (1.25)	6.31 (1.71)	6.70 (0.58)	6.20 (1.66)

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what he/she is

doing

Uncomfortable 6.38 (1.25) 6.41 (1.31) 5.24 (1.82) 6.47 (0.74)

being undressed

Worry therapist 6.29 (1.37) 6.12 (1.45) N/A N/A

may recommend

more treatment

than needed

Therapeutic Alliance

Goal scale (WAI-S) 25.26 (2.53) 26.12 (1.90) 26.71 (2.02) 25.60 (1.96)

Task scale (WASI) 25.36 (2.59) 24.88 (2.71) 25.53 (3.16) 25.07 (2.34)

Bond scale (WAI-S) 25.32 (2.77) 24.39 (3.15) 25.53 (2.98) 24.53 (2.12)

6.4.1.2.1 Practical aspects of treatment

Appraisals of practical aspects of treatment (APTQ subscale) did not differ between HCS $F(1, 86)=0.017, p=.897, \omega^2=.000$; or treatment types $F(1,86)=0.311, p=.579, \omega^2=0.000$; and there was no significant interaction between HCS and treatment type $F(1, 86)=0.227, p=.635, \omega^2=.000$.

Appraisals of waiting times did differ between HCS, $F(1, 87)=29.131, p=.000, \omega^2=.125$ ($r=.354$) and treatment types, $F(1, 87)=12.714, p=.001, \omega^2=.052$ ($r=.228$), but these must

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be interpreted in light of the significant interaction between HCS and treatment types, $F(1, 87)=4.548$, $p=.036$, $\omega^2=.015$ ($r=.122$). This indicated that physiotherapy and osteopathy varied between HCS in different ways. Examining the means showed that patients in both private physiotherapy ($M=6.51$, $SD=1.42$) and private osteopathy ($M=6.92$, $SD=.28$) reported strong disagreement that they had to wait too long for treatment. NHS osteopathy patients disagreed slightly less strongly than the private patients that they had to wait too long for treatment ($M=6.00$, $SD=1.17$). NHS physiotherapy patients agreed more that they had to wait too long for treatment ($M=4.4$, $SD=1.84$) than patients receiving NHS osteopathy or either private treatment. Figure 4 shows this interaction. Simple effects analyses were used to explore this interaction further. They indicated that appraisals of waiting too long for treatment did not vary significantly between osteopathy and physiotherapy in the private practice $F(1, 88)=.27$, $p=.61$, $r=.055$, but did vary between osteopathy and physiotherapy within the NHS $F(1, 88)=8.21$, $p=.005$, $r=.292$. There was also a significant difference between NHS and private osteopathy $F(1, 88)=6.6$, $p=.012$, $r=.264$, as well as between NHS and private physiotherapy, $F(1, 88)=18.55$, $p=.00$, $r=.417$. Figure 4 shows this interaction.

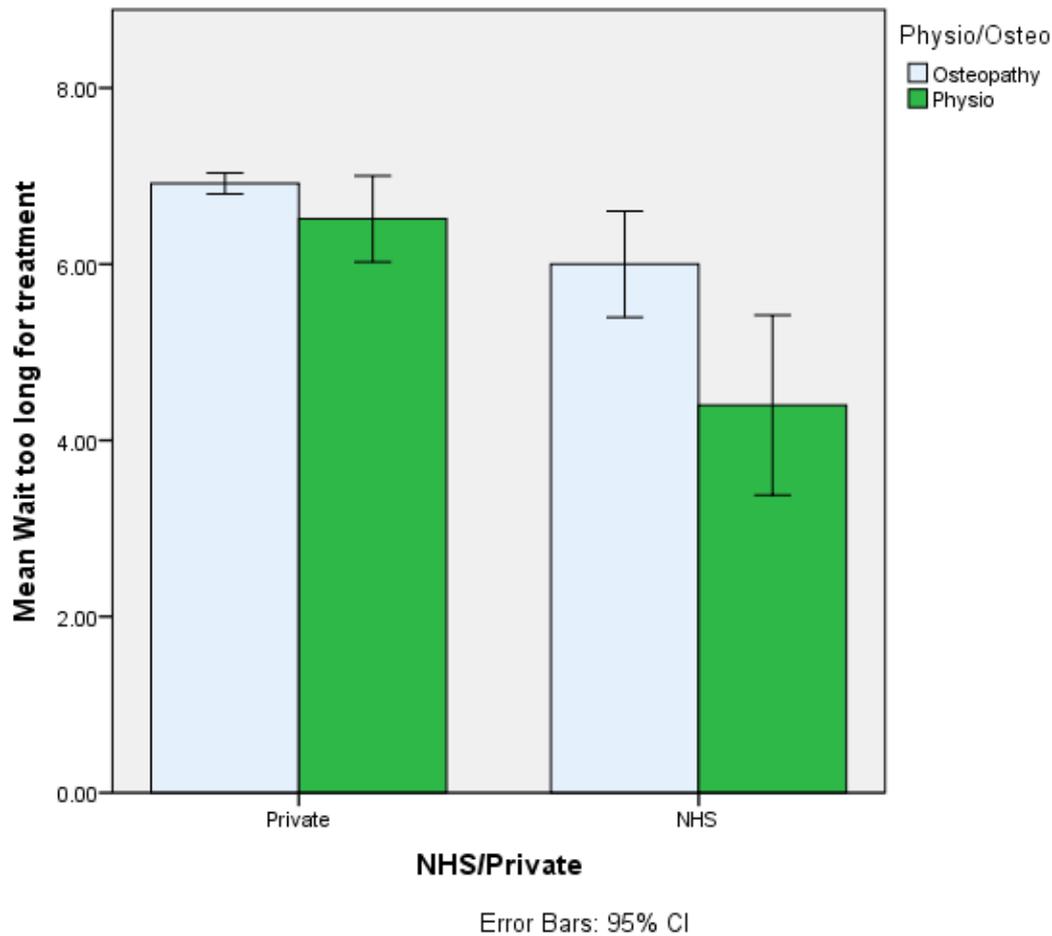


Figure 5: Mean appraisals of waiting too long for treatment, showing the interaction between HCS and treatment type

6.4.1.2.2 Individualised care:

There was no significant difference in appraisals of how individualised care was between the NHS and private practice $F(1, 87)=0.065, p=.799, \omega^2=.000$. However, there was very nearly a significant difference in appraisals of individualised care between physiotherapy and osteopathy $F(1, 87)=3.918, p=.051, \omega^2=0.057$ ($r=.239$) and the effect size confirmed this difference may be important. Examination of the means indicated that osteopathy ($M=20.10, SD=1.46$) was appraised as slightly more individualised than physiotherapy ($M=18.88, SD=3.30$). There was no significant interaction between HCS and treatment type on how individualised participants appraised their care to be $F(1, 87)=0.039, p=.844, \omega^2=0.00$.

Appraisals of whether the therapist tried to understand the patient as a whole person did not vary between HCS $F(1, 87) = 0.011, p = .918, \omega^2 = .000$. However, they did vary significantly between treatment types $F(1, 87) = 6.300, p = .014, \omega^2 = .016 (r = .126)$ where osteopathy was appraised more positively ($M = 6.56, SD = 0.63$) than physiotherapy ($M = 6.00, SD = 1.23$). There was no interaction between HCS and treatment type $F(1, 87) = .011, p = .918, \omega^2 = .000$.

6.4.1.2.3 Appraisals that treatment will be effective:

Scores on the Perceptions of Therapy subscale differed between treatment types, $F(1, 67) = 3.977, p = .050, \omega^2 = .251 (r = .501)$. Patients receiving osteopathy appraised their therapy as more likely to help them ($M = 31.90, SD = 4.11$) than patients receiving physiotherapy ($M = 30.02, SD = 5.35$). However, perceptions of therapy did not vary between HCS $F(1, 67) = 0.234, p = .630, \omega^2 = .000$. There was also not a significant interaction between treatment type and HCS in perceptions of therapy, $F(1, 67) = 1.652, p = .203, \omega^2 = .055 (r = .234)$. However, the effect size of this interaction indicated that a small effect might be present. Examination of the means indicated that NHS physiotherapy ($M = 29.20, S.D = 5.05$) was appraised the least favourably, followed by private physiotherapy ($M = 30.28, SD = 5.49$). Physiotherapy in both HCS was appraised slightly less favourably compared to private osteopathy ($M = 31.24, SD = 4.61$). NHS osteopathy ($M = 33.62, SD = 1.41$) was appraised more favourably than private osteopathy or physiotherapy in either HCS. This interaction is shown in figure 6. Simple effects analyses indicated that osteopathy did not vary significantly between the NHS and private practice, $F(1, 68) = .27, p = .605, r = .063$. Physiotherapy also did not significantly vary between the NHS and private practice, $F(1, 68) = 0.01, p = .605, r = .038$. Within private practice, physiotherapy and osteopathy did not vary significantly, $F(1, 68) = 0.57, p = .452, r = .091$. Within the NHS, physiotherapy and osteopathy almost varied significantly and the effect size indicated that this difference might be significant in a larger sample, $F(1, 68) = 3.53, p = .065, r = .222$.

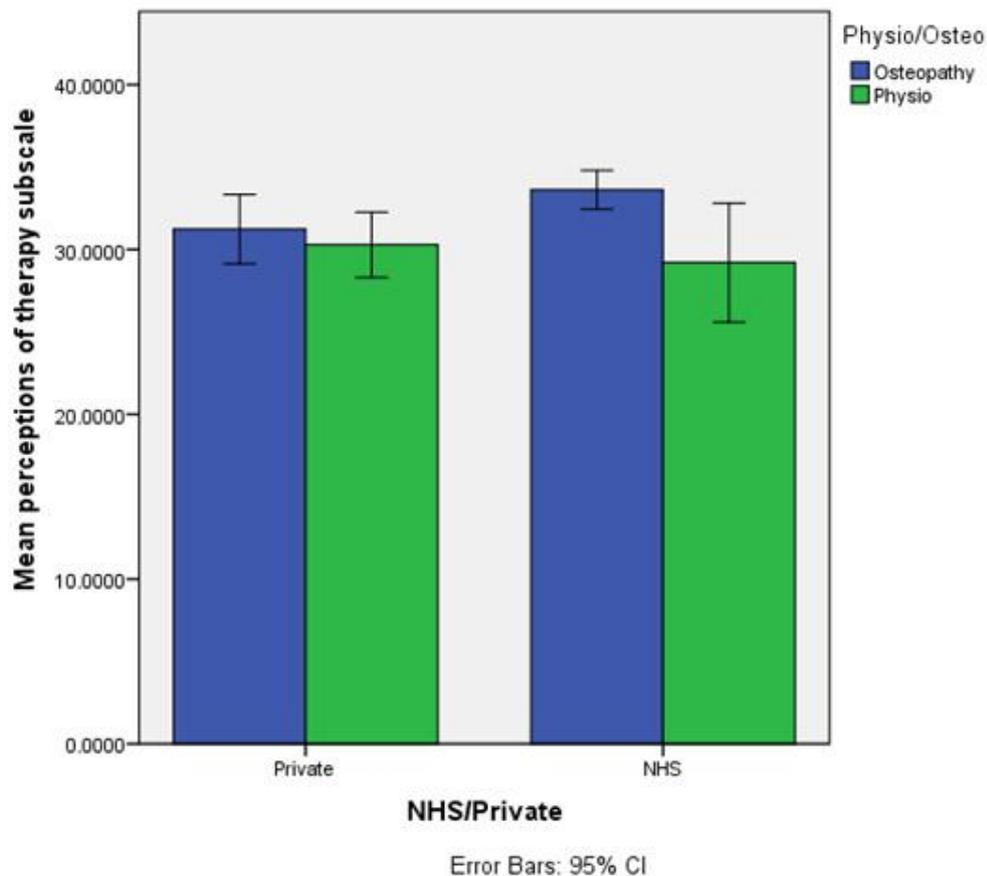


Figure 6: Mean perceptions of therapy, an interaction between HCS and treatment type

6.4.1.2.4 Appraisals of vulnerability:

Separate single items measuring aspects of vulnerability were examined. Several of these items did not vary between HCS or treatment types and showed no interaction between HCS or treatment types, these non significant results are summarised in table 16. Items which varied significantly between HCS, treatment types or which had significant interactions are not included in this table, but are instead discussed in the text below.

Table 19: Factorial ANOVA results for vulnerability items

Aspect of vulnerability	Main effect HCS	Main effect Treatment type	Interaction between HCS and treatment type
Feeling judged by the practitioner	$F(1, 87)=1.285$, $p=.260$, $\omega^2=.000$	$F(1, 87)=.046$, $p=.831$, $\omega^2=.001$ ($r=.0032$)	$F(1,87)=1.376$, $p=.244$, $\omega^2=.001$ ($r=.0032$)
Treating practitioner doesn't know what they are doing	$F(1, 87)= .006$, $p=.938$, $\omega^2=.000$	$F(1, 87)= 1.332$, $p=.252$, $\omega^2=.002$ ($r=.045$)	$F(1, 87)= .192$, $p=.662$, $\omega^2=.005$ ($r=.071$)
Exercises prescribed could hurt the patients back	$F(1, 87)= .378$, $p=.541$, $\omega^2=.000$	$F(1, 87)= .048$, $p=.827$, $\omega^2=.000$	$F(1, 87)= .097$, $p=.756$, $\omega^2=.000$
Therapist could damage the patients back	$F(1, 87)= .061$, $p=.806$, $\omega^2=.000$	$F(1, 87)= .794$, $p=.375$, $\omega^2=.000$	$F(1, 87)= 1.950$, $p=.166$, $\omega^2=0.005$ ($r=.071$)

Appraisals of feeling uncomfortable being undressed during treatment varied significantly between treatment type $F(1, 86)=4.609$, $p=.035$, $\omega^2=.018$ ($r=.134$), but did not vary between HCS, $F(1, 86)=3.373$, $p=.070$, $\omega^2=.009$ ($r=.095$). However, these effects should be interpreted in light of the interaction, which was significant, $F(1, 86)=4.09$, $p=.046$, $\omega^2=.015$ ($r=.122$). Examination of the means indicated that patients felt more uncomfortable being undressed in NHS osteopathy ($M=5.24$, $SD=1.82$) than in private osteopathy ($M=6.36$, $SD=1.24$) and physiotherapy in both the NHS ($M=6.47$, $SD=.74$) and private practice ($M=6.41$, $SD=1.31$). Simple effects analysis indicated that there was indeed a significant difference in appraisals of being uncomfortable being undressed

within treatment between the NHS and private practice in osteopathy $F(1, 87)=5.79$, $p=.018$, $r=.238$, and not in NHS and private physiotherapy $F(1, 87)=.21$, $p=.649$, $r=.049$. As demonstrated in the means there was also no significant difference between physiotherapy and osteopathy within private practice $F(1, 87)=.09$, $p=.771$, $r=.101$. There was however a significant difference between physiotherapy and osteopathy within the NHS $F(1, 87)=7.12$, $p=.009$, $r=.275$. This indicated that NHS osteopathy was significantly different than the other three treatments in terms of appraisals of feeling uncomfortable being undressed within treatment. This interaction is shown in figure 7.

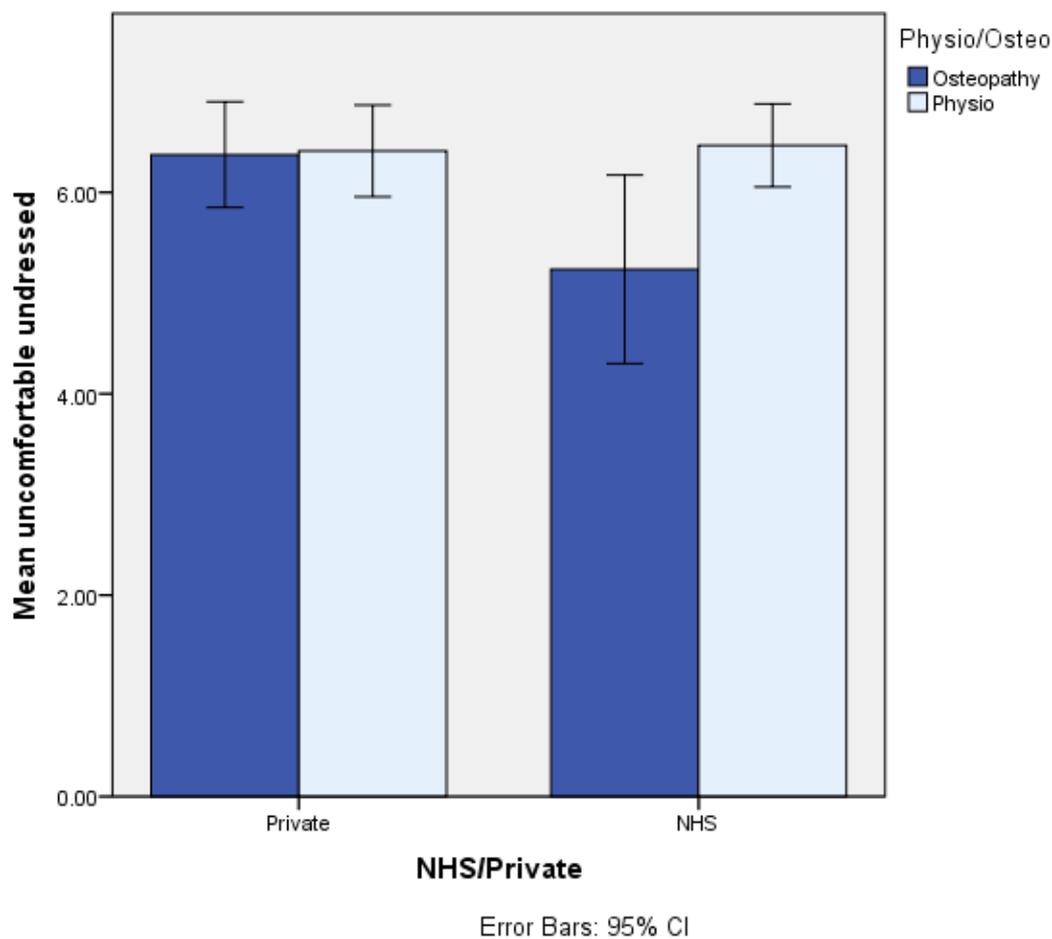


Figure 7: Mean appraisals of feeling uncomfortable being undressed during treatment, an interaction between HCS and treatment type

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Appraisals that the treating practitioner may try and recommend that the patient had more treatment than they needed did not differ between private physiotherapy and osteopathy $F(1, 58)=.115, p=.736, r=.04$. These appraisals were fairly positive in both treatment groups, indicating little perceived risk (Physiotherapy: $M=6.12, SD=1.45$; Osteopathy: $M=6.29, SD=1.37$).

6.4.1.2.5 Appraisals of the Therapeutic Alliance:

The goal subscale of the WAI-S did not vary significantly between HCS $F(1, 85)= 0.070, p=.792, \omega^2=.000$, or treatment types $F(1, 85)= 0.972, p=.327, \omega^2=.000$. There was however a significant interaction between HCS and treatment type $F(1, 87)= 4.354, p=.040, \omega^2=.004$ ($r=.0632$). However, this interaction had a very small effect size, indicating that it may be less clinically meaningful. The interaction indicated that scores on the goal subscale in physiotherapy and osteopathy varied differently between NHS and private settings. Examination of the means indicated that appraisals of the goal subscale were more negative in NHS ($M=25.60, SD=1.96$) compared to private physiotherapy ($M=26.12, SD=1.90$), but in osteopathy appraisals of the goal element of the therapeutic alliance were more positive in NHS ($M= 26.71, SD=2.02$) than private settings ($M=25.26, SD=2.53$). This interaction is shown in figure 8. Simple effects analyses were used to further explore this interaction. This indicated that the significant interaction was due to NHS osteopathy being significantly different to private osteopathy ($F(1, 88)=4.56, p=.036, r=.222$). There was no significant difference between NHS and private physiotherapy ($F(1, 88)=0.56, p=.455, r=.080$). There was also no significant difference between physiotherapy and osteopathy when they are based in the NHS ($F(1, 88)=2.54, p=.130, r=.167$) and no difference between physiotherapy and osteopathy when they are based in private practice ($F(1, 88)=1.95, p=.166, r=.147$).

Scores on the Task subscale of the WAI-S did not vary between HCS $F(1, 88)= 0.063, p=.440, \omega^2=.000$, or treatment types $F(1, 88)= 0.083, p=.774, \omega^2=.000$. There was also no significant interaction between HCS and treatment type $F(1, 87)=0.000, p=.988, \omega^2=.000$.

Scores on the bond scale of the WAI-S also did not vary significantly between treatment types $F(1, 87)= 2.209, p=.141, \omega^2=.029$ ($r=.170$), or HCS $F(1, 87)= 0.74, p=.787, \omega^2=.000$. However, the effect size indicated that a small effect of treatment type might be present. Examination of the means indicated that osteopathy ($M=25.41, SD=2.82$) was appraised

more positively than physiotherapy (M=24.46, SD=2.87). There was no significant interaction between HCS and treatment type $F(1, 87) = 0.003, p = .956, \omega^2 = .000$.

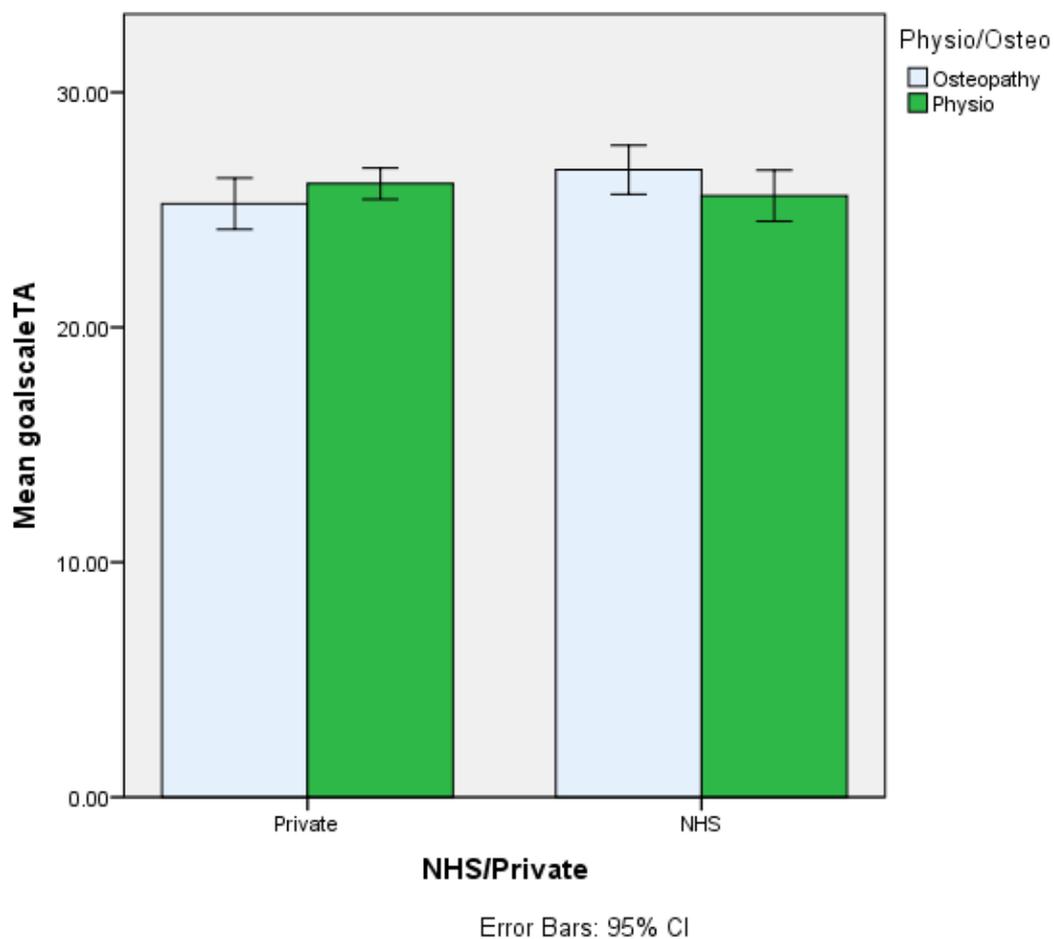


Figure 8: Mean appraisals of the goal subscale of the therapeutic alliance (WAI-S), showing an interaction between HCS and treatment type

6.5 Discussion

6.5.1 Summary of Findings

Effect sizes indicated that some aspects of treatment appraisal varied between HCS or treatment type (or both) consistent with the hypotheses. However, contrary to some of the hypotheses, not all treatment appraisals varied between HCS or treatment types (or both) as expected. Each of the findings will now be discussed in turn.

Practical aspects of treatment measured by the APTQ did not vary between HCS or treatment type as hypothesised. This was surprising, as qualitative work within this thesis (chapter 4) and elsewhere (for instance Paterson and Britten, 2008; Wiles and Higgins, 1996) has indicated that practical aspects of treatment, such as having enough time during treatment and the amount of treatment available vary between HCS. There are a number of potential reasons for this lack of variation. Firstly, it may be that patients did not feel they could accurately appraise such aspects of treatment at the first treatment session. Many patients refused to appraise their treatment when they were in their first or second treatment session within study 1, as they wanted to wait to see how it went before making any judgement. It may be that put in this position patients in the current study were more generous with their appraisals than they might have been later in treatment, indeed mean scores on this measure were high. Secondly, some treatments might appear more positive at the beginning of treatment, for instance practitioners often provide longer assessments on the first treatment session followed by shorter treatments at follow up appointments. Furthermore, patients may initially expect that they can access as much treatment as they need within the NHS and may only later realise that they are not going to receive this when they find out that their treatment is ending. Alternatively it may be that this cohort of patients experienced treatment with better practical aspects than the samples of patients used in previous qualitative studies.

As hypothesised, NHS patients felt that they waited too long for treatment in comparison to private patients. NHS physiotherapy patients felt this more strongly than NHS osteopathy patients. This is consistent with the hypotheses and the qualitative findings of study 1 where patients reported longer waits for NHS physiotherapy than for NHS osteopathy and short waits in both private treatments. Patients have also reported dissatisfaction with long waiting lists in public sector treatments elsewhere (Rudzik, 2003; Wong et al, 2010). Effect sizes explaining variations in appraisals of waiting too long for

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treatment were small (interaction, $r=.122$; treatment type $r=.228$) to medium (HCS $r=.354$) in size.

Confidence that therapy would be helpful and appraisals that patients were being treated as individuals were both more positive in osteopathy than physiotherapy, but these appraisals did not vary between HCS. However, a small effect size also indicated that there might be an interaction between HCS and treatment type in relation to patients' confidence that their therapy would be helpful. Patients' confidence in their therapy was appraised more favourably in osteopathy than physiotherapy; private osteopathy was appraised slightly more favourably than physiotherapy in both HCS and NHS osteopathy was appraised the most favourably. Simple effects analysis indicated that this interaction was probably the result of NHS osteopathy being appraised as more likely to be effective than NHS physiotherapy. These findings are consistent with the hypotheses that osteopathy would be appraised as more individualised and perceived as more likely to be helpful in both HCS than NHS physiotherapy. However, it was also hypothesised that private physiotherapy would be appraised as more similar to osteopathy in these aspects, which was not confirmed. Whilst the effect size between treatment types for appraisals of individualised care was only small ($r=.239$), the effect size of differences between treatment types in the perceptions of therapy subscale was large ($r=.501$, with a small interaction $r=.234$). Although it is not yet clear what size effect might be clinically meaningful, it seems likely that such a large difference in perceptions of the effectiveness of treatment between osteopathy and physiotherapy would be important. Such perceptions are highly similar to and could be considered a type of outcome expectation or response expectation, which are known to be related to pain outcomes (Kalauokalani et al, 2001; Linde et al, 2007) and return to work following back injury (Johansson et al, 2010).

One of the reasons why osteopathy might be rated as more individualised and perceived as likely to be more effective by patients could be because osteopaths may be more likely to use hands on techniques (such as mobilisations and manipulations) than physiotherapists. This means that both examination and treatment involve detailed touch, which patients reported made them feel that treatment was individualised and made them feel confident that their treatment would be successful (study 1). Using hands on treatment techniques such as manipulations could also cause early changes in symptoms, since they can improve pain quickly, which may have also made patients feel that their treatment would be more successful and was the correct treatment for them. However, it is not clear why private physiotherapists in our sample might not be benefiting from using the same approach, as they appeared to in patients' reports (chapter 4) and in

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practitioners' reports (chapter 7). This has also been observed in a survey of physiotherapists, which showed that private physiotherapists used these techniques more frequently than NHS physiotherapists (Foster et al, 1999). Alternatively it may be something about the osteopaths themselves in our sample which gave patients more confidence that treatment would be helpful and that they were being treated as an individual. This study could have potentially used a sample of osteopaths who had stronger soft skills. Indeed, patients have previously reported more satisfaction with communication in osteopathy compared to GP care (Pincus, Vogel, Savage, Newman, 2000). Osteopathy is also a CAM treatment, which have been reported as more positive than mainstream treatments in terms of the availability of more supportive relationships (Bernstein and Shuval, 1997; Furnham and Kirkaldy, 1996) and more opportunity to take an active role in treatment (Bishop et al, 2010; Hsiao et al, 2003). However, the therapeutic alliance (WAI-S), particularly the bond subscale would be likely to pick up on such differences and this measure did not vary enough to make this seem likely. It is not entirely clear why patients had more confidence in the effectiveness of NHS osteopathy compared to private osteopathy. The NHS osteopaths who took part in this study were frequently involved in research into osteopathy and back pain. It may be that they are better at persuading patients that their treatment will be effective compared with the average private osteopath. For instance, they might use more modern or scientific language than the original language taught by osteopaths in their training (as discussed by an NHS osteopath in study 5). These NHS osteopaths may for instance draw on research that they have read, adding credibility to their explanations of the patients' problem and how treatment will improve this.

A very small main effect indicated that osteopathy patients felt more understood as a whole person by their practitioner than physiotherapy patients ($r=.126$). Whilst this is partly consistent with the hypotheses that osteopathy would be appraised more positively than physiotherapy on this item, private osteopathy was also expected to be appraised more positively than NHS physiotherapy here, which was not found to be the case. It is possible that the private physiotherapists who treated patients in study 1 were more holistic than the private physiotherapist recruited to this study (not all of the same practitioners were used). Interviews with physiotherapists (study 5, chapter 7) also indicate that private physiotherapy might be more holistic when practitioners only work in the private sector and not across both HCS; it may be that the private physiotherapists who treated patients in the current study also work in the NHS. It is possible that the

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difference between treatment groups in this item is not large enough to be considered clinically meaningful, as scores on this item only varied by 0.56 on a 7 point scale.

As predicted, appraisals of aspects of treatment which make people feel vulnerable (believing the practitioner does not know what they are doing, believing that the therapist may damage the patient's back and believing that exercises may hurt the patient's back) did not vary between HCS or treatment type. Unexpectedly, patients did not feel more judged by their practitioner in NHS physiotherapy compared to the three other treatments as hypothesised. It would be interesting to see if this result is replicated if treatment appraisals were measured at a later point in treatment after the patient has received more treatment sessions. Feeling uncomfortable being undressed within treatment was appraised more negatively in NHS osteopathy, but more positively in private osteopathy and physiotherapy in both HCS, which was only partly consistent with the hypothesis that patients would feel more uncomfortable being undressed within their osteopathy treatments. However, the effect size of this interaction was fairly small ($r=.12$) and so may not be clinically meaningful. A larger number of osteopathy compared to physiotherapy patients reported feeling uncomfortable being undressed within treatment in study 1. This appeared to be because osteopathy frequently required patients to be treated in their underwear, whereas physiotherapy did so less frequently. However, this does not explain why patients in the current study felt less comfortable being undressed in NHS than private osteopathy. Indeed private osteopathy patients have previously reported feeling uncomfortable being treated in their underwear (Strutt, Shaw, Leach, 2008). Routes to treatment could perhaps be responsible for this difference. When patients seek private osteopathy they frequently do so based on discussions with friends or family who recommend a practitioner (Strutt, Shaw, Leach, 2008; Bishop et al, in press). They are therefore, more likely to know a bit about what to expect from osteopathy and could at this point opt out if they might be uncomfortable being undressed during treatment. NHS patients on the other hand, are sent to osteopathy without necessarily knowing what to expect or being given a choice about treatment options. It may be that NHS patients, who would not have chosen osteopathy in a private setting because of feeling vulnerable being undressed during treatment, end up receiving NHS osteopathy. It is unlikely that this difference is due to less private treatment environments within NHS osteopathy as the NHS osteopaths in this sample had their own separate treatment rooms (rather than curtained cubicles which were widely used in NHS physiotherapy).

As hypothesised, perceptions of financial vulnerability did not vary between treatment types. Interestingly most patients strongly disagreed that their practitioner would

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recommend that they have more treatment than they need. It is not clear whether this perception may change over the course of treatment as patients get a better feel for how much treatment they might need and get to know their practitioner a little better. It may be that whilst patients are often aware of the potential for financial vulnerability most of them assume that they themselves will not be vulnerable. For instance, it is probable that most of these private patients chose their practitioner based on recommendations from people they know as documented elsewhere (Strutt, Shaw, Leach, 2008; Bishop et al, in press), which study 1 demonstrated provides enough trust in the practitioner to overcome this perception of vulnerability.

Of all three aspects of therapeutic alliance hypothesised to vary between HCS and treatment types, only the goal and bond subscales varied and these differences were so small that they may not be clinically important. As hypothesised, patients reported more agreement with their therapist about the goals of treatment in private compared with NHS physiotherapy. However, unexpectedly patients appraised more agreement with their therapist about the goals of treatment in NHS compared to private osteopathy (which were expected to be the same and both appraised positively). However, as mentioned this effect size was very small ($r=.063$) and therefore is less likely to be clinically meaningful. The bond subscale varied to a small extent between treatment types, where osteopathy was appraised more favourably than physiotherapy ($r=.170$). This partially supported the hypothesis, however, it was also hypothesised that private physiotherapy would be appraised as similar to osteopathy and more favourably than NHS physiotherapy, this was not found to be the case. However, as the mean of osteopathy only appeared to be one point higher than the mean of physiotherapy (out of a possible 30), this difference may not be clinically meaningful. The task subscale of the WAI did not vary between HCS or treatment types. It is possible that at this early time point the therapeutic approach (ie task) had not yet been fully implemented. It may also be that aspects of the therapeutic alliance can appear more positive in the first treatment session than later in treatment and therefore vary less between HCS or treatment types. For instance, because practitioners spend more time listening to the patient in the initial session where they have to collect data about the patient to inform their treatment approach and rule out potentially dangerous risk factors, this may have been responsible for the ceiling effects in these measures.

6.5.2 Strengths, limitations and future research

This study provided the first exploration of how patients' appraisals of treatments vary between both HCS and treatment type using quantitative methods. It is also the first quantitative study to assess how appraisals of two treatments vary between the UK's public and private sectors.

A number of limitations should be acknowledged. Firstly, the sample size was smaller than hoped for, thereby reducing power to detect differences in treatment appraisals between HCS and treatment types as well as interaction effects. However, effect sizes were used to gain insight into which aspects of appraisals are likely to vary between HCS or treatment types (or both) in a meaningful way and indeed highlighted a number of variables associated with small, medium or in one case large effects (differences) between HCS or treatment types (or both). These effect sizes can be used in power calculations in future definitive studies. These effect sizes could also guide the selection of aspects of appraisal to investigate in further studies. Secondly, the small sample size may have meant that this cohort of patients was not representative of the general population being treated for LBP in private and NHS physiotherapy and osteopathy. Although, comparison of our demographic data with another (large) primary care sample indicated that our sample had similar levels of pain, disability and only slightly higher levels of employment (Foster et al 2008). However, it may be that this sample was biased towards patients who were more satisfied with their treatments, which could explain the ceiling effects observed in the measures of treatment appraisal and the lack of variation between HCS and treatment types (particularly NHS physiotherapy being appraised more positively than expected). This bias seems possible because patients in this study were recruited via practitioners, who might have invited only patients who appeared more satisfied during their first treatment session. In contrast patients in study 1 were recruited through a variety of strategies to maximise the diversity of the sample and avoid gaining only positive experiences. It must be noted though that this sample contained more women than men which may mean that the findings are less generalisable to a male population.

Making use of the original longitudinal study design data meant that the study could not be re-designed from the beginning and that it was most fruitful to use data from time point one (after the first treatment session). This is the most likely cause of the observed ceiling effects in the measures of treatment appraisal, as patients in study 1 indicated that they are less willing to appraise treatment negatively in the very early stages. If questionnaires had been completed a few weeks later it is possible that any differences between HCS and

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treatment types might have become more pronounced. Nevertheless, this study did identify some ways in which appraisals differ between HCS and treatment types at the early stages of treatment, which might be of use to practitioners, especially those working in the NHS who only get to see patients on a few occasions. Indeed, in NHS settings the first treatment session seems more crucial than in private practice where practitioners are usually unrestricted in how much treatment they can offer. Still, it would be very useful for future research to explore how appraisals of treatment vary between HCS and treatment types at later points within treatment and to explore whether early appraisals change as treatment goes on. It would also be useful for future research to explore what size variations in treatment appraisals are clinically important (and therefore how large effect sizes would need to be in order to be meaningful to patients). In both the current thesis and a qualitative study of patients' perceptions of public healthcare in Trinidad and Tobago (Rudzik, 2003), patients appeared to give more negative reports of public treatments in qualitative semi-structured interviews, than to answers in questionnaires. It is therefore not clear whether questionnaire answers might accurately capture what patients report about aspects of treatment appraisal in conversations; that is whether qualitative findings can be translated into quantitative results in this area. It may be that small differences on questionnaires actually represent meaningful differences and that patients always score aspects of treatment more positively in a questionnaire than would be expected from their qualitative reports. Others who have tried to assess aspects of treatment appraisals have also found ceiling effects in measures of appraisal (for instance Bishop et al, 2008; Muller, 2013) indicating that this is not only a problem in the current study. Interestingly, Rudzik (2003) found less positive reports from patients in interviews than in questionnaires, when the researcher verbally collected questionnaire answers (through a structured interview) following a more open discussion in a semi structured interview. This suggests that the differences in answers collected by qualitative and quantitative approaches are not due to the presence or absence of a researcher (for instance to please a researcher in their presence).

The sample used for the validation of the APTQ and the current study were the same. However, all items which demonstrated face validity in study 2 were included as single items in the current study. This meant that participants' original way of answering questions was still likely valid (which may have differed if only the post-validated shorter version of the APT were used). Nevertheless, single items may demonstrate less statistical power and are less reliable than multi-item scales (Bernhard et al, 2001; Fayers and Machine, 2000; Sloan et al, 1998). However, effect sizes indicated that some of the single

items varied more between HCS or treatment types (or both) than many of the validated scales used suggesting that they had adequate statistical power. Since the reliability and validity of the APTQ were also tested using the data from the current study it will be important to further test the reliability and validity of this measure in a further sample.

This study focussed on interpreting effect sizes rather than whether results were significant or not, in order to avoid any type 1 or type 2 errors. In this way its results should be treated as exploratory and not definitive. Further studies are needed to confirm the ways in which treatment appraisals vary between HCS and treatment types in larger samples which could prove more representative and have more statistical power to detect effects. It would be of particular use to test whether appraisals vary between HCS and treatment types at a later stage of treatment and whether appraisals predict patient adherence and treatment outcomes.

6.6 Conclusion

This study was the first quantitative study to explore how appraisals of two different treatments (physiotherapy and osteopathy) vary between the UK's NHS and private settings within two treatment types. Appraisals of waiting times and most aspects of vulnerability varied between treatment types and HCS in the ways that were hypothesised. Many other aspects of treatment appraisal did not vary between HCS or treatment types in the ways hypothesised. However, some treatment appraisals (appraisals of being treated as an individual, being understood as a whole person and that therapy would be effective) offered partial support for the hypotheses, as they varied in part of the way predicted (for example between treatment types, but not between HCS). It is possible that patients did not want to appraise their treatments at such an early stage of treatment which could also have led to some null effects. Future studies should aim to measure how treatment appraisals vary between HCS and treatment types at a later point during treatment, using larger samples.

7. Physiotherapists' and osteopaths' experiences of treating patients with LBP in the NHS and private practice

7.1 Background

Previous research indicates that patients experience differences between private and NHS treatments (Bishop et al, 2011; Hancock et al, 1999; Hughes, 2009; Paterson and Britten, 2008; Wiles and Higgins, 1996). Study 1 (chapter 4) highlighted that patients' appraisals of physiotherapy vary more between HCS than their appraisals of osteopathy, indicating that not all treatments vary in a uniform way between the NHS and private practice. What remains unclear is why patients' experiences of physiotherapy vary more greatly across the two HCS than their experiences of osteopathy. What factors might be responsible for this difference? Examining the experiences of practitioners (physiotherapists and osteopaths) could highlight factors or processes which might be responsible for patients' experiences of physiotherapy varying more between the two HCS than their experiences of osteopathy.

No studies have directly compared and contrasted both physiotherapists' and osteopaths' experiences of providing treatment across the NHS and private practice. Studies have also not yet compared in any detail physiotherapists' experiences (alone) of providing treatment between the two HCS. However, there are reasons to believe that physiotherapists might experience differences between providing treatment in the NHS and private practice. For instance, physiotherapists have previously identified an inability to provide good patient care as a reason for leaving the NHS (CSP, 1998). Physiotherapy students, assistant physiotherapists and physiotherapists working in the private sector have identified barriers to working in the NHS, including stressful work situations and a lack of time, which meant that they felt dissatisfied with the service that they were able to provide (Park et al , 2003). However, this qualitative study lacked quotes or thick descriptions, meaning that much of the detail of these

circumstances is hard to interpret. Interviews with physiotherapists treating patients with back pain in the NHS have revealed that time restrictions and tightly scheduled appointments means physiotherapists are left feeling tired and do not always have the time to 'win over' patients (Dean et al, 2005). Although hinting that physiotherapy practice may be restricted in the NHS, this study did not include any private physiotherapists to make comparisons against, as its aim was not to focus on potential differences between HCS.

Studies have also not yet explored in any detail whether osteopaths' experiences might vary between HCS. However, a case study report from an osteopath who set up a NHS CAM service suggests that the NHS might restrict practice of osteopathy. NHS osteopaths were forced to focus only on the narrow range of conditions that they were employed to treat, rather than treating multiple conditions concurrently in the more holistic approach adopted in private practice (Donnelly, 1995).

Other healthcare practitioners have reported that their practices are limited by both time restrictions and protocols over which they have no control within the NHS. For instance, GPs have reported that limited time in consultations hinders their ability to be holistic (Hasegawa et al, 2005). Similarly, an acupuncturist reported that limited treatment times in a pain clinic reduces his holistic practice, meaning that he has to limit treatment to a single acupuncture point, rather than treating multiple points (Paterson and Britten, 2008). However, none of these studies specifically focussed on practitioners' views of providing treatment in the NHS as compared to private practice and so experiences were not explored or contrasted between HCS in any detail.

A few studies have explored practitioners' experiences of providing treatment across the NHS and private practice in greater detail, these studies also indicate that time restrictions and a lack of practitioner autonomy limit practice in the NHS.

Acupuncturists have discussed how time limitations within NHS treatments sometimes impacted on their practice (Bishop et al, 2012). Acupuncturists working in the NHS sometimes treated several patients at once across different rooms instead of focussing solely on the treatment of a single patient at a time. NHS acupuncturists also reported difficulties in forming rapport with patients because of short treatments. NHS acupuncturists sometimes also described being less able to provide individualised treatments, or involve their patients in collaborative decision making.

Another qualitative study explored dentists' decisions to practice in the NHS or private practice (Calnan et al, 2000). Dentists reported that they struggle to carry out high quality work in the NHS due to underfunding which limits their use of new materials and techniques, as well as providing too little time to look at the patient as a whole. Funding was also described as limiting the kinds of work that dentists could carry out; for instance, dentists discussed how the NHS did not facilitate preventative work, which dentists felt was important.

Much of the existing literature highlights that time restrictions and a lack of practitioner autonomy might be factors which explain the differences between NHS and private treatments. It seems likely that these factors might also be partly responsible for the differences between patients' experiences of NHS and private physiotherapy and osteopathy. However, it is unlikely that time alone explains the differences in patients' experiences observed in study 1, as even physiotherapy consultations which were longer were appraised in the same ways as consultations that were shorter (for instance, including less individualised treatment). Furthermore, the existing literature focuses on treatments which are all fairly well established within the NHS and available within most trusts. Osteopathy is much less well-integrated and only exists in the NHS in a small way, it may therefore be able to exist in a different way to physiotherapy and other mainstream treatments and perhaps currently be less influenced by constraints that other NHS practitioners might experience. For instance, one could speculate that osteopaths working in the NHS could have more autonomy than physiotherapists, as most osteopaths are employed on any quality provider contracts and work more independently than those employed within the NHS. An exploration of physiotherapists' and osteopaths' experiences seems warranted, given that the existing literature may not all be applicable to physiotherapy and osteopathy and given the lack of literature which has directly compared and contrasted physiotherapists' or osteopaths' experiences of providing treatment in the NHS or private practice. This study will therefore explore and compare physiotherapists' and osteopaths' experiences of treating patients with LBP in the NHS or private practice. It will aim to identify factors or processes which might be responsible for patients' experiences of physiotherapy varying more greatly between HCS than patients'

experiences of osteopathy. Identifying such factors, for instance those which constrain or facilitate a practitioner's treatment approach in each HCS, could inform the design of future interventions which might aim to improve patients' experiences of therapies like NHS physiotherapy (which appear to be more negatively appraised than private physiotherapy or NHS osteopathy). Importantly, such a study would also add to what is known about the impact of the HCS more generally, in that it will identify whether physiotherapists' and osteopaths' experiences of treating LBP vary in the same way between HCS. This will contribute further to knowledge of whether the HCS might be likely to have a uniform influence across different treatments, or whether some treatments might vary more than others between the two settings.

7.2 Aims

The current study aims to describe and compare osteopaths' and physiotherapists' experiences of treating LBP within the NHS and private practice. It also aims to identify any factors or processes which may be responsible for the similarities and differences found in patients' experiences of physiotherapy and osteopathy when they are delivered in the NHS and private practice (Study 1).

Given the lack of existing evidence in this area, this study used qualitative methods. This approach allowed identification of which issues are relevant to practitioners within the different treatments and settings, rather than prematurely assuming the answers to this important question and adopting a researcher-designed questionnaire approach.

7.3 Method

7.3.1 Design

This is a qualitative interview study using semi-structured interviews with physiotherapists and osteopaths treating patients with LBP in the NHS or private practice (or both).

Ethical approvals and research governance approvals for this research were gained from both the University of Southampton and NHS committees.

7.3.2 Recruitment

Purposive sampling was used to recruit thirty three practitioners (physiotherapists and osteopaths) with a range of experiences, including those who a) work in only one HCS, b) work in both HCS, c) have a large amount of experience of working in the NHS/private practice, and d) have only a small amount of experience of working in the NHS/private practice.

Practitioners were identified through publicly available databases. The physiotherapists were identified through the practitioner search engines on the CSP website (<http://www.csp.org.uk/your-health/find-physio/physio2u>). Osteopaths were identified through the GOC practitioner search engines (on their website; <http://www.osteopathy.org.uk/information/finding-an-osteopath/>). Existing knowledge and the use of key informants (from the GOC and from practitioners involved in recruitment for study 1) allowed identification of practitioners with appropriate characteristics to invite to interview and helped fulfil the a-d sampling criteria stated above (for instance osteopaths who work in the NHS, who might otherwise be hard to identify).

Once suitable practitioners were identified a written invitation to the study, including a participant information sheet (see appendix Q and R) and consent form (appendix Q and R) were posted to the practitioners. Practitioners who wished to take part in the

study returned a reply slip and signed consent form to the researcher, who then contacted the practitioner to arrange a convenient time to carry out the telephone interview. Practitioners were also able to contact the researcher (by telephone, email or post) prior to agreeing to the study if they wished to discuss it in more detail or had any questions.

7.3.3 Selection and exclusion criteria

Participants were physiotherapists who were registered with the CSP, or osteopaths who were registered with the GOC. These practitioners all currently worked in the NHS or private practice (or both) and treated LBP.

7.3.4 Participants

Table 17 describes the characteristics of participants in this study. Many of the practitioners worked across both HCS. Almost all osteopaths who work in the NHS also maintain their private practice as the NHS does not provide full time work for them. Therefore all of the osteopaths we sampled who worked in the NHS also worked in the private practice. The majority of physiotherapists that were sampled also worked across both HCS, which enabled the practitioners themselves to tell us about the differences between HCS. However, a few physiotherapists who worked solely in the NHS or private practice and osteopaths who worked solely in private practice were also included, in order to maximise the diversity of the sample and explore whether the views of those who worked in only one HCS differed from those who worked across both. Practitioners were based in areas across the UK (including both the north and south of the UK), from rural and city practices.

Table 20: Participant characteristics

	NHS physiotherap y only	Private physiother apy only	NHS and private physiothera py	NHS and private osteopaths	Private osteopathy only	
Total N in each group	3	5	10	10	5	
Gender: % female (n)	100% (3)	40% (2)	60% (6)	20% (2)	60% (3)	
Number of days worked per week:			<u>NHS</u>	<u>Privat e</u>	<u>NHS</u>	<u>Privat e</u>
Up to 2 days	0	0	0	6	6	2

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2.5-3.5 days	1	2	2	3	1
			2	6	
4-5 days	2	3	8	1	4
			2	2	
Years qualified	2-36 (8)	15-45 (22)	4-25 (18)	10-40 (26)	10-30 (16)
(median)					
Qualifications					
Diploma/Degree	3	4	6	6	4
Postgraduate degree		1	4	4	1

7.3.5 Procedure

Thirty three participants took part in semi-structured telephone interviews with either the researcher (KB) or a medical student who was supervised by KB and FB. Telephone interviews were chosen rather than face-to-face interviews because practitioners consulted in the development of this study's protocol indicated that this would fit more easily with their busy practices. This also allowed practitioners from more remote locations to participate in the study.

Interviews were arranged at times suitable to participants. The researcher checked that the practitioner was sitting somewhere comfortable, where they would not be disturbed. All participants were advised that they could take a break or stop the interview at any point.

The researcher introduced herself to practitioners as a postgraduate student in health psychology, or as a medical student and noted that she was not an expert in LBP, physiotherapy or osteopathy and was really interested in hearing about the practitioners' own experiences and thoughts about treating LBP (in the NHS or private practice, or both). The researcher then re-iterated the aims of the research, re-iterated the main points of the participant information sheet, asked the participant to confirm verbal consent and answered any questions that the participant had before starting the interview.

The interview itself consisted of a number of open questions. The interview schedule was developed based on the existing literature and the findings of study 1. This interview schedule included open questions about how the practitioner came to work as an osteopath or physiotherapist in the NHS or private practice (or both), their feelings about working as an osteopath or physiotherapist in the NHS or private practice (or both), what happens during osteopathy or physiotherapy for LBP, what they consider the most important aspects of treatment for LBP to be, working with other colleagues in the NHS or private practice, and about follow up appointments (for interview schedule see appendix S). If the practitioner worked in both HCS then they were asked to reflect on each of these experiences throughout the interview. They were also asked about any similarities or differences between working in the two HCS

and about any similarities or differences in the LBP patients that they treat in the two HCS. Non-directional prompts (e.g. “can you tell me more about that?”) were used to follow up additional issues raised by practitioners which relevant to the aims of the study. This inductive approach meant that topics which were important to practitioners, but which had not been anticipated by the researcher were able to be covered. All interviews were audiotaped with the permission of the practitioner. No practitioners were distressed by the interview and most reported that they would later like to receive a summary of the results of the study.

Following the semi-structured interview participants completed a short demographic questionnaire verbally with the researcher over the telephone. This questionnaire concerned practitioner’s highest qualification, job title, number of years qualified, number of hours working in the NHS or private practice (or both) per week and the number of years that the practitioner had worked in the NHS or private practice (or both). This information allowed description of the overall sample and ensured participants had a range of backgrounds.

All audiotaped interviews were transcribed verbatim and the transcripts were checked against the recordings for accuracy. Practitioners continued to be interviewed until no new codes or themes were being identified and the data were considered to have reached saturation (Glaser and Strauss, 1967).

7.3.6 Analysis

The aim of the analysis was to identify similarities and differences between physiotherapists’ and osteopaths’ experiences of treating LBP within the NHS and private practice. The analysis was carried out by KB and adopted an iterative approach, moving between interviewing and analysing the interviews, followed by further interviewing and analyses, until no new themes or useful information were being identified within new interviews. An inductive approach to data analysis was chosen to ensure that the findings emerged from the data. Thematic analysis was employed in the same way as in the patient qualitative study, as described in chapter 4 (see section 4.2.8 for a full description of this process). Again this was augmented with the constant comparison method from grounded theory (Charmaz, 2006; Glaser and Strauss, 1967)

to ensure rigour. Practitioners' experiences were compared across both osteopathy and physiotherapy and between HCS. Memos and diagrams were also used in the later stages of the analysis to identify how themes might link together and might differ between the different therapies and HCS. However, this time formal charting techniques from framework analyses (as used in study 1) were not used, as the differences between groups were very clear and the analyst (KB) did not find the charting of individual participants overly helpful in study 1 (this was because the charting procedures in study 1 did not highlight any issues which the analyst couldn't already identify within the thematic analysis itself).

7.4 Findings

7.4.1 Overview

The analysis resulted in 27 codes which were organised into themes. Themes included 'Paying for treatment', 'Practitioner autonomy and structural constraints within treatments', 'Practitioners' treatment approaches' and 'Working with others'. Table 18 displays a list of these themes and codes.

Table 21: Themes derived from analysis

Themes	Codes
Paying for treatment	<ul style="list-style-type: none"> • Being available for patients anytime • Pleasing private patients during treatment • Seeing the patient for longer in private practice • The ethics of over treating in private practice • Uncomfortable with charging in private practice • NHS an opportunity to give back

	<ul style="list-style-type: none"> • Perceptions of differences in patients who can afford to pay for treatment
Practitioner autonomy and structural constraints within treatments	<ul style="list-style-type: none"> • Practitioners value autonomy • Limited treatment time • Limited number of treatment sessions • Treatment techniques to fit the time available • NHS osteopaths negotiated treatment times • NHS reductionist view of the body • Paperwork • Additional responsibilities • Stress in the NHS • Keeping waiting lists down • Bending the rules • Access to patient notes • Insurance companies limiting number of treatment sessions
Practitioners' treatment approaches	<ul style="list-style-type: none"> • Holistic approach • Evidence-based medicine • 'Holism is a dirty word' • Goal of treatment self-management not cure • Chronic patients become dependent on passive treatments • Pressure to discharge people quickly • Individualised care

Working with others	<ul style="list-style-type: none">• Working in a team is supportive• Learning from others• Isolation in the NHS- lack of relationship with GPs• Isolation in private practice• Concerns over private practitioners working in isolation• Private practitioners seeking other healthcare practitioners• Osteopaths' perceptions of NHS physiotherapy• "Osteopathy belongs in the NHS"• Osteopathy's future in the NHS may be uncertain• Referrals to NHS practitioners• Referrals to private practitioners
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The similarities and differences between physiotherapists' and osteopaths' experiences of treating LBP within the NHS and private practice will now be discussed under the main themes of the study. Following this an analysis of the factors and processes identified with in practitioners' experiences which might explain the differences between treatments and HCS described by patients (study 1) will be discussed.

While the findings are presented in the practitioners' own words it is recognised that other peoples' (for instance patients') versions of events may differ. All participants have been given pseudonyms to protect their anonymity and identifiable data has been removed. The therapy which participants provided, as well as the HCS which they provided it in is also listed after their pseudonym. Participants will be referred to as practitioners throughout the results section.

7.4.2 Paying for treatment

A number of differences between practitioners' experiences of NHS and private treatments appeared related to the fact that patients paid for private treatments.

Practitioners working in the private sector discussed how their financial success was dependent on seeing enough patients and providing quality care. Practitioners identified a number of factors which were crucial to maintaining patient custom including being available for patients most of the time (even on weekends), offering an explanation of the patient's LBP and providing effective treatment. Although most NHS practitioners did not discuss motivations to keep the patient happy in the same way, a couple of NHS osteopaths discussed trying to make themselves available outside of treatment times in order to support patients. These NHS osteopaths appeared to want to work in the same way across both HCS, but found it difficult to do so within an NHS model.

“what you have to do is show regard and set a tone for the practice, where people know that you are always available...from a business perspective, that is the most effective way of maintaining loyalty.” **Phillip, private physiotherapist**

“ if you don't see your patient quickly and if you're not in the right place and if you don't offer a reasonable explanation of what is wrong, and you don't offer a reasonable treatment with a reasonable outcome, you don't survive.” **Simon, NHS and private osteopath**

“my inclination is to say, you know, here's my telephone number, if you have any problems, phone me up. However, that stands in some conflict with the way the NHS likes to do things and also it then also creates problems for me because, from a private practice point of view, if somebody phones me up, I can deal with those things that are under my control, if a National Health Service patient phones me up, it's much more difficult, I don't have access (to notes).” **Sam NHS and private osteopath**

Many private practitioners felt that the patient paying for treatment altered the dynamic between them and the patient, as the patient had greater expectations once they were paying for treatment. For instance, practitioners felt that patients expected them to use the full amount of treatment time, even if the practitioner had finished treatment in less time. Other practitioners talked about needing to please patients because they were paying for treatment and some practitioners discussed providing hands on treatment techniques to make patients happy as they perceived that patients expected this. As physiotherapists used hands on techniques less often in the NHS (see more below), pleasing patients by using more hands on techniques privately meant there was a difference between NHS and private physiotherapy. Osteopaths usually provided hands on techniques in both HCS. However, one osteopath who was more pushed for time in the NHS and who used techniques to please patients privately noted that he would use quicker hands on techniques (manipulations) in the NHS and then add techniques which he felt were less effective in his private practice to fill the full amount of treatment time to keep patients happy.

“you feel like you have to see them for the whole half an hour and you have to be treating them for the whole half an hour because they almost expect that because they're paying, whereas NHS – you know, you can – if you just need to see them for 10 minutes, then you see them for 10 minutes and you spend the rest of that half an hour session catching up on paperwork or whatever.”

Caterina, NHS and private physiotherapist

“a little bit longer on the manual therapy side in the private practice and a little bit more treatment than assessment and advice. I think people expect it and people – get on board a little bit quicker if – you know, if they enjoy the experience and they find the treatment beneficial. If you improve something on the first session they are much more likely to come back and come on board with what you are asking them to do.” **Helen, NHS and private physiotherapist**

“So there's a little bit more kind of face time type you know ... cosseting in private medicine I think... Slight difference in how I treat my private patients and my NHS patients in the treatment of most things, stretching the muscles

to then manipulate, I think has no effect, but I think the manipulation does the - releases the muscles. And again, my anecdotal evidence for this is I don't - because I have less time in fifteen minutes with my NHS follow ups, I don't tend to do the stretching and I just use the manipulation... I think we over treat in private practice is what I'm saying, so I think we could cut down. But, again, I think a patient comes in expecting to have, you know, and although nothing in any literature you'll get from me will say you pay forty pounds for thirty minutes, patients still expect, they know I book my appointments at thirty minute intervals, they expect from minute one, me to be attentive to them until minute thirty." **Terry, NHS and private osteopath**

A minority of practitioners discussed how they would see a patient for longer to ensure financial success in their private clinics compared to in the NHS.

"you would see people for that little bit longer, you know, from the financial perspective as well as the fact that I want you walking out of here saying that I have absolutely no problems at all." **Ryan, Private Physiotherapist (recently left the NHS).**

Other physiotherapists and osteopaths discussed finding such practices disturbing and felt that practitioners had an ethical responsibility to not over treat patients. Some practitioners even felt uncomfortable with charging private patients, these practitioners liked their NHS work partly because they did not have to charge patients and many discussed letting patients off charges in their private clinics.

"I worked in a private practice where I got told I was discharging patients too quickly, I was told to see them for longer and I was told that I must now discharge them dysfunction free; well there's no such thing, everybody's got dysfunction ... it's whether that dysfunction is causing pain. If it's not causing pain, leave it alone, you are likely to make them worse but I was told to, I left there pretty quick." **Donald, private and NHS physiotherapist.**

" [the NHS] just liberates you; there's no - it feels like the relationship is very clean, because there's no, you know, you don't have to entrap - lots of people talk about, entrapping people; you can't be accused of entrapping them or

getting them back for no reason because there's no transaction between you."

Bonnie, NHS and private osteopath

"we have a lot of concessions and a few patients make us cakes and I had one guy who was a fossil hunter, he paid me in fossils." **Leanne, private and NHS osteopath**

Whilst many private practitioners discussed the need to make money some NHS osteopaths discussed how their lower paid NHS work provided an opportunity for them to give something back. This was not mentioned by NHS physiotherapists, who usually started their careers in the NHS.

"when I graduated, I was perfectly happy to go out to private practice, make pots of money, drive around in a Porsche wearing sunglasses; now I've become slightly more socialist about the whole thing and, evangelical, to some degree, in that I would like – I would like as many people as possible to benefit from what I see as simple common sense." **Sam, NHS and private osteopath**

Many physiotherapists and osteopaths who worked across both HCS also discussed how payment meant that their private patients were more motivated to engage with and adhere to treatment than the patients they saw in the NHS. Private patients were also sometimes referred to as more affluent and sometimes also more acute as they could afford to access treatment quickly, rather than wait on NHS waiting lists (which often meant patients had become chronic by the time they were seen). Sometimes NHS patients were also less educated about their own conditions, which meant further education was needed in NHS treatments, than in private. Many practitioners who worked across both HCS valued the variety in patients that this enabled them to see. A few practitioners felt that their patients did not vary greatly between HCS, some of these practitioners had their private practices in less affluent areas, or had their NHS clinics situated in more affluent areas and some worked in clinics designed to treat acute or sub-acute LBP in the NHS.

"someone who's coming to pay to get themselves fixed, they want to get fixed and most of them want to get fixed as quick as possible. Within the NHS, people aren't paying, they've been told to come along because this person can

help you, they don't necessarily have the same level of motivation or desire to actually follow through on the actions, because they're not – having made that conscious decision... so they tend to be less compliant on exercises." **Scott, NHS and private osteopath**

"in private practice you are dealing with far more acute injuries; I had a guy come to see me, he has pulled his back four hours before he'd seen me, usually it's four months in the NHS. So ... that obviously brings in a whole different – perspective of care and what that patient needs." **Ryan, NHS and Private physiotherapist**

"the starting point in terms of understanding (their condition), for the majority of people in the NHS, is zilch, you know, they're coming in with no knowledge about ... And so, not only have you got little time, you've not got – your starting point is much, much more crude, in a way, and you've got further to travel and less (time) to do it in." **Bonnie NHS and private osteopath**

"I still look forward to seeing my next new NHS patient, cause I know it'll be something challenging." **Simon, NHS and private osteopath**

In comparison to private patients, NHS patients were sometimes described as more stressed as they had often had to wait longer for treatment, or had problems with parking in hospitals. This meant the practitioner had to work harder to form a relationship with the patient.

"whether it's because of waiting lists, waiting times- I think often you've got a bit of a battle sometimes to- to almost try and win them over again and sometimes they are a bit angry with it but sometimes taking a wee bit more time and explanation to get round it." **Dave, NHS and private physiotherapist**

7.4.3 Practitioner autonomy and structural constraints within treatments

Private practitioners valued the autonomy that the private sector offered them. They could choose work hours that fit around their lifestyle, how much time they spent with patients and the treatment approach that they felt would be most suitable.

“I can spend as long as I want to with a patient, I can choose whatever treatment techniques I want to... I can charge what charges I want to charge, everything really. These are my decisions, I've got autonomy.” **Martin, private physiotherapist**

Practitioners working in the NHS often described less autonomy and were limited by structural constraints of the HCS, in particular the amount of time that they had with patients or the number of treatment sessions that they were able to provide. A lack of time in NHS treatments meant that some NHS physiotherapists had to rush through treatments. Sometimes a lack of time was discussed as limiting the practice of certain modalities used in NHS physiotherapy, such as hands on treatment (massage, mobilisations and manipulations) and acupuncture, meaning that exercises were often the sole treatment that was given. However, practitioners noted that doing something to reduce the patient's pain (with hands on or acupuncture) prior to prescribing exercises was important because it convinced the patient that the practitioner could help them and made them engage more with their treatment.

“in private – I just tend to spend a little bit longer going through things, whereas in the NHS, I tend to be a bit quicker – rushing through things a little bit more, really.” **Carina, NHS and private physiotherapist.**

“acupuncture is one of the things that I practice and that's not so easy to do now because – ideally we would see people in quick succession, maybe a couple of appointments a week, then once a week – for 6 or 8 sessions, but there is pressure on to discharge people quickly.” **Helen, NHS and private physiotherapist**

“(In the NHS) you're only going to get a couple more treatments if that, so you've got to give them the exercises to do, so they then give them just the exercises.....but they've not convinced (the patient) that this is the right model because they've not changed their pain, they've not built that trust

relationship and that's probably the crux of what the majority of people do privately...it works better because you're using your hands on to change their pain to get their buy in so that they believe you and that's what the NHS used to do and is slowly losing, um because it's under too much stress, haven't got enough appointments...you'll find far more privately are doing hands on."

Brian, NHS and private physiotherapist

A few NHS osteopaths also discussed limited time influencing their practice; Terry discussed how he chose treatment techniques to fit the time available and was still successful.

"because I have less time in fifteen minutes with my NHS follow ups, I don't tend to do the stretching and I just use the manipulation...I think we over treat in private practice is what I'm saying, so I think we could cut down." **Terry,**

NHS and private osteopath

Other NHS osteopaths did not complain about time restrictions; they had managed to negotiate the treatment times that would best suit their practice (30 minutes).

"the osteopaths who work in the PCT came to an agreement with the PCT of how long we want (in treatments)." **Michael, NHS, private osteopath**

Some NHS osteopaths viewed the NHS as being restrictive in its protocols to focus only on specific areas of the body (in most services LBP). Osteopaths noted that their NHS services were therefore a somewhat reduced form of osteopathy practice as usually osteopaths like to take into account and treat the patient's whole body. This was not discussed as restricting practice in NHS physiotherapy; as discussed in the next theme on treatment approaches, physiotherapists in the NHS did not discuss using a holistic approach.

"there is a slightly reductionist approach in terms of the acute back pain clinic that we're running, mostly because we're treating acute back pain, so it tends to be limited to ... lumbar and dorsal spine pain." **Sam, NHS and private osteopath**

Some NHS physiotherapists and NHS osteopaths complained about the amount of paperwork that they had to complete within their NHS practices. For some this

paperwork had to be completed within the patient's treatment time or unpaid, after the practitioner's working hours, which frustrated practitioners.

"the NHS is a complete pain in the arse, just because of the – you know, the rafts of paperwork..." **Sam, NHS and private osteopath**

"So if there are any admin bits, you are relying on patients not attending or patients cancelling or- you know- not spending the full half an hour with them, in order to catch up on your paperwork. So the chances of me finishing on time are very slim and it's very unusual for me to finish on time during the week and that's quite stressful." **Caterina, NHS and private physiotherapist**

In addition to often having shorter treatments than in private practice, many NHS physiotherapists had additional responsibilities such as training other staff, looking after the service or in the case of more junior staff- spent lots of time still learning in supervision. NHS osteopaths seemed to perform just clinical duties when they worked in the NHS, they were all also fairly experienced practitioners. This meant that the already stretched NHS physiotherapists had even more to do than the NHS osteopaths, but no more allotted time, having to take time out of treatments in order to keep up with their responsibilities. This was often reported as stressful. NHS physiotherapists who also worked in private practice therefore valued being able to focus purely on the patient in their private practices, which they felt provided a better service for the patient and was refreshing for them.

"the patient does get a better service at the end of the day (in private practice)...treatment time is devoted to that patient, you haven't got people – interrupting you and phone calls to answer and, you know, other staff to worry about, and there's space to treat the patient... I mean (in the NHS) we're pushed – you know – every minute of the day really, you don't have time to have much of a break at all. It's manic, it's completely manic from start to finish... So it has caused quite a few stresses and problems, you know, sickness in the Department." **Helen, NHS and private physiotherapist**

"too much to do and not enough time to do it." **Ryan, NHS and private PT**

Treatment sessions were time limited in both NHS treatments. NHS physiotherapists reported not always being able to give as much treatment as a patient needed as they were under pressure to see a large number of new patients each week to keep waiting lists down. They therefore could not include many follow up appointments in their weekly schedule. NHS osteopaths were also under pressure to keep treatments to a minimum, but did not discuss discharging patients when they still felt they needed further treatment. If the patient was not responding to treatment then they instead referred the patient on to a more appropriate treatment. A few NHS osteopaths discussed trying to bend the rules to keep patients coming back for longer if they were able to get away with this, these osteopaths appeared to be less integrated into the NHS (worked fewer hours in the NHS and less closely with other healthcare professionals in the NHS).

“that's the frustrating thing in the NHS, you've got to see so many new patients a week and it only allows so many follow-up sessions- some of my NHS patients I think – oh – I could really do with one more session – but actually – I can't fit them in for another.” **Caterina NHS and private physiotherapist**

“I just give a bit more (treatment) and I just wait to see if I'm told off and if I'm not, I just keep going. [laughter from participant] So I don't keep – gatekeep quite as hard” **Bonnie, NHS and private osteopath**

One aspect of the NHS that was appreciated by physiotherapists and osteopaths was being able to access patients' history and previous scans on the NHS, which provided the practitioner with more control than in private practice where practitioners were reliant on patients remembering all the crucial details of their history.

“from an NHS point of view, what does make life easier is ready ... on a computer screen access to a patient's medical history, any investigations, imaging, etc. etc.” **Sam, NHS and private osteopath**

A few private practitioners noted that private insurance companies have in some cases restrict the number of treatment sessions which practitioners are allowed to provide. This indicates that even private practitioners are sometimes restricted in their autonomy. However, the majority of patients did pay for treatment themselves directly,

rather than through insurance companies meaning that this might be less applicable in the case of physiotherapy and osteopathy for LBP.

“BUPA etc, are now trying to squeeze you. You must do it within six sessions or eight sessions or you risk losing your contract.” **Paul, private and NHS physiotherapist**

7.4.3.1 Practitioners’ treatment approaches

Treatment approaches seemed to differ somewhat between physiotherapy and osteopathy as most osteopaths, but only a few private physiotherapists (who did not work in the NHS) talked about how their approach was holistic. A holistic approach usually included looking at the whole of the patient’s body, not just their back, and also included taking into account psychosocial factors or events that were going on in the patient’s life. Many osteopaths saw this as the defining feature which separated their practice from that of other western medical treatments (such as physiotherapy). A few NHS osteopaths did not discuss how their practice of osteopathy was holistic [and these osteopaths were more oriented towards evidence-based medicine (EBM) discussed further below].

“So you do need to look at whether the person is going through grief or – they’ve just had a huge fall or a car accident that may have caused their back pain or congenital problems that have caused their back pain.” **Charlotte, private osteopath**

“So I’m taking account of the whole body – and I also take account of activities they’ve done.” **Phillip, private physiotherapist**

Physiotherapists who worked in NHS talked about practising EBM, this was discussed less by NHS osteopaths, although a few of them (those who did not discuss holism) did discuss the importance of EBM and how some aspects of osteopathy lack evidence. These osteopaths were all quite heavily involved in the NHS where they worked closely with other non osteopathic healthcare professionals. One NHS osteopath described

how he had become more concerned with practising EBM after working in the NHS for a while.

“I guess my medical bent has come out even more strongly by working with so many doctors [in the NHS]. [laughter from Participant] I’ve distanced myself from the – you know, the more esoteric aspects of osteopathy completely.

Interviewer: Can you just clarify what you mean?

Practitioner: I’m going to have to be very careful here. [more laughter] I’m not sure that osteopathy is helpful in things like asthma and colic and the more cranial end of it ... they’re very vociferous in their beliefs but at least we have some kind of evidence base to back up what we claim.” **James, NHS and private osteopath**

Another NHS osteopath indicated that holism had become a dirty word in the NHS indicating that this approach is in some way stigmatised.

“I think they always see this holistic label, which is a dirty label now because it’s all sort of lovey dovey people who sort of love you better.” **Leanne, NHS and private osteopath**

Both osteopaths and physiotherapists, within both HCS agreed that part of the goal of treatment was for the patient to learn to self manage their condition through for instance exercises. Many practitioners did not feel that they could provide a cure for every LBP patient, but that they could relieve some of the patient’s symptoms and enable them to self-manage their pain more effectively.

“Very occasionally you do actually take a patient the whole way and they do lose their pain, but that’s not really the game, the game is to teach them the management of it.” **Simon, NHS and private osteopath**

In addition to this osteopaths also always provided some kind of hands on treatment, usually involving spinal manipulations, but often also massage or mobilisations. Some physiotherapists also provided these techniques, but these appeared to be used less in the NHS where physiotherapists relied more heavily on only getting the patient to self-manage their condition. There appeared to be a number of possible reasons for this: Firstly, as discussed above physiotherapists were more limited in treatment time in the

NHS which may limit the use of some techniques (particularly mobilisations or massage). Although manipulative techniques are quick to use, many NHS physiotherapists are not trained in these techniques (these techniques are usually taught at a postgraduate level), whereas osteopaths are. In contrast, as discussed above, the longer treatment time and different motivation (to please patients) in private practice may mean that physiotherapists are more inclined to use hands on treatment techniques in private practice. A further reason may be that many physiotherapists who worked across both HCS tended to see more chronic patients in the NHS and noted that chronic patients are better treated by active treatments (like exercises) to avoid the patient becoming dependent on the practitioner, which they felt would happen if they used more passive treatments to help alleviate the patient's pain. I sought out a few NHS physiotherapists who were trained in manipulative techniques to examine this further. These practitioners discussed how hands on treatment is used less in the NHS because of the emphasis on self-management and the pressure to discharge people quickly. These practitioners also both discussed pressure to please patients in private practice. It may be a combination of these factors which leads to physiotherapists not always using hands on treatment techniques in the NHS, whilst osteopaths almost always do.

“I tend to try to keep hands off because you often find that if you are treating these chronic patients with hands on techniques like massaging, mobilisation, manipulation, they tend to get quite – it's a generalisation – but they tend to get quite reliant on those techniques.” **Caterina, NHS and private physiotherapist**

“but there is pressure on to discharge people quickly and for people to self-manage and not really to have treatment– rely on the therapist so much.” **Helen, NHS and private physiotherapist (who uses manipulative techniques)**

Despite the difference in talk about holism, practitioners of all types talked about individualising care. Physiotherapists and osteopaths from both HCS noted that patients varied in their presentations and needs and therefore treatments needed to be individualised accordingly.

“you have to assess every individual on an individual basis and tailor the treatment to their specific needs.” **Scott, NHS and private osteopath**

7.4.3.2 Working with others

Many physiotherapists discussed how the NHS enabled them to work in multi-disciplinary teams. This was seen as beneficial as the practitioner felt supported, could discuss patients with other staff and continued to learn and develop from interactions with other clinicians.

“[In the NHS] we all share concerns and difficulties about patients and – you know – it helps to offload, really, it’s quite nice. It gets you through the day... Continually learning – challenging myself, really... and it’s a really good team approach, you know, we have a really good staff atmosphere.” **Helen, NHS and private physiotherapist**

Some NHS osteopaths reported a similar experience and enjoyed the multidisciplinary nature of work in the NHS. However others remained quite isolated in the NHS, often they were not paid for any time except that in which they saw patients, so they felt that they could not afford to stay around and build relationships with other colleagues. This seemed to have a negative impact on the amount of referrals that they received from GPs.

“I never see the other practitioners at all... because I’m not prepared to cut down the length of the appointments in order to communicate with the doctors more fully, I don’t think that relationship is developed as much as it could be.” **Bonnie, NHS and private osteopath**

In contrast most private practitioners reported frequently working in isolation, even those who worked in practices with others didn’t often spend time with other colleagues as their time was mainly dedicated to seeing the patient. Some practitioners expressed concerns that isolation in private practice might mean that these private practitioners might not keep up with the latest in good practice.

“a lot of osteopaths can be working in isolation. Sometimes they’re solo practitioners and I think that has the problem of people becoming unconsciously incompetent...whereas if you’re in a team, you can share good practice.” **Leanne, private and NHS osteopath**

The isolation in private practice meant that some private osteopaths sought out networks of other osteopaths or other non osteopathic clinicians to discuss patients with or to refer onto. This was rarely discussed in private physiotherapy.

“(I’ve) developed a network of other therapists – well, this area; so counsellors, massage therapists, sports therapists – some consultant sports specialists, sports injury people... I’ve also got a number of osteopathic colleagues that I make contact with on a regular basis and we sit and discuss clinical issues.” **Fred, private osteopath**

Almost all of the NHS osteopaths discussed their perceptions of NHS physiotherapy. It appeared that the NHS osteopaths felt in competition with the NHS physiotherapists as they provide a similar service and as an under-represented NHS group the osteopaths appeared to feel at a disadvantage. Some NHS osteopaths tried to show their worth by claiming to provide treatment that was distinct from NHS physiotherapy and some perceived that NHS physiotherapy did not really provide treatment at all (as it was based more on assessment and exercises than hands on techniques). It was apparent that the NHS osteopaths felt that osteopathy belonged in the NHS and also felt uncertain how long it might survive there. No NHS physiotherapists discussed perceptions of osteopaths; none mentioned working with any osteopaths.

“they (physiotherapists) just triage them and they don’t treat them – a lot of them, whereas we do... I mean, the physios accept that we’re there and we kind of liaise and work with them but, you know, the Health Service is an internal market and it backs up – you’re always trying to – you know – you’re always trying to justify your existence as a private provider in the Health Service... The minute we drop it, they’ll turn round and say, oh well, you haven’t got the evidence, have you? So, yes, you do feel like you’re trying to prove yourself all the time.” **James, NHS and private osteopath**

“I want osteopathy to find its place [in the NHS]. So we’ll always accept whatever ... you know, we’ll always accept referrals to us and I think it’s – I think, basically, the proof of the pudding has been in the tasting.” **Leanne, NHS and private osteopath**

Almost all practitioners discussed sometimes referring patients on to other practitioners. Private practitioners sometimes referred patients to other private services that the practitioner themselves did not provide, whereas NHS practitioners did not refer onto any private services. The majority of private practitioners could only refer to the GP if they felt that the patient had a serious pathology that required investigation in the NHS. In contrast NHS practitioners could fairly easily refer patients on to other NHS services, often through specified referral pathways. A few practitioners who worked across both HCS discussed how they were taken seriously in referrals when they referred from their NHS clinics, but not from their private clinics, indicating further isolation in private practice.

“if I’m phoning a GP from ... from one of the (NHS) hospitals or the GP practice within which I work, then, invariably ... they will take the call, they will speak to me on even terms, which is, I would argue, how it should be. If I phone that same GP in the afternoon, from my private practice, the response is completely different; you know, same person, same profession ... I feel that’s a shame.” **Michael, NHS and private osteopath**

7.5 Factors affecting patients’ experiences of NHS and private treatments

In this section the overarching analysis of factors and processes identified within practitioners’ experiences which might explain the reasons for patients’ experiences of variations in treatment between HCS (Study 1) is presented. First it is important to note that practitioners’ reports of how physiotherapy and osteopathy vary between HCS are consistent with patients’ reports of variations between the NHS and private treatments (Study 1). This gives credence to the notion that these factors might actually vary between treatments, rather than just in patients’ appraisals of their

treatment. The factors that were described as varying between the NHS and private treatments in this study will therefore briefly be reviewed in relation to variations in private and public treatments reported by patients. Following this the factors and processes which might explain these differences will be presented.

In comparison to private practice, NHS physiotherapy contained less hands on treatment and more teaching of self-management (for instance exercises), was more rushed, did not use treatment techniques which took longer (for instance hands on techniques or acupuncture, which are a common part of physiotherapy) and was less holistic. These differences are consistent with the reports of patients who felt NHS physiotherapy was more rushed, less holistic and focussed on getting the patient to take care of their own condition rather than helping them to resolve it with 'treatment'. Patients also noted that NHS compared to private physiotherapy was less individualised, offered the patient less choice and control within treatments and took a more paternalistic approach. Whilst NHS physiotherapists did not confirm these factors in the current study, it may well be that the rushing reported by physiotherapists and the prescribing of exercises (rather than for instance using hands on techniques) created such patient perceptions (this will be discussed further in the description of the model below). The NHS physiotherapists may also have been less willing to discuss such aspects as they are not in line with the patient-centred care that their governing body outlines (e.g. CSP, 2012).

Osteopathy also appeared to differ between the two HCS, although to a lesser extent than physiotherapy, which is also consistent with patients' experiences. Osteopaths still used hands on techniques across both HCS, although a deviant case analysis indicated that one NHS osteopath restricted the use of more time consuming and less effective techniques in his NHS, but not private, practice. Whilst a few more integrated NHS osteopaths did not report using a holistic approach, the majority did and felt this was a defining feature of their practice. With the exception of these few deviant cases the osteopaths' reports are consistent with patients' reports that osteopathy varies less between the NHS and private practice than physiotherapy. Patients' reports of osteopathy using hands on techniques and a holistic approach (which contributed to patients feeling listened to, understood and that their treatment was individualised to their needs) are also consistent with practitioners' reports.

The factors and processes that may be responsible for the above variations in therapies between the NHS and private practice will now be discussed. Figure 9 provides an overview of these factors. This analysis indicates that patients' experiences of treatment might be influenced by five factors which differ between the NHS and private practice: (a) practitioner motivations, (b) structural constraints, (c) practitioner beliefs about treatment approach, (d) practitioners' perceptions of differences in patients between NHS and private settings, (e) the practitioner's relationships with other healthcare professionals. These factors will now be discussed in relation to how they vary between HCS and in relation to the existing literature. Where physiotherapy differed from osteopathy potential reasons for this will be discussed too.

(a) Differences in practitioner motivations, to keep the patient happy in order to maintain their custom in the private sector and to clear waiting lists in the NHS, appeared to be related to differences in treatments. More time was given to private patients as the practitioner perceived that they would expect this. Hands on treatments were also used to please patients in the private sector, but used less by NHS physiotherapists. It has previously been argued that private doctors provide personalised treatments in order to maintain patients' custom (Strong 1979) and dentists working in the private sector have discussed needing to provide a better service in the more competitive private market than is necessary in the NHS (Calnan et al, 2000). Indeed financial success has been found to be associated with patients' satisfaction (Brown et al, 1993). Generally most osteopaths did not report using more hands on treatments to please patients in the private sector as they still used these techniques in the NHS. However, a deviant case analysis indicated that when osteopaths are very pushed for time then they do limit the type of hands on techniques they use to those which can be performed quickly, indicating an interaction between practitioners' motivations and structural constraints (as shown by the dashed arrow on figure 1). However, more time consuming techniques were still used to fill in treatment time and so keep the patient happy in private practice.

In contrast the NHS was associated with a motivation to keep waiting lists down. Whilst the NHS physiotherapists reported having to discharge patients earlier than they felt happy with because of this pressure, the osteopaths generally referred those who were not fully recovered to a more appropriate service, or some bent the rules and continued to see such patients. It is perhaps unsurprising that some osteopaths act in a

different way to the 'usual' NHS employees, given the way that they are used to working in private practice (where they both trained and continue to work), trying to meet the patients' needs and please them as much as possible. Such practice appears similar to Dew's (2000) description of medical acupuncturists working in an orthodox medical system who appeared to be deviant insiders, able to maintain practice from a traditional Chinese approach and yet appear conventional to their medical colleagues in order to maintain their medical status. The osteopaths who were bending the rules appeared to be just following their trained and practised approach of treating the patient until they were recovered, whenever possible. Equally, since some osteopaths appeared less enthusiastic about the discourse of EBM used in the NHS and more interested in holism, it may be that under the 'authority' of holism they perceive a greater need to achieve patient satisfaction. Indeed, it has been argued that a patient-centred model (proposed to be highly similar to a holistic approach; Saks, 1993; Paterson and Britten, 2008) puts the patient at the centre of treatment decisions, meaning that their satisfaction could be seen as more primary a concern than in an EBM approach, which puts the practitioner (and their evidence) at the centre of treatment and the decision making process, meaning that patients individual needs or preferences can more easily be neglected (Bensing, 2001).

(b) Structural constraints

Structural constraints such as the amount of time in treatment, the amount of responsibilities or tasks which practitioners had to perform in a day and the specific patient group that practitioners were allowed to treat (LBP only rather than the whole body) differed between HCS. This limited a variety of aspects of treatment, such as the treatment techniques adopted and the approach of the practitioner (such as their ability to be holistic or having to rush through a treatment). Such structural constraints have been reported as limiting practice elsewhere, for instance acupuncturists have to sometimes change their practice to treat several patients at once in different rooms in the NHS (Bishop et al, 2012) or use only one point instead of several (Paterson and Britten, 2008). Structural constraints also limit holistic elements in acupuncture (Bishop et al, 2012; Paterson and Britten, 2008) and in GP's practice (Hasegawa et al,

2005). The NHS services focus only on treating specific conditions (e.g. LBP), which is more reductionist than private practice where practitioners are able to treat the patient's whole body. This different way of working limits osteopathy practice and has been noted in other NHS CAM services as a barrier to providing a holistic service (Donnelly, 1995; Wye, Shaw and Sharpe, 2008).

As discussed above it is possible that the need to rush treatment described by NHS physiotherapist might explain the more paternalistic and generic (non-individualised) treatments described by patients. Indeed previous studies have shown that paternalism is more apparent in shorter consultations (Morgan 1991, Meredith 1993) and that practitioners struggle to individualise care when time is limited (Bishop et al, 2012).

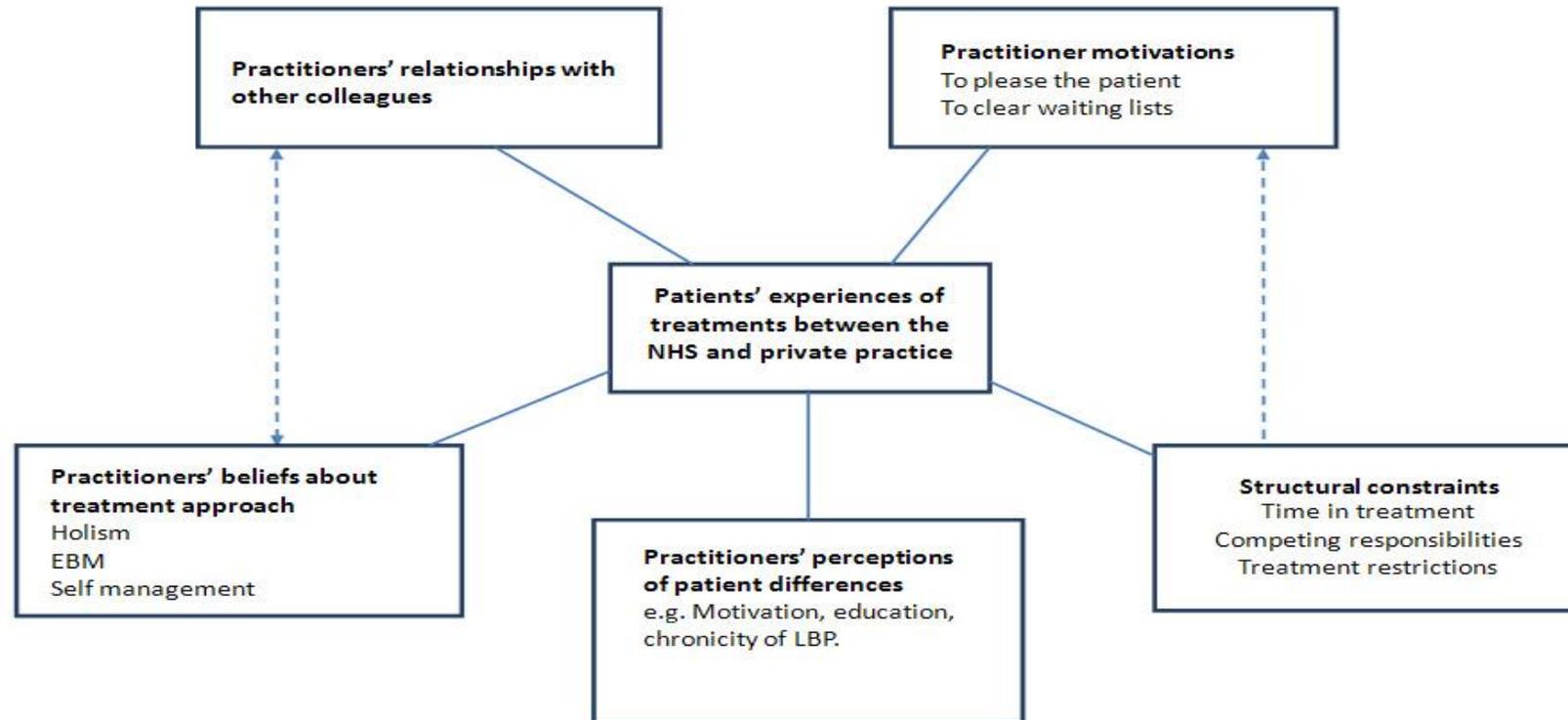


Figure 9: Factors affecting patients' experiences of NHS and private treatments

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The stress reported by physiotherapists from the many demands put on them by the NHS' structural constraints could also potentially cause physiotherapists to interact differently with patients. Physiotherapists have previously reported being stressed by organisational problems at work (such as high workload and lack of autonomy; Santos, Barros and Carolino, 2010). This is similar for doctors, whose stress levels are known to be associated with poorer clinical care (such as poorer communication and making clinical errors; Firth-Cozens, 2001; Firth-Cozens and Greenhalgh, 1997).

NHS osteopaths appeared less pressed for time than the physiotherapists, some of them had negotiated longer treatment times. In addition the extra responsibilities reported by NHS physiotherapists, which were usually not accorded enough extra time, limited time in NHS physiotherapy treatments creating a larger difference between private and NHS physiotherapy than between NHS and private osteopathy. These differences likely explain some of the reasons for patients' appraisals varying more greatly between HCS in physiotherapy than osteopathy.

(c) Practitioners' beliefs about treatment approach

Differences in practitioners' beliefs about treatment approaches were apparent between HCS. Physiotherapists who worked only in the private sector sometimes used a holistic approach, the NHS physiotherapists (or those who worked across both HCS) did not discuss holism, indicating that holism may be more valued by private physiotherapists. It was not entirely clear why physiotherapists differed in this way. Structural constraints of time in the NHS do not appear to explain this phenomenon as even those who worked in both HCS did not report adopting a more holistic approach in their private clinics when they had more time and greater autonomy. It may be that practitioners with beliefs more consistent with a holistic model of healthcare prefer to work in private practice and so choose to do so, whereas practitioners who are less holistic in their orientation choose to work in the NHS and sometimes supplement this work with private work. Alternatively it may be something about the NHS itself which discourages holistic beliefs which means the NHS physiotherapists do not carry holism over into their private practice. The stigmatisation of holism discussed by some of the osteopaths might explain this. The discourse of EBM has been argued to represent a form of social control, which allows orthodox (biomedical) medicine to maintain its privileged position of power over other

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therapies (such as CAM therapies) which do not share its mechanistic, or biomedical model (Villanueva-Russell, 2005). It may be here that as the discourse of EBM appears dominant in the accounts of physiotherapists its use limits the adoption of holistic principles. Indeed Frankford (1994) argues that EBM is positioned in direct opposition to holism.

Most osteopaths used a holistic approach, however osteopaths who were more fully integrated into the NHS did not appear to do so. It appeared from the reports of a few osteopaths that there was a pressure to be less holistic in the NHS and to act in a more (bio) medical way and this was partly attributed by the practitioners to the discourse of EBM found in the NHS. It may also be possible that practitioners with views sympathetic to the discourses of a more biomedical, EBM model have sought out positions in the NHS which are more integrated and cut down their private practice. The osteopaths who maintained their holistic approach in the NHS appeared somewhat less integrated into the NHS, still worked in private practice for much of their time, so this may well be another example of how NHS osteopaths are deviant NHS practitioners (Dew, 2000). As with the physiotherapists it is not entirely clear whether different HCS might be associated with different discourses (the NHS with EBM and private practice with holism), or whether practitioners sympathetic to such discourses might seek out places to work which are congruent with their beliefs.

Interestingly whilst all practitioners believed self-management was important, NHS physiotherapists appeared to emphasise teaching self-management strategies (such as exercises) over hands on techniques. Private physiotherapists and osteopaths in both HCS used hands on techniques in addition to teaching self-management strategies. These differences between NHS physiotherapy and the other three treatments are consistent with patients' reports (Study 1). The deviant case analysis with physiotherapists who had manipulative skills (a quick hands on technique that would be easy to use in shorter NHS treatments) indicated that the emphasis in the NHS on teaching self-management techniques might be at least partly responsible for physiotherapists' infrequent use of hands on treatments. Many other NHS physiotherapists spoke about how chronic patients should be offered active self-management, rather than hands on techniques to prevent reliance on such techniques. So it seems likely that these beliefs could be responsible for NHS physiotherapists providing more exercise based and less hands on treatment, whereas in private practice many of these physiotherapists reported using hands on techniques to please the patient. Incidentally NICE guidelines for LBP indicate that patients with persistent LBP (including chronic pain patients whose pain has lasted up to a

year) can be offered hands on techniques (manipulations, mobilisations or massage) or acupuncture (another passive treatment). Evidence also suggests that manipulation may have longer lasting and slightly larger effects compared to exercise therapy for LBP (UK BEAM, 2004). It therefore appears that the NHS physiotherapists are not basing their beliefs that chronic patients should not receive hands-on treatments on up to date EBM guidance, but on something else. It may be that discourses encouraging self-management in the NHS have widely influenced the behaviour of the NHS physiotherapists. Such a discourse would certainly be consistent with the pressures that NHS staff are under, to see the patient for a minimum time and for them not to re-attend treatment or become dependent on using the NHS service. It is not entirely clear why NHS osteopaths might not have been influenced by a self-management discourse in the same way. It may be because their training and background in private practice (where they wish to please the patient) has carried over into the NHS. It may also be because osteopathic training appears to focus more on hands on techniques than the training of physiotherapists, which may give osteopaths more confidence in using these techniques. Alternatively, it may be that as osteopaths are almost always employed on any quality provider contracts that the NHS commissioners understand they are using these treatment techniques and do not argue against this, indicating to the osteopaths that this is entirely appropriate.

(d) Practitioners' perceptions of differences in patients between NHS and private settings

Practitioners discussed how patients sometimes differed between HCS. Some NHS patients were described as less motivated to adhere to self-management advice than private patients, others were described as less educated or more chronic than those seen in private practice. These differences might have impacted on treatment itself through the practitioners' perceptions of the patient. For instance, if the practitioner perceived NHS patients as likely less motivated then they might have a harder time persuading them to use active treatments (like exercise) to manage their condition, this would have more of an impact on NHS physiotherapy which tended to rely more on such techniques. Secondly, less educated patients might require practitioners to spend longer educating the patient how to self-manage as they might have lower levels of health literacy to begin with (as discussed by an osteopath). This might mean that less is achieved in a treatment session, especially when time is limited, and may then limit the rate at which a patient progresses in treatment. This would certainly be more difficult in treatments which only emphasise

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education and do not provide other interventions from the practitioner (such as hands on techniques). Thirdly, the natural course of LBP may differ as chronic pain may be less likely to resolve (Dunn and Croft, 2006). This could in theory make chronic patients' (who practitioners claim to see more in the NHS) experiences of treatment more negative as they may not see the same symptom change that acute patients would see. However, even chronic patients in our patient sample reported that hands on therapies provided relief from symptoms and helped them to manage their conditions. Treatment approaches also differed between HCS in physiotherapy, where NHS physiotherapy focussed more on giving active treatments to chronic patients in order to avoid dependency (as discussed above). Therefore the presentation of the client as chronic in NHS physiotherapy automatically meant a different treatment approach to if they were more acute.

Practitioners reported that some NHS patients were also more angry or frustrated than private patients as for instance they had experienced long waits for treatment. These patients therefore arrived at treatment in a stressed state. This may have made the practitioner's job more difficult as it may be more difficult to form a relationship with such patients. Furthermore if treatment did not include the aspects which patients expected (such as hands on treatment, Study 1) such patients may have felt even more irritated, which could inhibit a successful therapeutic relationship further and lead to the patient disengaging. This would be particularly problematic in NHS physiotherapy which relied on teaching self-management techniques, whereas the use of hands on techniques in NHS osteopathy and private physiotherapy might have relaxed the patient as it met their expectations (Study 1). Indeed hands on treatments like massage can reduce stress in patients (Hernandez-reif, Field, Krasnegor and Theakston, 2001).

(e) Practitioners' relationships with other colleagues

Whilst the practitioner working with others might not influence the patient's experiences directly - through for instance the use of particular treatment techniques - it might have some indirect influences. For instance, NHS physiotherapists who were under lots of pressure from the constraints and high demands of their jobs valued the teams they worked within who provide them support, which may have acted as a buffer against some of the stress. As high practitioner stress levels are likely to influence patient care (Firth-Cozens, 2001; Firth-Cozens and Greenhalgh, 1997), this might be a particularly protective factor in NHS physiotherapy and one that is likely to vary depending on the support of the teams in different clinics.

Physiotherapists also described how working with others might improve their clinical practice and many physiotherapists and osteopaths felt that working alone might lead to poorer clinical practice. However, the NHS physiotherapists (who worked in teams much more frequently than NHS osteopaths) appeared to share beliefs about treatments (such as the importance of only teaching self-management skills instead of using hands on techniques) which are not necessarily accurate (NICE guidelines), or appraised positively by patients (Study 1). So working with others might only re-enforce the dominant discourses in a HCS, which, if incongruent with patients' beliefs, as in the case of NHS physiotherapy using less hands on and more of a self-management approach, may be problematic. This link between relationships with other colleagues and practitioners' beliefs about treatment approaches is shown with a joining arrow in the model. Evidence that working with others in the NHS might alter practitioners' beliefs about treatment approaches was provided by an osteopath who noted that his 'medical bent' had come out more strongly as he worked more with other (non osteopathic) healthcare professionals in the NHS (hence this arrow is bi-directional). It may be that working with other colleagues in the NHS stimulates beliefs in certain treatment approaches and discourages the use of others (such as holism). Equally, working in osteopathy and outside the NHS fosters antagonism with EBM. Indeed the osteopaths who were being more 'deviant' tended to work independently from other healthcare professionals.

Some practitioners noted how other healthcare professionals, such as GPs, were more co-operative in discussing patients or making onward referrals that the practitioner thought necessary if the practitioner was calling from an NHS, rather than private clinic. This may have implications for treatment pathways which may be easier to help patients move through in the NHS than in private practice.

7.6 Discussion

This study illustrates how practitioners' experiences of providing physiotherapy and osteopathy vary between HCS. The findings also demonstrate that these variations between HCS are not uniform, in that physiotherapists' experiences appeared to vary

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more between the two HCS than osteopathy. Practitioners' experiences also appeared consistent with patients' experiences (Study 1).

This study identified a number of factors and processes which might explain why patients' experiences of physiotherapy varied more between HCS than those of osteopathy. These factors were organised into a model which may also be useful for explaining the differences that patients have noted between the NHS and private practice elsewhere (e.g. Paterson and Brittern, 2008; Bishop et al, 2011). This model extends the previously identified factors of structural constraints (such as time) and lack of practitioner autonomy which have previously been identified as limiting NHS in comparison to private practice (Calnan et al, 2000; Bishop et al, 2012). The new model also indicates that practitioner motivations to perform a particular treatment approach (for instance to please private patients), practitioner beliefs about treatment approach (such as holism, hands on techniques or self-management), practitioners' perceptions of patient differences and the practitioner's relationships with other healthcare professionals also vary between HCS and might explain differences in patients' experiences between private and NHS care. Such factors might vary depending on the nature of the therapy being investigated. For instance, dentists often work more independently, with only lesser qualified healthcare practitioners (such as dental nurses) and might therefore be less influenced by other healthcare professionals. Further studies should therefore attempt to model other therapies in order to identify relevant factors and gain a better understanding of why patients' experiences of treatments vary between HCS.

Osteopathy appeared to vary less than physiotherapy between the two HCS here and was more positively appraised by patients in both HCS than NHS physiotherapy (Study 1). However, it is not clear whether osteopathy might change and become less similar to its private equivalent as it remains in the NHS. Deviant case analysis indicated that osteopaths who are more integrated into the NHS are less representative of usual osteopathy (less holistic) and conform more to orthodox (biomedical) medicine's thinking (EBM). Although this study cannot establish causality the fact that one practitioner discussed becoming more medical as he spent time with medical (not osteopathic) colleagues indicates that the HCS might actually change osteopathy in the long-term to make it more in line with orthodox western (or biomedical) medicine. This may be detrimental to osteopathy as the holistic, individualised care that it provided was appraised positively by patients and was crucial to their trust in both the treatment and practitioner (Study 1). This kind of change in therapies has been noted in the professionalization literature, where there are numerous examples of holistic CAM

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therapies becoming more biomedical as they are adopted by and assimilated into mainstream medicine (Cant and Sharma, 1996; Villanueva-Russell, 2005; Saks, 1992; Saks, 1995). For instance Saks (1992, 1995) discusses how acupuncture in the UK has gained legitimacy by abandoning its Chinese theoretical framework and positioning itself in a narrow area of pain therapy found to be acceptable by biomedicine. This assimilated form of acupuncture is also less holistic than traditional Chinese acupuncture (Hughes, Goldbart, Fairhurst, Knowles, 2007; Paterson and Britten, 2008).

There are stark contrasts in the incentives for NHS and private therapies. Incentives for the NHS are largely socioeconomic, it needs to provide care within a limited budget and so reduce patient burden on scarce healthcare resources. In contrast, the private sector's incentives are financial gain, encouraging faith in the practitioner from patient satisfaction means that the patient will be more likely to adhere to treatment and hopefully recover, but also that the private practitioner will see more financial success. It is not currently clear whether the differences in treatment experiences reported by both practitioners and patients (Study 1) are responsible only for differences in patient satisfaction, which the NHS may not be able to prioritise, or are actually important to treatment outcomes. Both patients and practitioners in the studies in this thesis have suggested that these differences are important to patient adherence which is likely to influence treatment outcomes. Evidence from a large survey of nurses and patients across 12 countries also suggests that such differences are important (Aiken et al, 2012). This study found that hospitals with higher nurse staffing and better environments (good managerial support, good doctor-nurse relations, nurse participating in decision making and organisational priorities on care quality) had better outcomes for both nurses (less dissatisfaction, burnout and intention to leave) and patients (better care, safer treatments). This highlights the potential importance of the differences found between NHS and private treatments in both patients' and practitioners' experiences. However, further research is needed to explore in longitudinal studies whether differences in physiotherapy and osteopathy between HCS described by patients and practitioners influences patient outcomes.

7.6.1 Limitations

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This study has a number of limitations. Firstly, the small time scale of this project meant that it was difficult to recruit many physiotherapists who work only in the NHS. Although the reports of NHS only physiotherapists were the same as physiotherapists who worked across both HCS, it may have been that additional participants would have provided differences in experiences. Secondly, it is possible that the practitioners who volunteered to take part in this study are in some way different to those who chose not to. Whilst the qualitative approach of this study meant that it was entirely appropriate not to seek a representative sample of practitioners, maximum variation sampling did ensure the inclusion of a wide range of view points, and the use of deviant case analyses ensured that all views were considered. A further limitation is that the analysis was carried out by only one researcher (KB), although the themes and proposed model were discussed in detail with an academic supervisor.

7.7 Conclusions

Practitioners' accounts confirmed those of patients (Study 1) that there are differences between private and NHS treatments, and that these differences are more pronounced in physiotherapy than osteopathy. The model of factors influencing patients' experiences of treatments between the NHS and private practice identifies a number of factors which appear responsible for these differences which should be explored further. Future research should prioritise understanding whether differences in patients' appraisals between HCS and treatment types are associated with differences in adherence and outcomes. If so then this model may usefully guide interventions in possible areas to intervene and improve patients' appraisals of physiotherapy and osteopathy for LBP.

8. Chapter 8. General Discussion

This thesis examined how two different treatments for LBP (physiotherapy and osteopathy) vary between the NHS and private practice in the UK. As outlined in Chapter 1, the aim of this thesis was to explore whether physiotherapy and osteopathy for LBP vary in the same or different ways (or extents) between HCS. In order to achieve this aim it was necessary to explore the experiences and appraisals of patients with LBP receiving NHS or private, physiotherapy or osteopathy. It was also necessary to explore the experiences of physiotherapists and osteopaths treating patients with LBP in the NHS and private practice.

The research presented in this thesis sought answers to five research questions: A) Which psychosocial factors play a role (are related to, predictive of, mediate, or moderate outcomes) in physiotherapy for LBP? B) How do LBP patients' experiences and appraisals of physiotherapy and osteopathy vary between the NHS and private practice? C) How and to what extent do LBP patients' appraisals of physiotherapy and osteopathy vary between the NHS and private practice? D) How do practitioners (physiotherapists' and osteopaths') experiences of providing treatment for LBP vary between the NHS and private practice? E) Do practitioners' (physiotherapists' and osteopaths') experiences of providing treatment for LBP highlight any factors which might be responsible for differences between patients experiences of physiotherapy and osteopathy for LBP? This chapter will provide a summary of the main findings, organised according to these five research questions. The aim is to review and integrate the findings and to discuss the theoretical and clinical implications. The chapter will end with a reflection on the overall strengths and limitations of the studies within this thesis and suggestions for future research.

8.1 Summary of Main Findings

8.1.1 A) Which psychosocial factors play a role (are related to, predictive of, mediate, or moderate outcomes) in physiotherapy for LBP?

The systematic review of 24 studies (Chapter 2) identified several psychosocial factors which are likely to play a role in physiotherapy for LBP. This review provided good evidence that patient characteristics are involved in physiotherapy outcomes for patients with LBP. The majority of studies had explored the influence of FABs in physiotherapy and

therefore this factor had the most consistent evidence supporting it. Baseline FABs about work predicted disability outcomes and there was also some evidence that FABs about physical activity may mediate the relationship between treatment and patient outcomes. Expectations were also found to predict patient outcomes, but there was inconsistent evidence of a role for catastrophising and distress/depression. This may however, have been due to the methodological limitations of some of these studies. A number of other factors might be important within physiotherapy for LBP, but further evidence is needed to determine their role (that is whether they are related to predictive of, mediate or moderate outcomes). These factors include patient characteristics (self-efficacy and illness perceptions), physiotherapist characteristics (physiotherapists' biomedical beliefs, and the diversity of their knowledge and experiences), the patient-physiotherapist relationship and the practitioners' communication within treatment. The review findings sensitised the researcher to relevant constructs within the subsequent qualitative work and guided the inclusion of variables within the cross-sectional quantitative study. However, as such a wide variety of variables were identified as potentially important, the review concluded that a theoretical framework was needed to focus the research (for instance, not all constructs would be able to be included in the quantitative study). Several such theories were reviewed in Chapter 3 and the CSM was chosen as a framework with which to explore the HCS. This was because it was the theoretical model most easily extendable to incorporate the influence of the HCS and treatment type as potential moderators of patients' treatment appraisals.

8.1.1.1 B) How do LBP patients' experiences and appraisals of physiotherapy and osteopathy vary between the NHS and private practice?

Study 1 (Chapter 4) was a qualitative interview study with 35 participants who had received NHS or private physiotherapy or osteopathy for LBP. This study provided evidence that patients' experiences and appraisals of physiotherapy and osteopathy may not vary between the NHS and private practice in a uniform way. Whilst physiotherapy varied between the NHS and private practice in several ways (in aspects of choice and control, vulnerability, feeling cared for as an individual, perceptions of symptoms changes and understanding LBP and treatment) osteopathy varied to a lesser extent between the two HCS (only in some aspects of choice and control and vulnerability). Whilst physiotherapy was generally appraised more negatively in the NHS and more positively in the private sector, osteopathy was appraised fairly positively across both HCS. More

positive treatment appraisals appeared to also be associated with better patient adherence and more positive psychological outcomes (such as less distress). These appraisals also guided patients' use of future treatment. These findings highlight the potential implications of differences observed in appraisals of the two treatments between the NHS and private practice. Reasons for the differences between NHS physiotherapy and NHS osteopathy were suggested.

8.1.2 C) How and to what extent do LBP patients' appraisals of physiotherapy and osteopathy vary between the NHS and private practice?

The cross-sectional observational study (study 4) provided the first exploration of how (and to what extent) patients' appraisals of treatments vary between both HCS and treatment type (physiotherapy and osteopathy) using quantitative methods. Ninety-one patients completed questionnaires after their first treatment session. This study tested how aspects of treatment appraisal, highlighted as important within study 1, varied between HCS and treatment type. Hypotheses were based on the findings of study 1 and the existing qualitative literature which has examined patients' perceptions of differences in private and NHS treatments.

Some aspects of treatment appraisal appeared to vary between HCS and treatment type as expected (based on the qualitative findings of study 1). For instance, appraisals of waiting times varied between both HCS and treatment type (significantly worse in the NHS than in private practice and also worse in NHS physiotherapy than NHS osteopathy). As expected, appraisals of aspects of vulnerability mostly did not vary between HCS or treatment types. Contrary to hypotheses based on the findings of study 1, some aspects of treatment appraisals did not vary as expected: Appraisals of practical aspects of treatment (such as being able to access as much treatment as needed, treated at a convenient time and in a convenient location) did not vary between HCS or treatment type. This was surprising, as study 1 and other qualitative studies (Bishop et al, 2011; Paterson & Britten, 2008) have suggested that patients' perceptions of practical aspects of treatment vary between the NHS and private practice. Appraisals of being treated as an individual and that treatment would be effective also did not vary in anticipated ways. Appraisals of these aspects were more positive in osteopathy than in physiotherapy (which partly confirmed the

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hypotheses), but did not vary between HCS as expected. In addition, confidence that treatment would be effective seemed more positive in NHS osteopathy than in private osteopathy. This was unexpected, but might be due to the NHS osteopaths in our sample being quite involved in research for LBP, which might have made them better at explaining the rationale of treatment and convincing the patient of its likely effectiveness. A very small effect size also indicated that patients might feel understood as a whole person more in osteopathy than in physiotherapy. Whilst this was partly consistent with the hypotheses, it was also anticipated that private physiotherapy would be appraised more favourably than NHS physiotherapy here. However, this difference was very small and may not be clinically meaningful.

Aspects of the therapeutic alliance (part of the therapeutic relationship) did not vary as anticipated based on the findings of study 1, or as shown in previous studies (Bishop et al, 2011; Paterson and Britten, 2008; Wiles and Higgins, 1996). Appraisals that the patients' goals of treatment matched the practitioners' goals seemed to vary between HCS and treatment types, but not entirely in anticipated ways: As expected patients reported more agreement with their therapist about the goals of treatment in private compared with NHS physiotherapy. However, unexpectedly, patients reported more agreement with their therapist about the goals of treatment in NHS compared to private osteopathy (which were expected to be the same and both appraised positively). Despite this, the effect size was very small indicating that this finding was likely not clinically meaningful. The bond patients' felt with their practitioner was found to be slightly larger in osteopathy than physiotherapy, which was partly consistent with the hypotheses. Although, private physiotherapy was not appraised more favourably than NHS physiotherapy. However, the difference was so small that again, it seemed unlikely to be clinically meaningful. Patients' agreement with their practitioner about the therapeutic approach was not found to vary between HCS or treatment type as anticipated. This may have been because patients were appraising their treatments at such an early time point, when the therapeutic approach had not yet been fully implemented.

It was not entirely clear from study 4 whether appraisals of treatment can be captured by quantitative measures in a way that is consistent with patients' reports within qualitative studies. Ceiling effects were apparent in all of the measures of treatment appraisal (both designed for this thesis and existing validated measures). This has also been cited as a problem in other studies exploring treatment appraisal (for instance Bishop et al, 2008). Indeed, Rudzik (2003) found that patients' qualitative comments differed from answers they gave to a (quantitatively measured) questionnaire exploring perceptions of private

and public healthcare. It is also possible that ceiling effects were present because this small sample might not be representative of the general population of patients receiving physiotherapy or osteopathy, it could be that this sample was biased towards those who are more satisfied with treatment. Indeed practitioners are more likely to have invited patients to take part if their first treatment session went well (for instance, if they formed a good rapport with them etc). It is possible that this might have diminished differences between HCS and treatment types and perhaps made NHS physiotherapy appear more positively appraised than in the qualitative study (study 1). In contrast, patients in the qualitative study were recruited using a range of strategies (not just from practitioners who might have only invited patients with more positive views). Furthermore, it is possible that patients did not want to appraise their treatments after only the first treatment session (wanting to wait to see how treatment went in order to form a judgement) which could also have led to more null effects.

8.1.3 D) How do practitioners' (physiotherapists' and osteopaths') experiences of providing treatment for LBP vary between the NHS and private practice?

Study 5 (Chapter 7) used a qualitative approach to explore physiotherapists' and osteopaths' experiences of treating patients with LBP in the NHS and private practice. Thirty two practitioners were interviewed, many of whom worked across both HCS. Practitioners' accounts were consistent with those of patients (in study 1), indicating that differences exist between private and NHS treatments, and that these differences are more pronounced in physiotherapy than osteopathy. This provides further evidence that aspects of treatment *itself* might actually vary between treatments and HCS, rather than just in patients' appraisals of their treatment.

In comparison to private practice, practitioners reported that NHS physiotherapy contained less hands-on treatment and more teaching of self-management techniques (for instance exercises), was more rushed, did not use treatment techniques which took longer (for instance hands on techniques) and was less holistic. These reports were consistent with those of patients (study 1) who reported that NHS physiotherapy was more rushed, less holistic and focussed on getting the patient to take care of their own condition rather

than helping them to resolve it with hands on treatment. Patients also noted that NHS compared to private physiotherapy was less individualised, more paternalistic and offered the patient less choice and control within treatments. Whilst NHS physiotherapists did not confirm these factors directly in the current study, it seems possible that the rushing reported by physiotherapists and the prescribing of exercises (rather than for instance using hands on techniques) created these patient perceptions. It also seems possible that NHS physiotherapists may have been unwilling to discuss such aspects, as they are not consistent with a patient-centred approach that their governing body outlines (e.g. CSP, 2012).

Consistent with patients' reports (in study 1), osteopathy appeared to vary only slightly between the two HCS, much less so than physiotherapy. Most osteopaths used hands on techniques across both HCS. The majority also used a holistic approach across both HCS and felt this was a defining feature of their practice. These aspects of osteopathy treatment are both consistent with patients' reports of osteopathy within the NHS and private practice (study 1). A few osteopaths did not use a holistic approach and limited some types of hands on treatment techniques to save time. These osteopaths were more integrated into the NHS (worked more hours in the NHS, had worked there for a long time). Cause and effect cannot be established within this qualitative study; however, this might suggest that as osteopathy becomes more integrated into the NHS it could start to vary more between HCS. Alternatively, it may be that osteopaths who preferred less holistic approaches sought out NHS positions as they were more consistent with their views of treatment.

8.1.4 E) Do practitioners' (physiotherapists' and osteopaths') experiences of providing treatment for LBP highlight any factors which might be responsible for differences between patients experiences of physiotherapy and osteopathy for LBP?

Practitioners' experiences (study 5) suggested several factors which appear to influence how patients' experiences of physiotherapy and osteopathy vary between HCS. These factors were organised into an explanatory model. Influential factors included the motivations of the practitioner (financial incentives versus clearing waiting lists), differences in the kinds of patients who attend for treatment across the two HCS, constraints imposed by the HCS (for instance waiting lists in the NHS), practitioners'

beliefs about the most suitable treatment approach (such as holism) and practitioners' relationships with other colleagues who influence their practice. It was also apparent that some of the factors in the model might interact, for instance practitioner motivations to provide hands on techniques seemed in some cases to be influenced by how much time they had in their NHS treatment sessions (a constraint imposed by the HCS). This model is useful for explaining why patients' experiences and appraisals of treatment vary between the NHS and private practice and why this happens differently across different treatment types. This model extends previous reasons that have been identified in the literature as limiting NHS in comparison to private treatments, such as lack of practitioner autonomy and structural constraints (such as time) (Bishop et al, 2012; Calnan et al, 2000).

8.2 Theoretical and clinical implications

8.2.1 Theoretical contributions

This thesis makes four main theoretical contributions. Firstly, it suggests that two different treatments, physiotherapy and osteopathy, vary in different ways between HCS. Both patient and practitioner qualitative studies suggested this, adding to the validity of this claim. Causal inferences cannot be drawn from the studies in this thesis, nor can one even attempt to measure causal influences of the HCS using traditional approaches with a RCT design, since a RCT itself is a context and a different context to either the NHS or private practice (Barlow, Scott, Coghlan, Lee, White, Lewith & Bishop, 2011; Paterson, Zheng, Xue, Wang, 2008; Scott, Walker, White & Lewith, 2011). Despite this, if the HCS is having an effect on treatment, this research indicates that it does not always do this in a uniform way. This is a significant finding which has implications for future research design, since any study examining how more than one treatment type varies between HCS will need to take treatment type into account, since different treatments can vary in different ways between HCS. This also has implications for how generalisable the results of any study will be, since if different therapies can vary in different ways between HCS, the results of say a study of chiropractic treatment may not be transferable to, for example a study of homeopathy, or psychotherapy.

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The second major theoretical contribution that this thesis has made is to show *why* treatments may vary between HCS (study 5). Identifying factors which appear responsible for variations in treatments between HCS provides a structure for any interventions which want to improve NHS treatments (such as physiotherapy). However, it is recognised that further data is needed first in order to confirm differences between HCS, and to establish whether differences between HCS are associated with differences in patient health outcomes (and costs). The NHS is unlikely to intervene without this information and indeed, changes would be hard to justify. This model might also identify ways that one might protect treatments like NHS osteopathy, which are currently less integrated into the NHS, from becoming more similar to treatments which are appraised less favourably in the NHS (like NHS physiotherapy). For instance, by protecting the amount of time that NHS osteopaths currently have and enabling them to practice in a holistic way (for instance by not integrating them into existing physiotherapy teams), NHS osteopathy might theoretically be able to continue to be positively appraised by LBP patients.

Thirdly, the studies in this thesis also make a contribution to discussions about how complementary therapies differ from mainstream therapies. CAM therapies have been shown to be superior to mainstream therapies in psychosocial aspects of care and it has been assumed that this is due to something inherent to CAM which is lacking in mainstream treatments. For instance, more supportive relationships and more opportunities for patients to take an active role in treatment have been reported in complementary therapies compared with those found in mainstream medicine (Bernstien and Shuval, 1997; Bishop, Yardley and Lewith, 2010; Boon et al, 2000; Busato, Kunzi, 2010; Furnham and Kirkaldy, 1996; Hsiao, et al, 2003, Luff and Thomas, 2000; Lupton, 1997; Shinto et al, 2005; Sirois & Purc Stephenson, 2007). The problem with this proposition was that much of the CAM research had been carried out in the private sector (where CAM is widely available and where care is less restricted) and much of the mainstream research had been carried out in public settings (where care is more restricted). This thesis offers some evidence that the HCS and not an inherent difference between CAM and mainstream treatments might be responsible for reported differences, since private physiotherapy appeared to contain as many positive psychosocial aspects as osteopathy (studies 1 and 5).

If it were purely the HCS that was causing all the previously observed differences between CAM and mainstream treatments then one might expect NHS osteopathy to also contain less positive psychosocial aspects of treatment, which was not the case. However, inherent to this view is the assumption that the HCS has a uniform influence across different

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treatments, which this thesis suggests it does not. Study 5 highlighted a variety of reasons which might explain why osteopathy maintained superior psychosocial factors in the NHS environment. For instance, NHS osteopathy was less constrained than NHS physiotherapy in terms of the pressures put on practitioners. Osteopaths were also less integrated into NHS teams (and so were not influenced by NHS discourses to the same extent) and some NHS osteopaths also appeared to break NHS rules in order to see patients for longer. Therefore, the fact that osteopathy did not vary greatly between HCS is not necessarily evidence against the proposition that the HCS is responsible for differences observed between CAM and mainstream treatments. This lack of difference is instead likely due to the fact that some newer therapies are able to exist in the NHS in a less constrained way than longer established therapies.

A fourth contribution to theory that this thesis has made is the elaboration of the CSM (study 1) through illustration of how the context of treatment (HCS) shapes treatment appraisals. This shaping happens partly because concrete treatment experiences vary between different HCS, and partly because expectations of what treatment *should* include vary depending on the HCS. For instance, as explained in study 1, consumerist values are introduced in the private sector because patients are buying treatment, these expectations of what treatment should include are then used to appraise the concrete treatment experiences (of choice and control within treatment).

8.2.2 Clinical and practical implications

There may be clinical implications for NHS physiotherapy being appraised more negatively than NHS osteopathy or either private treatment. Patients' and practitioners' reports (study 1 and 5) suggest that NHS physiotherapy is more constrained (in terms of practical aspects of treatment like the time available), provides less individualised and holistic care with less patient-centred, more paternalistic patient-practitioner relationships. The patient data (study 1) suggested that these more negative appraisals of treatment are sometimes associated with worse adherence to treatment and the CSM would suggest that treatment appraisals predict patient adherence and health outcomes. At this point it is unknown whether these worse treatment appraisals in NHS physiotherapy (compared to the other three treatments) will actually lead to worse adherence and worse health outcomes. A large survey mapping healthcare practice across

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12 countries found that hospitals with higher staffing and better environments (supportive environments for staff such as nurses participating in decision making and organisational priorities of quality care) had better outcomes for patients (better, safer treatments) and staff (such as less burnout and intention to leave) (Aiken et al, 2012). This evidence suggests that the variations between HCS and treatment types highlighted in this thesis may well be clinically important. If future research confirms that this is the case then there would be a strong case for improving NHS physiotherapy, such research should also identify which aspects of treatment are responsible for poorer outcomes, so that they can be specifically targeted in interventions. As mentioned above, the model proposed in study 5 (section 7.5) could be a useful tool in developing such an intervention.

A further area where NHS physiotherapy might require intervention is the stress levels of staff, which were apparent in many NHS physiotherapists' accounts. NHS physiotherapists reported being stressed by the constraints put upon their practice (such as lack of time or the high number of patients they needed to see). As it is known that higher stress levels are associated with poorer clinical care in doctors (Firth-Cozens, 2001; Firth-Cozens and Greenhalgh, 1997), it seems likely that this might also be the case for physiotherapists. Indeed, in study 5 practitioners reported their interactions with patients were negatively affected by their stress levels. Improved staffing levels could help reduce the burden on existing staff and lower stress levels.

Both the systematic review (chapter 2) and qualitative patient study (study 1) suggest that the patient-practitioner relationship and explaining the rationale for treatment techniques were important to patients' adherence to treatment. Other studies have also shown that the patient-practitioner relationship and effective communication are important to treatment outcomes (Di Blasi et al, 2001; Kaptchuck et al, 2010). It therefore seems important that NHS physiotherapists prioritise supportive patient-centred therapeutic relationships and use clear communication to explain the rationale of treatment to patients, thereby persuading them of its necessity.

The systematic review and qualitative practitioner study (study 5) also suggest that practitioners' beliefs, particularly beliefs about the best treatment approach, may be influential in physical treatments for LBP. If longitudinal quantitative studies confirm that such beliefs are important to patient adherence or outcomes then this could be another area worthy of intervention.

Patients (study 1) and practitioners (study 5) reported that NHS physiotherapy usually focussed more on teaching self-management techniques (exercises) rather than providing

any hands on treatment. Whereas private physiotherapy and osteopathy in both HCS tended to combine approaches. As the best evidence shows that combinations of hands on and exercises are more effective than only teaching exercises, and hands on treatment has been shown to have longer lasting effects than exercises (UK BEAM, 2004), it seems possible that NHS physiotherapy might have less successful patient outcomes compared to NHS osteopathy or the private treatments. It might be that NHS physiotherapists could improve their treatments by adding hands on techniques into their approach.

There are several potential obstacles to hands on techniques being widely adopted in NHS physiotherapy. Firstly, as shown in study 5 the discourse of hands on treatments creating dependency (which is unproven) may prevent physiotherapists from adopting this approach. Changing this would require a change in the team discussions and perhaps some in house re-training which could be led by existing managers. Secondly, physiotherapists might argue that including hands on techniques would add considerable time to treatment sessions, increasing costs. This may not be true if physiotherapists were to adopt quicker manipulative rather than slower mobilisation techniques. However, physiotherapists currently have to seek postgraduate training to learn manipulative techniques and training physiotherapists in these techniques would incur large costs. An alternative could be to employ more osteopaths, a strategy that local NHS consultants say is currently happening in Hampshire since the introduction of commissioning (personal communication, Langridge, 2012). Indeed, an NHS service combining osteopaths, chiropractors and physiotherapists in North Essex has been shown to be effective in improving patients' pain, reducing waiting lists and reducing patients' use of medication (Gurden, Morelli, Sharp, Baker, Betts & Bolton, 2012). Furthermore, almost all patients reported being satisfied or very satisfied with this service.

8.3 Strengths and Limitations

One of the major strengths of the studies in this thesis is that they were conducted in a naturalistic setting, in the NHS and private practice, they therefore have high external validity. Previously there have been attempts to look at differences between NHS and private treatments in trial settings (e.g. UK BEAM, 2004) which, being an entirely different context of their own, cannot provide the same external validity.

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A second strength of the approach taken in this thesis was the exploration of both patients' and practitioners' view points. As practitioners' reports corroborated those of patients this offered confirmatory evidence that the differences patients reported between HCS and treatment types are not just their appraisals (which can be influenced by a range of different beliefs), but are likely to reflect differences in actual practice between HCS and treatment types.

A third strength of the qualitative work is that patients were recruited from a wide range of different routes and from a large number of different treatment clinics. This means that the findings may be transferable across a range of NHS and private clinics. The practitioners within study 5 were likewise recruited from a wide range of clinics nationwide, which adds to the transferability of that study's findings.

A fourth strength of the studies in this thesis was the adoption of LBP as a model with which to explore HCS and treatment types. This homogenous group would be more likely to receive similar care to say a heterogeneous mix of health conditions as have been used in other studies (Ergler et al, 2010; Paterson and Britten, 2008; Rudzik, 2003; Wiles and Higgins, 1996; Wong et al, 2010). This means that differences that were attributable to the HCS or treatment type were easier to spot as they were not confounded by clinically necessary variations in treatment approaches aiming to treat different health conditions.

The combination of qualitative and quantitative approaches allowed both development and preliminary examination of hypotheses regarding the interactions between HCS and treatment type. However, the quantitative study had a number of limitations which could be responsible for some of its results not confirming those found in the qualitative study. These included the sample size being small, meaning that the study was likely underpowered to detect interaction effects (which were needed in order to assess whether NHS physiotherapy specifically differed from the three other treatments). A second limitation of this study was that measurements were carried out after only the first treatment session (which may have been too early for patients to accurately or willingly appraise certain aspects of treatment such as the therapeutic alliance). This could not be helped as the data were drawn from the first time point of a planned longitudinal study which had problems with recruitment. Thirdly, all measures of treatment appraisal showed ceiling effects, which may be because of the early time point of the questionnaire, or because of the practitioner-selected patients who might have more positive attitudes, or might be because of problems in quantitative measurement of treatment appraisals, which may not reflect qualitative reports (Study 4; Rudzik, 2003). Finally, several of the

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measures of treatment appraisal designed for this study were developed in this thesis and their reliability and validity were tested using the same data as the quantitative cross-sectional study, therefore it may be that these measures are less reliable and valid. Further testing of these measures in another sample is needed to confirm whether or not this is the case.

The systematic approach of the literature review (chapter 2) was a strength of this review. It meant that all possible research could be identified and synthesised so that a full understanding of the research into psychosocial aspects which play a role in physiotherapy for LBP could be drawn. The wide range of psychosocial factors investigated meant that a richer picture was built up of how psychosocial factors might play a role in physiotherapy for LBP. However, the downside to this broad focus meant that some included variables had little research investigating them and therefore strong conclusions could not be made. The limiting of searches to only published articles, written in English, over a ten year period, meant that some research could have been missed, which whilst quite standard as an approach in systematic reviews, is another limitation of this review. Furthermore, only I was involved in carrying out the review, which may have led to more bias from researcher error than if multiple reviewers had been involved.

It was very difficult to get NHS physiotherapists to participate in study 5 and those who did want to generally worked across both HCS. Therefore the sample of NHS only physiotherapists was smaller than hoped for. Nevertheless, the reports of these practitioners were identical to those who worked across both HCS, indicating that the analyses was not overly affected by this smaller sample. However, as with all qualitative studies, further sampling may have led to alternative viewpoints. Similarly, in study 1, it was very difficult to recruit patients who were very early on in their treatments, since neither they nor their practitioners appeared to want them to appraise their treatments so early on. Therefore, the findings of this qualitative study may be less transferable to those very early on in treatment.

8.4 Directions for future research

The main questions left unanswered by this thesis and the existing body of literature is whether the differences observed between HCS and treatment types are reliable and

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substantive and whether they have an impact on patient behaviour or health outcomes. There are hints from the studies in this thesis that this may well be the case, but confirmation is needed. The best way to address such a question would be to conduct a longitudinal observational study comparing different treatments and HCS. It would be fruitful to again use LBP as a model and to investigate physiotherapy and osteopathy specifically, as the studies in this thesis could recommend which patient and practitioner variables to consider. Such a study should also be conducted in naturalistic settings across a wide range of clinics. This kind of study would be hard to conduct (as discovered in this thesis, see appendix M) without a funding source approved by NIHR which allowed access to their portfolio and its benefits (quick R and D processing, being able to pay practitioners for their time), so it would be imperative to ensure that this was the case.

Before embarking on a longitudinal study it would also be important to investigate further whether patients' treatment appraisals are currently being accurately measured using quantitative methods. As discussed above, there is some indication that appraisals reported in qualitative studies do not easily transfer into quantitative studies. In the studies in the current thesis this may have been because of the very early treatment time point used in the quantitative study (study 4). It could also be that the measures developed in this thesis to measure treatment appraisal are less reliable or less sensitive. Further research is needed to test these measures further. However, even existing validated measures which are known to be reliable showed ceiling effects in this study, so the problem was not limited to only the measures developed in this thesis. It would be useful to carry out a pilot study of a quantitative observational study using a later time point in treatment in order to see whether measures of treatment appraisal had less ceiling effects later on when patients might be more willing to assess their treatment.

It would also be useful for further studies to explore how other treatments vary between HCS. This will tell us more about whether certain kinds of treatments might be influenced more or less by the HCS and identify other potential factors influencing how a particular treatment varies between HCS (extending the model in chapter 7, section 7.5).

Furthermore, as the NHS continues to change and evolve with new policy differences between HCS might continue to change. For instance, if osteopathy becomes more widely adopted and integrated into the NHS then it may become more like physiotherapy.

Research in this area will therefore need to continue over time. It would also be useful for future research studies to explore other health problems, as treatments could potentially vary more or less between HCS depending on the health problem being investigated. For instance, treatments for knee pain would involve many of the same features as treatments

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for back pain (a therapeutic treatment, individualised care, teaching exercises etc), but would not include other features such as spinal manipulations which might limit how such treatments would vary between HCS.

A further area that might be fruitful is whether there is a difference in patients appraisals of private treatments where they pay the practitioner directly themselves or through a health insurance provider. It is possible that there might be differences here, for instance a few practitioners noted that BUPA only pays for up to 8 treatment sessions, not an unlimited amount (study 5). The studies in this thesis mainly involved patients who paid for treatment directly, as explained in Chapter 1 this is normal within private osteopathy and physiotherapy. The few patients who did pay with private health insurance talked about the same issues and appraised treatments in the same ways as those paying directly themselves. However, further issues may be highlighted by investigating this issue directly with a larger sample of patients using health insurance.

As the NHS continues to change and develop with the introduction of commissioning (Health and Social Care Act, 2012) it will be important for future research to continue to document differences between HCS, these will likely change somewhat with the evolving NHS. The emphasis on any quality provider contracts by the Department of Health mean that therapies are likely to be delivered more and more outside of the traditional NHS hospitals, and in private clinics by private practitioners who have bid for these NHS tendering contracts (Department of Health, 2011). The results of this thesis suggest that this may not be a bad thing, as the NHS osteopaths on such contracts reported lower stress and fewer constraints on their practice (study 5). Furthermore, patients were happier with these services than NHS physiotherapy (employed on traditional permanent NHS contracts, study 1). However, it is as yet early in the implementation of such tendering contracts (they only became widely introduced in April of 2012), therefore there may be other implications and possibly disadvantages of this change that cannot yet be fully understood. Osteopaths on AQP contracts hinted at a few such disadvantages in study 5, for example many were more isolated, meaning that they may miss out on advances in practice, did not receive as many referrals as they could handle and in some cases broke NHS rules (although patients may interpret this as an advantage there are implications for NHS costs here). A larger concern for many has been that this may be the first step in the privatisation of the UK's NHS, which will eventually lead to the public paying for private healthcare (Peedell, 2011), a situation which would likely widen health inequalities

between those who can afford to pay for treatment and those who cannot. Future research should continue to map out how changes introduced with commissioning influence NHS therapies and how this affects differences between HCS across different therapies.

8.5 Conclusions

This thesis aimed to explore how two different treatments (physiotherapy and osteopathy) vary between HCS to address the existing knowledge gap about whether different treatments might vary in the same or different ways between HCS. Findings inform the existing literature in four ways. Firstly, the qualitative studies suggest that different treatments do not vary in the same ways between HCS, implying that the HCS might not have a uniform influence across treatments. Secondly, findings from this thesis highlight how patients appraise physical treatments for LBP, suggesting criteria which might be moderated by the HCS which could be examined in future longitudinal studies predicting treatment outcomes. Thirdly, a model is suggested which identifies factors responsible for patients' experiences varying between HCS and treatment types. Fourthly, a number of lessons have been learned about how to explore this area using quantitative methods and directions for future research have been highlighted. The studies in this thesis should now be used to inform a longitudinal quantitative study to examine whether differences between patients' appraisals and practitioners' experiences of NHS and private physiotherapy and osteopathy predict patient adherence and treatment outcomes.

Appendices

Appendix A: LETTER OF INVITATION, PARTICIPANT INFORMATION SHEET AND REPLY SLIP FOR PHYSIOTHERAPY PATIENTS WHO TOOK PART IN FACE-TO-FACE INTERVIEWS (study 1).

Invitation to take part in the Research Study entitled “Patients Experiences of Physiotherapy and Osteopathy within the NHS and Private Practice.”

I am writing to invite you to participate in the above research study, which will involve taking part in an interview with a researcher about your experiences of physiotherapy. More information about this study is given in the enclosed Participant Information Sheet.

Before reading the enclosed Participant Information Sheet, it is important for you to know that:

Taking part in the study will not affect your care.

The study will involve you talking to the researcher on one occasion only.

The study will not take too much of your time.

It is entirely up to you if you wish to take part.

If you do not wish to take part then please ignore this letter.

Attached to this letter I have provided more details for you to read. If you think you might be interested in helping with this research please read the information and follow the instructions provided.

Appendix A

Many thanks for your time.

Yours sincerely

Katherine Bradbury

Patients Experiences of Physiotherapy and Osteopathy within the NHS and Private Practice.

You are being invited to take part in a research study. Before you decide if you wish to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Talk to others about the study if you wish.

Part 1 tells you the purpose of the study and what will happen if you take part.

Part 2 gives you more detailed information on the conduct of the study

Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

PART ONE

What is the purpose of the study?

This study is designed to find out about patients' experiences of physiotherapy and osteopathy for persistent lower back pain, and to compare these experiences across two different settings, the NHS and private practice. By carrying out this study I will be able to identify and describe the differences and similarities in physiotherapy and osteopathy for persistent lower back pain between NHS and private practice settings.

Why have I been chosen?

You have been chosen to take part in this study because you are a patient at one of the participating physiotherapy clinics, and you have experienced physiotherapy for persistent lower back pain. I plan to include approximately 30 patients who have experienced physiotherapy and 30 patients who have experienced osteopathy in this study.

Do I have to take part?

No. It is up to you to decide whether or not to take part. I will describe the study and go through this information sheet, which I will then give to you. I will then ask you to sign a consent form to show you have agreed to take part. You are free to withdraw at any time without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive. If you do decide to withdraw, we will ask you if you wish us to use or destroy any interview information collected to that point. You might want to discuss whether or not to take part with the Patient Advice and Liaison Service (PALS), who you can contact on Email : PALS@suht.swest.nhs.uk or by calling 023 80798498.

What will happen to me if I take part?

If you decide to take part, you would be interviewed by myself, Katherine Bradbury a PhD student at the University of Southampton. The interview will be conducted in your own home or within the school of psychology at Southampton University, or at Alder Moor Health Centre

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in Southampton (travel expenses are available for reimbursement). You will be able to choose where you would like your interview to take place. The interview will take approximately one hour; it might take less or more, it will be up to you. During the interview I will ask you to talk all about your experiences of

physiotherapy, and this will include talking about how you came to try physiotherapy, what your experiences of it have been like and what you think about your experiences.

With your permission, the interview will be audio taped and later typed up in detail. You will be free to turn off the tape recorder at any point during the interview, or to request the deletion of recorded information once the interview is over. After the interview I will ask you to complete a short questionnaire which will ask you about your age, occupational status and your education. This information will not be linked with your individual interview recordings or the typed up transcription of your interview, it will be put with the answers from all participants in order for the study to describe its overall sample of participants. The typed up interview will be added together with the interviews with other people included in the study and these will be read in detail to help me understand patients' experiences of physiotherapy. I will offer you a summary of your interview, and I will offer a summary of the findings of the study when it is completed.

What do I have to do?

If you decide to participate in the study I will contact you to confirm your eligibility and arrange a suitable time to meet for the interview.

What are the possible benefits and disadvantages of taking part?

There are no direct benefits to you of participating in this study, although you may find it useful to have the opportunity to reflect on your experiences of physiotherapy. The process of reflection might equally raise issues that you find difficult, sensitive or challenging. Although this is unlikely, if you feel uncomfortable during the interview, the interview will be stopped or suspended. If appropriate you would be able to discuss these issues with your physiotherapist at your next consultation.

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2.

Will my taking part in the study be kept confidential?

Yes. I will follow ethical and legal practice and all information about you will be handled with confidence. The details are included in Part 2.

Contact Details:

Please contact Katherine Bradbury for more information about this study, telephone: 07867963498 or email: kjb1e08@soton.ac.uk

This completes Part 1 of the Information Sheet.

If the information in Part 1 has interested you and you are considering participation, please continue to read the additional information in Part 2 before making any decision.

PART TWO

What if there is a problem?

If you have a concern about the study you should speak with the researcher who will be interviewing you (Katherine Bradbury) and who will do her best to answer your questions (tel 07867963498 or kjb1e08@soton.ac.uk). If you remain unhappy you can contact Katherine's supervisor, Dr Felicity Bishop (02380 241072. F.L.Bishop@soton.ac.uk). If you wish to complain formally, you can do this through the University of Southampton. Please contact Dr Martina Dorward at the Research Support Unit on 02380 598672.

In the event that something does go wrong (which is unlikely in an interview) and you are harmed during the research study there are no special compensation arrangements. If you are harmed and this is due to someone's negligence then you may have grounds for a legal action for compensation against the University of Southampton but you may have to pay your legal costs.

Will my taking part in this study be kept confidential?

Please be assured that anything you say within the interview and all other information collected about you during the course of the research will remain strictly confidential and will not affect the quality of care you receive from your physiotherapist. Confidentiality will only be broken if there is a serious risk of harm to either yourself or somebody else. The information I obtain from you during this period (contact information, recordings of the interviews, transcripts and researcher notes from the interviews and answers to the short questionnaire) will be used for the purposes of this study. All forms of data relating to you will be stored in a secured, locked place. Only the researcher (Katherine Bradbury), her supervisor (Dr Felicity Bishop) and the trained individual who types up your interview will have access to the original interview recordings. When your interview is typed up, anonymised transcripts will be made which will not contain your name or any of your details. To ensure your anonymity any identifiable details about you in the transcripts will be altered. You will have the opportunity to review a summary of the interview to ensure that you agree with what has been typed up. Anonymised transcripts (or quotes from the anonymised transcripts) will then be used for research, educational and clinical purposes. All data from the study will be stored at the Department of Psychology,

University of Southampton for 15 years (in line with the University's rules). After this time the data will be securely disposed of.

What will happen to the results of the research study?

The findings from this study will be written up as part of my research project and published in academic journals and reported at conferences. If you have agreed to it, we might use word-for-word quotations of some of what you say in your interview when we publish the results. Any quotations from you that are used in this way will be anonymous.

Who is organising and funding the research?

This study is funded by the School of Psychology University of Southampton, and coordinated by the researcher (Katherine Bradbury) with supervision from Dr Felicity Bishop.

Who has reviewed the study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given favourable opinion by Southampton REC A.

What do I need to do now?

Please will you let us know whether you would like to take part in this study by detaching and returning the reply slip below in the pre-paid envelope or if you prefer you can contact Katherine Bradbury at: kjb1e08@soton.ac.uk

Thank you for taking the time to read this Information Sheet. This is a copy for you to keep for your reference. You will also receive a signed copy of the informed consent form if you take part in the study

REPLY SLIP

Patients Experiences of Physiotherapy and Osteopathy within the NHS and Private Practice.

I am interested in the study and would like to discuss it with Katherine Bradbury to help me to decide whether to take part.

Your Name

Your Address

.....

.....

Telephone Number

Good times to contact you

.....

Signed Date

Thank you for completing this form, your help is appreciated

Please return slip to Katherine Bradbury, Health Psychology, Shakelton Building, University of Southampton, FREEPOST, S017 1BJ. A prepaid reply envelope is enclosed for you.

Appendix B: LETTER OF INVITATION, PARTICIPANT INFORMATION SHEET AND REPLY SLIP FOR OSTEOPATHY PATIENTS WHO TOOK PART IN FACE-TO-FACE INTERVIEWS (Study 1).

Invitation to take part in the Research Study entitled “Patients Experiences of Physiotherapy and Osteopathy within the NHS and Private Practice.”

I am writing to invite you to participate in the above research study, which will involve taking part in an interview with a researcher about your experiences of either physiotherapy or osteopathy. More information about this study is given in the enclosed Participant Information Sheet.

Before reading the enclosed Participant Information Sheet, it is important for you to know that:

Taking part in the study will not affect your care.

The study will involve you talking to the researcher on one occasion only.

The study will not take too much of your time.

It is entirely up to you if you wish to take part.

If you do not wish to take part then please ignore this letter.

Attached to this letter I have provided more details for you to read. If you think you might be interested in helping with this research please read the information and follow the instructions provided.

Many thanks for your time.

Yours sincerely

Katherine Bradbury

Patients Experiences of Physiotherapy and Osteopathy within the NHS and Private Practice.

You are being invited to take part in a research study. Before you decide if you wish to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Talk to others about the study if you wish.

Part 1 tells you the purpose of the study and what will happen if you take part.

Part 2 gives you more detailed information on the conduct of the study

Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

PART ONE

What is the purpose of the study?

This study is designed to find out about patients' experiences of osteopathy and physiotherapy for persistent lower back pain, and to compare these experiences across two different settings, the NHS and private practice. By carrying out this study I will be able to identify and describe the differences and similarities in osteopathy and physiotherapy for persistent lower back pain between NHS and private practice settings.

Why have I been chosen?

You may have chosen to respond to an advert about this study, and have experienced osteopathy for persistent lower back pain. Alternatively you have been chosen to take part in this study because you are a patient at one of the participating osteopathy clinics, and you have experienced osteopathy for persistent lower back pain. I plan to include approximately 30 patients who have experienced osteopathy and 30 patients who have experienced physiotherapy.

Do I have to take part?

No. It is up to you to decide whether or not to take part. I will describe the study and go through this information sheet, which I will then give to you. I will then ask you to sign a consent form to show you have agreed to take part. You are free to withdraw at any time without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive. If you do decide to withdraw, we will ask you if you wish us to use or destroy any interview information collected to that point. You might want to discuss whether or not to take part with the Patient Advice and Liaison Service (PALS), who you can contact on Email : PALS@suht.swest.nhs.uk or by calling 023 8079 8498.

Appendix B

What will happen to me if I take part?

If you decide to take part, you would be interviewed by myself, Katherine Bradbury a PhD student at the University of Southampton. The interview will be conducted in your own home or within the department of Psychology at Southampton University, or at Aldermoor Health Centre in Southampton (travel expenses are available for reimbursement). You will be able to choose where you would like your interview to take place. The interview will take approximately one hour; it might take less or more, it will be up to you. During the interview I will ask you to talk all about your experiences of osteopathy, and this will include talking about how you came to try osteopathy, what your experiences of it have been like and what you think about your experiences.

With your permission, the interview will be audio taped and later typed up in detail. You will be free to turn off the tape recorder at any point during the interview, or to request the deletion of recorded information once the interview is over. After the interview I will ask you to complete a short questionnaire which will ask you about your age, occupational status and your education. This information will not be linked with your individual interview recordings or the typed up transcription of your interview, it will be put with the answers from all participants in order for the study to describe its overall sample of participants. The typed up interview will be added together with the interviews with other people included in the study and these will be read in detail to help me understand patients' experiences of osteopathy. I will offer you a summary of your interview, and I will offer a summary of the findings of the study when it is completed.

What do I have to do?

If you decide to participate in the study I will contact you to confirm your eligibility and arrange a suitable time to meet for the interview.

What are the possible benefits and disadvantages of taking part?

There are no direct benefits to you of participating in this study, although you may find it useful to have the opportunity to reflect on your experiences with osteopathy. The process of reflection might equally raise issues that you find difficult, sensitive or

challenging. Although this is unlikely, if you feel uncomfortable during the interview, the interview will be stopped or suspended. If appropriate you would be able to discuss these issues with your osteopath at your next consultation.

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2.

Will my taking part in the study be kept confidential?

Yes. I will follow ethical and legal practice and all information about you will be handled with confidence. The details are included in Part 2.

Contact Details:

Please contact Katherine Bradbury for more information about this study, telephone:
07867963498

or email: kjb1e08@soton.ac.uk

This completes Part 1 of the Information Sheet.

If the information in Part 1 has interested you and you are considering participation, please continue to read the additional information in Part 2 before making any decision

Appendix B

PART TWO

What if there is a problem?

If you have a concern about the study you should speak with the researcher who will be interviewing you (Katherine Bradbury) and who will do her best to answer your questions (tel: 07867963498 or email kjb1e08@soton.ac.uk). If you remain unhappy you can contact Katherine's supervisor, Dr Felicity Bishop (02380 241072. F.L. Bishop@soton.ac.uk) If you wish to complain formally, you can do this through the University of Southampton. Please contact Dr Martina Dorward at the Research Support Unit on 02380 598672.

In the event that something does go wrong (which is unlikely in an interview) and you are harmed during the research study there are no special compensation arrangements. If you are harmed and this is due to someone's negligence then you may have grounds for a legal action for compensation against the University of Southampton but you may have to pay your legal costs.

Will my taking part in this study be kept confidential?

Please be assured that anything you say within the interview and all other information collected about you during the course of the research will remain strictly confidential and will not affect the quality of care you receive from your osteopath. Confidentiality will only be broken if there is a serious risk of harm to either yourself or somebody else. The information I obtain from you during this period (contact information, recordings of the interviews, transcripts and researcher notes from the interviews and answers to the short questionnaire) will be used for the purposes of this study. All forms of data relating to you will be stored in a secured, locked place. Only the researcher (Katherine Bradbury), her supervisor (Dr Felicity Bishop) and the trained individual who types up your interview will have access to the original interview recordings. When your interview is typed up, anonymised transcripts will be made which will not contain your name or any of your details. To ensure your anonymity any identifiable details about you in the transcripts will be altered. You will have the opportunity to review a summary of the interview to ensure

that you agree with what has been typed up. Anonymised transcripts (or quotes from the anonymised transcripts) will then be used for research, educational and clinical purposes. All data from the study will be stored at the Department of Psychology, University of Southampton for 15 years (in line with the University's rules). After this time the data will be securely disposed of.

What will happen to the results of the research study?

The findings from this study will be written up as part of my research project and published in academic journals and reported at conferences. If you have agreed to it, I might use word-for-word quotations of some of what you say in your interview when we publish the results. Any quotations from you that are used in this way will be anonymous.

Who is organising and funding the research?

This study is funded by the School of Psychology, University of Southampton, and coordinated by the researcher Katherine Bradbury with supervision from Felicity Bishop.

Who has reviewed the study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given favourable opinion by Southampton Research Ethics Committee A.

What do I need to do now?

Please will you let us know whether you would like to take part in this study by detaching and returning the reply slip below in the pre-paid envelope or if you prefer you can contact Katherine Bradbury at: kjb1e08@soton.ac.uk Tel- 07867963498

Appendix B

Thank you for taking the time to read this Information Sheet. This is a copy for you to keep for your reference. You will also receive a signed copy of the informed consent form if you take part in the study

REPLY SLIP

Patients Experiences of Physiotherapy and Osteopathy within the NHS and Private Practice.

I am interested in the study and would like to discuss it with Katherine Bradbury to help me to decide whether to take part.

Your Name

Your Address

.....

.....

Telephone Number

Good times to contact you

.....

Signed Date

Thank you for completing this form, your help is appreciated

Please return slip to Katherine Bradbury, Health Psychology, Shackelton Building, University of Southampton, FREEPOST, S017 1BJ. A prepaid reply envelope is enclosed for you.

Appendix C: CONSENT FORM FOR PARTICIPANTS WHO TOOK PART IN STUDY 1

CONSENT FORM

Project Title: Patients Experiences of Physiotherapy and Osteopathy within the NHS and Private Practice.

Project Researcher: Katherine Bradbury

Please initial box:

I confirm that I have read and understand the patient information sheet dated 07/10/08 (Version 1.0) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical or legal rights being affected.

I understand the interview will be audio-taped and that anonymised word-for-word quotations of statements I make during the interview may be used for research, educational and clinical purposes.

I understand that the answers that I give to the short questionnaire will not be linked with my interview recordings or transcripts and will be used only to describe the overall sample of participants.

I agree to take part in the above study

Name of Participant Date Signature

Name of Researcher Date Signature

When completed: 1 copy for participant, 1 copy for researcher.

Appendix D: LETTER OF INVITATION, PARTICIPANT INFORMATION SHEET AND REPLY SLIP FOR PHYSIOTHERAPY PATIENTS WHO TOOK PART IN TELEPHONE INTERVIEWS (QUALITATIVE INTERVIEW STUDY, CHAPTER 4).

Invitation to take part in the Research Study entitled “Patients Experiences of Physiotherapy and Osteopathy within the NHS and Private Practice.”

I am writing to invite you to participate in the above research study, which will involve taking part in an interview with a researcher about your experiences of physiotherapy. More information about this study is given in the enclosed Participant Information Sheet.

Before reading the enclosed Participant Information Sheet, it is important for you to know that:

Taking part in the study will not affect your care.

The study will involve you talking to the researcher on one occasion only.

The study will not take too much of your time.

It is entirely up to you if you wish to take part.

If you do not wish to take part then please ignore this letter.

Attached to this letter I have provided more details for you to read. If you think you might be interested in helping with this research please read the information and follow the instructions provided.

Many thanks for your time.

Yours sincerely

Katherine Bradbury

Patients Experiences of Physiotherapy and Osteopathy within the NHS and Private Practice.

You are being invited to take part in a research study. Before you decide if you wish to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Talk to others about the study if you wish.

Part 1 tells you the purpose of the study and what will happen if you take part.

Part 2 gives you more detailed information on the conduct of the study

Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

PART ONE

What is the purpose of the study?

This study is designed to find out about patients' experiences of physiotherapy and osteopathy for persistent lower back pain, and to compare these experiences across two different settings, the NHS and private practice. By carrying out this study I will be able to identify and describe the differences and similarities in physiotherapy and osteopathy for persistent lower back pain between NHS and private practice settings.

Why have I been chosen?

You have been chosen to take part in this study because you are a patient at one of the participating physiotherapy clinics, and you have experienced physiotherapy for persistent lower back pain. I plan to include approximately 30 patients who have

Appendix D

experienced physiotherapy and 30 patients who have experienced osteopathy in this study.

Do I have to take part?

No. It is up to you to decide whether or not to take part. If you decide to take part in the study then I will post you a consent form to show that you have agreed to take part, along with a freepost envelope addressed to the University so that you can post this back to me. You are free to withdraw at any time without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive. If you do decide to withdraw, we will ask you if you wish us to use or destroy any interview information collected to that point. You might want to discuss whether or not to take part with the Patient Advice and Liaison Service (PALS), who you can contact on Email : PALS@suht.swest.nhs.uk or by calling 023 80798498.

What will happen to me if I take part?

If you decide to take part, you would be interviewed by myself, Katherine Bradbury a PhD student at the University of Southampton. The interview will be conducted on the telephone, I will ring you on a phone number of your choice at a time and date convenient to you. The interview will take approximately one hour; it might take less or more, it will be up to you. During the interview I will ask you to talk all about your experiences of physiotherapy, and this will include talking about how you came to try physiotherapy, what your experiences of it have been like and what you think about your experiences.

With your permission, the interview will be audio taped and later typed up in detail. You will be free to ask me to turn off the tape recorder at any point during the interview, or to request the deletion of recorded information once the interview is over. After the interview I will ask you some questions from a short questionnaire which will ask you about your age, occupational status and your education. This information will not be linked with your individual interview recordings or the typed up transcription of your interview, it will be put with the answers from all participants in order for the study to describe its overall sample of participants. The typed up interview will be added together with the interviews with other people included in the study and these will be read in detail

to help me understand patients' experiences of physiotherapy. I will offer you a summary of your interview, and I will offer a summary of the findings of the study when it is completed.

What do I have to do?

If you decide to participate in the study I will contact you to confirm your eligibility and arrange a suitable time to meet for the interview.

What are the possible benefits and disadvantages of taking part?

There are no direct benefits to you of participating in this study, although you may find it useful to have the opportunity to reflect on your experiences of physiotherapy. The process of reflection might equally raise issues that you find difficult, sensitive or challenging. Although this is unlikely, if you feel uncomfortable during the interview, the interview will be stopped or suspended. If appropriate you would be able to discuss these issues with your physiotherapist at your next consultation.

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2.

Will my taking part in the study be kept confidential?

Yes. I will follow ethical and legal practice and all information about you will be handled with confidence. The details are included in Part 2.

Contact Details:

Appendix D

Please contact Katherine Bradbury for more information about this study, telephone: 07867963498 or email: kjb1e08@soton.ac.uk

This completes Part 1 of the Information Sheet.

If the information in Part 1 has interested you and you are considering participation, please continue to read the additional information in Part 2 before making any decision.

PART TWO

What if there is a problem?

If you have a concern about the study you should speak with the researcher who will be interviewing you (Katherine Bradbury) and who will do her best to answer your questions (tel or kjb1e08@soton.ac.uk). If you remain unhappy you can contact Katherine's supervisor, Dr Felicity Bishop (02380 241072. F.L.Bishop@soton.ac.uk). If you wish to complain formally, you can do this through the University of Southampton. Please contact Dr Martina Dorward at the Research Support Unit on 02380 598672.

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the quality of care you receive from your physiotherapist. Confidentiality will only be broken if there is a serious risk of harm to either yourself or somebody else. The information I obtain from you during this period (contact information, recordings of the interviews, transcripts and researcher notes from the interviews and answers to the short questionnaire) will be used for the purposes of this study. All forms of data relating to you will be stored in a secured, locked place. Only the researcher (Katherine Bradbury), her supervisor (Dr Felicity Bishop) and the trained individual who types up your interview will have access to the original interview recordings. When your interview is typed up, anonymised transcripts will be made which will not contain your name or any of your details. To ensure your anonymity any identifiable details about you in the transcripts will be altered. You will have the opportunity to review a summary of the interview to ensure that you agree with what has been typed up. Anonymised transcripts (or quotes from the anonymised transcripts) will then be used for research, educational and clinical purposes. All data from the study will be stored at the Department of Psychology, University of Southampton for 15 years (in line with the University's rules). After this time the data will be securely disposed of.

What will happen to the results of the research study?

The findings from this study will be written up as part of my research project and published in academic journals and reported at conferences. If you have agreed to it, we might use word-for-word quotations of some of what you say in your interview when we publish the results. Any quotations from you that are used in this way will be anonymous.

Who is organising and funding the research?

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Who has reviewed the study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given favourable opinion by Southampton REC A.

Appendix D

What do I need to do now?

Please will you let us know whether you would like to take part in this study by detaching and returning the reply slip below in the pre-paid envelope or if you prefer you can contact Katherine Bradbury at: kjb1e08@soton.ac.uk

Thank you for taking the time to read this Information Sheet. This is a copy for you to keep for your reference. You will also receive a signed copy of the informed consent form if you take part in the study

REPLY SLIP

Patients Experiences of Physiotherapy and Osteopathy within the NHS and Private Practice.

I am interested in the study and would like to discuss it with Katherine Bradbury to help me to decide whether to take part.

Your Name

Your Address

.....

.....

Telephone Number

Good times to contact you

.....

Signed Date

Thank you for completing this form, your help is appreciated

Please return slip to Katherine Bradbury, Health Psychology, Shakelton Building, University of Southampton, FREEPOST, S017 1BJ. A prepaid reply envelope is enclosed for you.

APPENDIX E: LETTER OF INVITATION, PARTICIPANT INFORMATION SHEET AND REPLY SLIP FOR OSTEOPATHY PATIENTS WHO TOOK PART IN TELEPHONE INTERVIEWS (study 1).

Invitation to take part in the Research Study entitled “Patients Experiences of Physiotherapy and Osteopathy within the NHS and Private Practice.”

I am writing to invite you to participate in the above research study, which will involve taking part in an interview with a researcher about your experiences of either physiotherapy or osteopathy. More information about this study is given in the enclosed Participant Information Sheet.

Before reading the enclosed Participant Information Sheet, it is important for you to know that:

Taking part in the study will not affect your care.

The study will involve you talking to the researcher on one occasion only.

The study will not take too much of your time.

It is entirely up to you if you wish to take part.

If you do not wish to take part then please ignore this letter.

Attached to this letter I have provided more details for you to read. If you think you might be interested in helping with this research please read the information and follow the instructions provided.

Many thanks for your time.

Yours sincerely

Katherine Bradbury

Patients Experiences of Physiotherapy and Osteopathy within the NHS and Private Practice.

You are being invited to take part in a research study. Before you decide if you wish to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Talk to others about the study if you wish.

Part 1 tells you the purpose of the study and what will happen if you take part.

Part 2 gives you more detailed information on the conduct of the study

Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

PART ONE

What is the purpose of the study?

This study is designed to find out about patients' experiences of osteopathy and physiotherapy for persistent lower back pain, and to compare these experiences across two different settings, the NHS and private practice. By carrying out this study I will be able to identify and describe the differences and similarities in osteopathy and physiotherapy for persistent lower back pain between NHS and private practice settings.

Why have I been chosen?

Appendix E

You may have chosen to respond to an advert about this study, and have experienced osteopathy for persistent lower back pain. Alternatively you have been chosen to take part in this study because you are a patient at one of the participating osteopathy clinics, and you have experienced osteopathy for persistent lower back pain. I plan to include approximately 30 patients who have experienced osteopathy and 30 patients who have experienced physiotherapy.

Do I have to take part?

No. It is up to you to decide whether or not to take part. If you decide to take part in the study then I will post you a consent form to show that you have agreed to take part, along with a freepost envelope addressed to the University so that you can post this back to me. You are free to withdraw at any time without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive. If you do decide to withdraw, we will ask you if you wish us to use or destroy any interview information collected to that point. You might want to discuss whether or not to take part with the Patient Advice and Liaison Service (PALS), who you can contact on Email : PALS@suht.swest.nhs.uk or by calling 023 8079 8498.

What will happen to me if I take part?

If you decide to take part, you would be interviewed by myself, Katherine Bradbury a PhD student at the University of Southampton. The interview will be conducted on the telephone, I will ring you on a phone number of your choice at a time and date convenient to you. The interview will take approximately one hour; it might take less or more, it will be up to you. During the interview I will ask you to talk all about your experiences of osteopathy, and this will include talking about how you came to try osteopathy, what your experiences of it have been like and what you think about your experiences.

With your permission, the interview will be audio taped and later typed up in detail. You will be free to ask me to turn the tape recorder off at any point during the interview, or to request the deletion of recorded information once the interview is over. After the interview I will ask you some questions from a short questionnaire which will ask you

about your age, occupational status and your education. This information will not be linked with your individual interview recordings or the typed up transcription of your interview, it will be put with the answers from all participants in order for the study to describe its overall sample of participants. The typed up interview will be added together with the interviews with other people included in the study and these will be read in detail to help me understand patients' experiences of osteopathy. I will offer you a summary of your interview, and I will offer a summary of the findings of the study when it is completed.

What do I have to do?

If you decide to participate in the study I will contact you to confirm your eligibility and arrange a suitable time to meet for the interview.

What are the possible benefits and disadvantages of taking part?

There are no direct benefits to you of participating in this study, although you may find it useful to have the opportunity to reflect on your experiences with osteopathy. The process of reflection might equally raise issues that you find difficult, sensitive or challenging. Although this is unlikely, if you feel uncomfortable during the interview, the interview will be stopped or suspended. If appropriate you would be able to discuss these issues with your osteopath at your next consultation.

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2.

Will my taking part in the study be kept confidential?

Appendix E

Yes. I will follow ethical and legal practice and all information about you will be handled with confidence. The details are included in Part 2.

Contact Details:

Please contact Katherine Bradbury for more information about this study, telephone:
07867963498

or email: kjb1e08@soton.ac.uk

This completes Part 1 of the Information Sheet.

If the information in Part 1 has interested you and you are considering participation, please continue to read the additional information in Part 2 before making any decision.

PART TWO

What if there is a problem?

If you have a concern about the study you should speak with the researcher who will be interviewing you (Katherine Bradbury) and who will do her best to answer your questions (tel: 07867963498 or email kjb1e08@soton.ac.uk). If you remain unhappy you can contact Katherine's supervisor, Dr Felicity Bishop (02380 241072. F.L. Bishop@soton.ac.uk). If you wish to complain formally, you can do this through the University of Southampton. Please contact Dr Martina Dorward at the Research Support Unit on 02380 598672.

In the event that something does go wrong (which is unlikely in an interview) and you are harmed during the research study there are no special compensation arrangements. If you are harmed and this is due to someone's negligence then you may have grounds for a legal action for compensation against the University of Southampton but you may have to pay your legal costs.

Will my taking part in this study be kept confidential?

Please be assured that anything you say within the interview and all other information collected about you during the course of the research will remain strictly confidential and will not affect the quality of care you receive from your osteopath. Confidentiality will only be broken if there is a serious risk of harm to either yourself or somebody else. The information I obtain from you during this period (contact information, recordings of the interviews, transcripts and researcher notes from the interviews and answers to the short questionnaire) will be used for the purposes of this study. All forms of data relating to you will be stored in a secured, locked place. Only the researcher (Katherine Bradbury), her supervisor (Dr Felicity Bishop) and the trained individual who types up your interview will have access to the original interview recordings. When your interview is typed up, anonymised transcripts will be made which will not contain your name or any of your details. To ensure your anonymity any identifiable details about you in the transcripts will be altered. You will have the opportunity to review a summary of the interview to ensure that you agree with what has been typed up. Anonymised transcripts (or quotes from the anonymised transcripts) will then be used for research, educational and clinical purposes. All data from the study will be stored at the Department of Psychology, University of Southampton for 15 years (in line with the University's rules). After this time the data will be securely disposed of.

What will happen to the results of the research study?

The findings from this study will be written up as part of my research project and published in academic journals and reported at conferences. If you have agreed to it, I might use word-for-word quotations of some of what you say in your interview when we publish the results. Any quotations from you that are used in this way will be anonymous.

Who is organising and funding the research?

This study is funded by the School of Psychology, University of Southampton, and co-ordinated by the researcher Katherine Bradbury with supervision from Felicity Bishop.

Who has reviewed the study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given favourable opinion by Southampton Research Ethics Committee A.

What do I need to do now?

Please will you let us know whether you would like to take part in this study by detaching and returning the reply slip below in the pre-paid envelope or if you prefer you can contact Katherine Bradbury at: kjb1e08@soton.ac.uk Tel- 07867963498

Thank you for taking the time to read this Information Sheet. This is a copy for you to keep for your reference. You will also receive a signed copy of the informed consent form if you take part in the study

REPLY SLIP

Patients Experiences of Physiotherapy and Osteopathy within the NHS and Private Practice.

I am interested in the study and would like to discuss it with Katherine Bradbury to help me to decide whether to take part.

Your Name

Your Address

.....

.....

Telephone Number

Good times to contact you

.....

Signed Date

Thank you for completing this form, your help is appreciated

Please return slip to Katherine Bradbury, Health Psychology, Shackelton Building, University of Southampton, FREEPOST, S017 1BJ. A prepaid reply envelope is enclosed for you.

APPENDIX F: CONSENT FORM FOR PARTICIPANTS WHO TOOK PART IN TELEPHONE INTERVIEWS (STUDY 1)

CONSENT FORM

Project Title: Patients Experiences of Physiotherapy and Osteopathy within the NHS and Private Practice.

Project Researcher: Katherine Bradbury

Please initial box:

I confirm that I have read and understand the patient information sheet dated 07/10/08 (Version 1.0) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical or legal rights being affected.

I understand the interview will be audio-taped and that anonymised word-for-word quotations of statements I make during the interview may be used for research, educational and clinical purposes.

I understand that the answers that I give to the short questionnaire will not be linked with my interview recordings or transcripts and will be used only to describe the overall sample of participants.

I agree to take part in the above study

Appendix F

Please print your name, the date and sign your name below.

Name of Participant	Date	Signature
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Name of Researcher	Date	Signature
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Once you have completed this please return this form to the University of Southampton in the Freepost envelope provided.

When completed: 1 copy for participant, 1 copy for researcher.

APPENDIX G: STUDY ADVERT (STUDY1)



12/12/08 Version 1.0

Do you suffer with Lower Back Pain?

Have you tried physiotherapy or osteopathy to treat your lower back pain?

Adults who have experienced physiotherapy or osteopathy for treatment of lower back pain are invited to take part in an interview study. This study will explore what it is like to experience physiotherapy or osteopathy as a patient with lower back pain. This study will involve a one off interview which is expected to last for about an hour.

If you would like more information about this study, or to find out how to take part then please contact the researcher Katherine Bradbury on 07867963498 or email kjb1e08@soton.ac.uk

APPENDIX H: INTERVIEW SCHEDULES AND SHORT POST INTERVIEW QUESTIONNAIRE (QUALITATIVE STUDY, CHAPER 4).

Interview Topic Guide- Physiotherapy

Preamble: Before the interview begins the researcher will introduce herself, go through the patient information sheet and consent forms with the participant and obtain informed consent. The researcher will also familiarise the participant with the recording equipment.

Main Question:

I'm really interested in finding out all about your experiences of having physiotherapy, please can you tell me all about it?

Final Question:

Is there anything else which you would like to tell me about your experiences or understanding of physiotherapy?

Supplementary Questions:

These questions will only be used if needed to encourage the participant to fully describe their experiences of physiotherapy.

Theme: Pre-Treatment

How did you come to try physiotherapy?

What did you imagine having physiotherapy would be like? [Probe- how felt before first time].

What did you think the physiotherapist would be like?

What effects did you think physiotherapy would have on you?

Theme: Post-Treatment

Could you tell me about the last physiotherapy session that you had?

How did you feel during the consultation?

Could you tell me about the physiotherapy itself?

How do you feel about your experience of physiotherapy so far? [Probe- good and bad things about it].

Have your thoughts about physiotherapy changed now that you have had some physiotherapy? [Probe- how have they changed, what might have triggered this change, thoughts about process, therapist, effects of physiotherapy].

Theme: Reflecting on Factors that might Impact Change

How do you think that physiotherapy works?

If you think about everything that happens when you go for a physiotherapy session, what do you think is the really important part that really makes a difference to you? [Probe- the practitioner, the exercises].

What parts of the physiotherapy treatment do you think are less important?

What things do you think contribute towards a really good [and really bad] physiotherapy treatment?

Theme: Reflecting on the Provision of Physiotherapy

How do you feel about using physiotherapy [within the NHS/private sector]?

Appendix H

Extra Questions for Patients who have had Follow up Physiotherapy appointments

Could you tell me about the follow up appointments that you have had?

Why did you decide to carry on having physiotherapy?

Extra Questions for Patients who have only had one appointment

Do you think you're going to carry on having physiotherapy?

Can you tell me why you've decided to do that?

General Prompts and Techniques:

Examples of prompts:

Could you tell me a bit more about that

That's really interesting, please go on

How did you feel?

I'm not sure I understand what you mean, could you explain that for me?

Interview Topic Guide- Osteopathy

Preamble: Before the interview begins the researcher will introduce herself, go through the patient information sheet and consent forms with the participant and obtain informed consent. The researcher will also familiarise the participant with the recording equipment.

Main Question:

I'm really interested in finding out all about your experiences of having osteopathy, please can you tell me all about it?

Final Question:

Is there anything else which you would like to tell me about your experiences or understanding of osteopathy?

Supplementary Questions:

These questions will only be used if needed to encourage the participant to fully describe their experiences of osteopathy.

Theme: Pre-Treatment

How did you come to try osteopathy?

What did you imagine having osteopathy would be like? [Probe- how felt before first time].

What did you think the osteopath would be like?

What effects did you think osteopathy would have on you?

Theme: Post-Treatment

Could you tell me about the last osteopathy session that you had?

How did you feel during the consultation?

Appendix H

Could you tell me about the osteopathy itself?

Could you tell me about the place where you have your osteopathy? [Probe- different aspects of setting- physical building, waiting room, consultation room].

Could you tell me about what your osteopath was like?

How do you feel about your experience of osteopathy so far? [Probe- good and bad things about it].

Have your thoughts about osteopathy changed now that you have had some osteopathy? [Probe- how have they changed, what might have triggered this change, thoughts about process, therapist, effects of osteopathy].

Theme: Reflecting on Factors that might Impact Change

How do you think that osteopathy works?

If you think about everything that happens when you go for a osteopathy session, what do you think is the really important part that really makes a difference to you? [Probe- the practitioner, the high velocity manipulations].

What parts of the osteopathy treatment do you think are less important?

What things do you think contribute towards a really good [and really bad] osteopathy treatment?

Theme: Reflecting on the Provision of Osteopathy

How do you feel about using osteopathy [within the NHS/private sector]?

Extra Questions for Patients who have had Follow up Osteopathy appointments

Could you tell me about the follow up appointments that you have had?

Why did you decide to carry on having osteopathy?

Extra Questions for Patients who have only had one appointment

Do you think you're going to carry on having osteopathy?

Can you tell me why you've decided to do that?

General Prompts and Techniques:

Examples of prompts:

Could you tell me a bit more about that

That's really interesting, please go on

How did you feel?

I'm not sure I understand what you mean, could you explain that for me?

Post Interview Questionnaire (for all participants)

Age: _____

Occupation: _____

Age left full time education: _____

APPENDIX I: Participant information sheet study 2.

Invitation to take part in the Research Study entitled "Pilot of questionnaires examining experiences of physiotherapy and osteopathy treatment."

I am writing to invite you to participate in the above research study, which will involve completing some questionnaires whilst taking part in an interview with a researcher about what you think of the questionnaires. More information about this study is given in the enclosed Participant Information Sheet.

Before reading the enclosed Participant Information Sheet, it is important for you to know that:

Taking part in the study will not affect your care.

The study will involve you talking to the researcher on one occasion only.

The study will not take too much of your time.

It is entirely up to you if you wish to take part.

If you do not wish to take part then please ignore this letter.

Attached to this letter I have provided more details for you to read. If you think you might be interested in helping with this research please read the information and follow the instructions provided.

Many thanks for your time.

Yours sincerely

Katherine Bradbury

Pilot of questionnaires examining experiences of physiotherapy and osteopathy treatment.

You are being invited to take part in a research study. Before you decide if you wish to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Talk to others about the study if you wish.

Part 1 tells you the purpose of the study and what will happen if you take part.

Part 2 gives you more detailed information on the conduct of the study

Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

PART ONE

What is the purpose of the study?

After talking to patients about their experiences of physiotherapy and osteopathy for lower back pain we have designed some questionnaires which measure patients' experiences about aspects of their treatment. The purpose of this study is to find out whether these questionnaires make sense to people who have experienced physiotherapy or osteopathy for lower back pain, to see whether they are easy to understand and easy to complete. The questionnaires specifically look at patients experiences of the control that they were given within treatment (for instance whether treatment sessions were long enough), how individualised or holistic the treatment received was (for instance did the practitioner look at the patient as a whole), and how vulnerable the patient felt within treatment (for instance whether the patient found exercises prescribed painful).

Why have I been chosen?

Appendix I

You have chosen to respond to an advert about this study, and have experienced physiotherapy or osteopathy for lower back pain. We plan to include up to fifteen people who have experienced either physiotherapy or osteopathy for lower back pain.

Do I have to take part?

No. It is up to you to decide whether or not to take part. I will describe the study and go through this information sheet, which I will then give to you. I will then ask you to sign a consent form to show you have agreed to take part. You are free to withdraw at any time without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive if you are still in treatment. If you do decide to withdraw, we will ask you if you wish us to use or destroy any interview information collected to that point.

What will happen to me if I take part?

If you decide to take part, you would be interviewed by myself, Katherine Bradbury a PhD student at the University of Southampton. The interview will be conducted in your own home or within the department of Psychology at Southampton University (travel expenses are available for reimbursement). You will be able to choose where you would like your interview to take place. The interview will take approximately one hour; it might take less or more, it will be up to you. During the interview I ask you to complete the three newly designed questionnaires and I will ask you questions about your experience of completing these questionnaires.

With your permission, the interview will be audio taped and later typed up in detail. You will be free to turn off the tape recorder at any point during the interview, or to request the deletion of recorded information once the interview is over. After the interview I will ask you to complete a short questionnaire which will ask you about your age, occupational status and your education. This information will not be linked with your individual interview recordings or the typed up transcription of your interview, it will be put with the answers from all participants in order for the study to describe its overall sample of participants. The typed up interview will be added together with the interviews with other people included in the study and these will be read in detail to help me understand

whether the questionnaires make sense to people and whether they are easy to understand and complete. I will offer a summary of the findings of the study when it is completed.

What do I have to do?

If you decide to participate in the study I will contact you to confirm your eligibility and arrange a suitable time to meet for the interview.

What are the possible benefits and disadvantages of taking part?

There are no direct benefits to you of participating in this study. The process of completing the questionnaires might raise issues that you find uncomfortable. Although this is unlikely, if you feel uncomfortable during the interview, the interview will be stopped or suspended.

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2.

Will my taking part in the study be kept confidential?

Yes. I will follow ethical and legal practice and all information about you will be handled with confidence. The details are included in Part 2.

Contact Details:

Please contact Katherine Bradbury for more information about this study, telephone: 07867963498

Appendix I

or email: kjb1e08@soton.ac.uk

This completes Part 1 of the Information Sheet.

If the information in Part 1 has interested you and you are considering participation, please continue to read the additional information in Part 2 before making any decision.

PART TWO

What if there is a problem?

If you have a concern about the study you should speak with the researcher who will be interviewing you (Katherine Bradbury) and who will do her best to answer your questions (tel: 07867963498 or email kjb1e08@soton.ac.uk). If you remain unhappy you can contact Katherine's supervisor, Dr Felicity Bishop (02380 241072. F.L. Bishop@soton.ac.uk). If you wish to complain formally, you can do this through the University of Southampton. Please contact Dr Martina Dorward at the Research Support Unit on 02380 598672.

In the event that something does go wrong (which is unlikely in an interview) and you are harmed during the research study there are no special compensation arrangements. If you are harmed and this is due to someone's negligence then you may have grounds for a legal action for compensation against the University of Southampton but you may have to pay your legal costs.

Will my taking part in this study be kept confidential?

Please be assured that anything you say within the interview and all other information collected about you during the course of the research will remain strictly confidential and will not affect the quality of care you receive from your osteopath or physiotherapist.

Confidentiality will only be broken if there is a serious risk of harm to either yourself or somebody else. The information I obtain from you during this period (contact information, recordings of the interviews, transcripts and researcher notes from the interviews and answers to the short questionnaire) will be used for the purposes of this study. All forms of data relating to you will be stored in a secured, locked place. Only the researcher (Katherine Bradbury) and her supervisor (Dr Felicity Bishop) will have access to the original interview recordings. When your interview is typed up, anonymised transcripts will be made which will not contain your name or any of your details. To ensure your anonymity any identifiable details about you in the transcripts will be altered. Anonymised transcripts (or quotes from the anonymised transcripts) will then be used for research, educational and clinical purposes. All data from the study will be stored at the Department of Psychology, University of Southampton for 15 years (in line with the University's rules). After this time the data will be securely disposed of.

What will happen to the results of the research study?

The findings from this study will be written up as part of my research project and may be published in academic journals and reported at conferences. The findings from this research will mean that we can improve the questionnaires (if needed) and use them in a future research to learn more about how physiotherapy and osteopathy work. If you have agreed to it, I might use word-for-word quotations of some of what you say in your interview when we publish the results. Any quotations from you that are used in this way will be anonymous.

Who is organising and funding the research?

This study is funded by the School of Psychology, University of Southampton, and co-ordinated by the researcher Katherine Bradbury with supervision from Felicity Bishop.

Who has reviewed the study?

All research is looked at by an independent Research Ethics Committee. This study has been approved by the University of Southampton Research Ethics Committee.

Appendix I

What do I need to do now?

Please will you let us know whether you would like to take part in this study by detaching and returning the reply slip below in the pre-paid envelope or if you prefer you can contact Katherine Bradbury at: kjb1e08@soton.ac.uk Tel- 07867963498

Thank you for taking the time to read this Information Sheet. This is a copy for you to keep for your reference. You will also receive a signed copy of the informed consent form if you take part in the study

REPLY SLIP

Pilot of questionnaires examining experiences of physiotherapy and osteopathy treatment.

I am interested in the study and would like to discuss it with Katherine Bradbury to help me to decide whether to take part.

Your Name

Your Address

.....

.....

Telephone Number

Good times to contact you

.....

Signed Date

Thank you for completing this form, your help is appreciated

Please return slip to Katherine Bradbury, Health Psychology, Shackelton Building, University of Southampton, FREEPOST, S017 1BJ.

APPENDIX J: CONSENT FORM (study 2)

CONSENT FORM

Project Title: Pilot of questionnaires examining experiences of physiotherapy and osteopathy treatment.

Project Researcher: Katherine Bradbury

Please initial box:

I confirm that I have read and understand the patient information sheet dated 15/01/2010 (Version 1.0) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical or legal rights being affected.

I understand the interview will be audio-taped and that anonymised word-for-word quotations of statements I make during the interview may be used for research, educational and clinical purposes.

I understand that the answers that I give to the short questionnaire will not be linked with my interview recordings or transcripts and will be used only to describe the overall sample of participants.

I agree to take part in the above study

Please print your name, the date and sign your name below.

Name of Participant Date Signature

Name of Researcher Date Signature

When completed: 1 copy for participant, 1 copy for researcher.

APPENDIX K: Think aloud interview schedule (study 2)

Introduce notion of thinking aloud whilst answering.

If necessary (if participant appears to struggle with the concept or seems unsure) use the example of thinking out loud whilst counting the windows in your house.

Questions

What are you thinking?

How are you coming up with your answer for this?

Why did you choose (answer they chose) there?

Examples of possible prompts

Can you tell me in your own words what that question was asking?

I noticed you hesitated before answering, what were you thinking about?

What does the term X mean to you? what did you understand by X?

How did you work out your answer to that?

How did you remember that?

Can you tell me a bit more about that?

Can you explain what you mean by that?

APPENDIX L: FINAL APTQ subscales

Questions 1-4 are the practical aspects of treatment subscale, questions 5-7 are the treated as an individual subscale.

Appraisal of Treatment

In this questionnaire we are interested in your experiences of your treatment. There are no right or wrong answers. We are interested in your opinions. Please read each statement and indicate the degree to which you agree or disagree by circling the appropriate number.

		Strongly Disagree						Strongly Agree
1	I can always get appointments at a convenient time of day	1	2	3	4	5	6	7
2	My treatment is in a location convenient to me	1	2	3	4	5	6	7
3	I have enough time during my treatment sessions	1	2	3	4	5	6	7
4	I can access as much treatment as I need	1	2	3	4	5	6	7
5	My therapist listens to me	1	2	3	4	5	6	7
6	My therapist examined me thoroughly	1	2	3	4	5	6	7

Appendix L

7	I feel I was given a general treatment which wasn't matched to me as an individual	1	2	3	4	5	6	7
---	--	---	---	---	---	---	---	---

APPENDIX M: DETAILS OF ORIGINAL LONGITUDINAL DESIGN AND REASONS FOR CHANGING TO A CROSS-SECTIONAL DESIGN

Originally the quantitative study reported in chapter 6 was designed as a longitudinal study (described in more detail below). Recruitment was very slow and so in order to make use of the available data and to maximise recruitment in the remaining time a decision was taken to change to a cross-sectional study.

Recruitment was slow for several reasons. Firstly the study was originally adopted by the CSP portfolio meaning that we could access R and D rapidly, that R and D departments would help identify suitable practitioners to help recruit to the study and that we would be able to financially reimburse practitioners for their time helping recruit patients for the study. After a few weeks this study was removed from the portfolio as it was judged that our funding source (the Southampton Complementary Medical Research Trust) was not a recognised partner of the National Institute of Health Research. Several attempts were made to resolve this problem, including the author and supervisor (KB and FB) applying for external funding from other bodies in order to return this study to the portfolio. However, even when a grant was awarded (to KB) the study was still not adopted back onto the portfolio. This process caused severe delays to the study. It also meant that the study had to be processed by R and D offices individually (rather than one application centrally) and as the study was not classed as a portfolio study it was given the lowest priority. This meant that R and D approvals took a very long time (the longest approval took 14 months to be granted). Practitioners had been sought and had agreed to participate in the study after ethical approvals were granted (prior to R and D approvals, in order for appropriate targeting of the approvals needed). By the time NHS R and D approvals were granted many practitioners had lost interest in the study and changes in the NHS meant that many had also been made redundant (including over half of the NHS osteopaths in our sample!) NHS practitioners would also now not be reimbursed for their time which removed part of the incentive to help with this study.

A second problem with recruitment was that our original inclusion criteria was patients whose LBP had lasted at least 4 weeks. This had been chosen to make the study comparable to study 1 and to account for the fact that there is some evidence that back pain resolves without treatment in the first few weeks of treatment. This also made the study comparable to other large back pain studies (such as UK BEAM, 2004). Although

Appendix M

prior to the study private practitioners had noted that they were seeing some patients who fit this criterion, recruitment was still very slow in the private sector. On talking to private practitioners it became apparent that they weren't seeing enough patients who fit the four week criterion, so eventually this criterion was dropped. However, many of the existing practitioners had been trying to recruit patients to the study for quite a while and so were starting to run out of motivation to help. Therefore although the inclusion criteria was eventually changed to include any patients with LBP which had lasted any amount of time, recruitment rates still did not improve dramatically. In hindsight it would have been preferable to change this inclusion criteria earlier on.

Design of longitudinal study

The longitudinal study had three time points. The first after the initial treatment session (used in the cross-sectional study, chapter 6), the second at 4 weeks and the third at 3 months. The 4 week measure was identical to the 1st set of measures (used in chapter 6) with the addition of a measure of patient adherence to treatment recommendations and attending treatment sessions, patient enablement and illness perceptions. Patients were also asked to select from a list of possible treatments to indicate which treatment techniques they had received during their treatment. The final 3 month questionnaire included only pain and disability (RMDQ) measures and was used to assess final treatment outcomes. Practitioners were also asked to rate how adherent patients had been to treatment recommendations and attending treatment sessions at 4 weeks (patients specifically consented to this in the original design). The longitudinal design was chosen in order to be able to assess how illness perceptions and treatment appraisals changed through the course of treatment and how they varied between HCS and treatment types. It would also allow examination of how both illness perceptions and treatment beliefs predicted later adherence and health outcomes.

APPENDIX N: INVITATION LETTER AND PARTICIPANT INFORMATION SHEET FOR OSTEOPATHY PATIENTS (STUDY 4)

Invitation to take part in the Research Study entitled “Physiotherapy and osteopathy within the NHS and private practice: A questionnaire study.”

I am writing to invite you to participate in the above research study. This will involve completing a single questionnaire about your thoughts, feelings and experiences of having lower back pain and being treated with either physiotherapy or osteopathy. More information about this study is given in the enclosed Participant Information Sheet.

Before reading the enclosed Participant Information Sheet, it is important for you to know that:

Taking part in the study will not affect your care.

The study will involve completing a questionnaire.

The study will not take too much of your time.

It is entirely up to you if you wish to take part.

If you do not wish to take part then please ignore this letter.

Attached to this letter I have provided more details for you to read. If you think you might be interested in helping with this research please read the information and follow the instructions provided.

Many thanks for your time.

Yours sincerely

Appendix N

Katherine Bradbury

Physiotherapy and osteopathy within the NHS and private practice: A questionnaire study

You are being invited to take part in a research study. Before you decide if you wish to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Talk to others about the study if you wish.

Part 1 tells you the purpose of the study and what will happen if you take part.

Part 2 gives you more detailed information on the conduct of the study

Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

PART ONE

What is the purpose of the study?

This study is designed to find out whether peoples' experiences of osteopathy and physiotherapy are the same or different between the NHS and private practice. By carrying out this study we hope to learn more about whether the healthcare sector might influence physiotherapy and osteopathy treatments.

Why have I been chosen?

You have been chosen to take part in this study because you are a patient at one of the participating osteopathy clinics, and have lower back pain. We plan to include up to 150 patients who have experienced physiotherapy or osteopathy for lower back pain.

Do I have to take part?

No. It is up to you to decide whether or not to take part. If you do decide to take part then you will be free to withdraw from this study at any time without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive. If you do decide to withdraw, we will ask you if you wish us to use or destroy any data collected to that point. You might want to discuss whether or not to take part with the Patient Advice and Liaison Service (PALS), who you can contact on Email : PALS@suht.swest.nhs.uk or by calling 02380 79 8498.

What will happen to me if I take part?

If you decide to take part, then this will involve completing the questionnaire, enclosed in this pack and returning it to me in the freepost envelope provided. This questionnaire asks about you and your background. It also asks what your back pain is like and what you think about it. As well as what you think about treatment and your experiences of treatment so far. After you have completed the questionnaire your answers will be put with the answers of other people in our sample and will help us to answer our research questions.

What do I have to do?

If you decide to participate in the study then please complete the questionnaire provided within this pack and send it back to me in the freepost envelope provided.

What are the possible benefits and disadvantages of taking part?

There are no direct benefits to you of participating in this study. However, you may find it useful to have to reflect on your experiences when completing the questionnaire. Completing the questionnaire might equally raise issues that you find difficult, sensitive or challenging. Although this is unlikely, if you feel uncomfortable whilst completing the questionnaire then do stop. If appropriate you would be able to discuss these issues with your osteopath at your next consultation.

Appendix N

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2.

Will my taking part in the study be kept confidential?

Yes. I will follow ethical and legal practice and all information about you will be handled with confidence. The details are included in Part 2.

This completes Part 1 of the Information Sheet. If the information in Part 1 has interested you and you are considering participation, please continue to read the additional information in Part 2 before making any decision.

PART TWO

What if there is a problem?

If you have a concern about the study you should speak with the researcher in charge of the study (Katherine Bradbury, tel: 07867963498 or email kjb1e08@soton.ac.uk). If you remain unhappy you can contact Katherine's supervisor, Dr Felicity Bishop (02380 241072 or F.L.Bishop@soton.ac.uk) If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee. The chair can be reached at the Department of Psychology, University of Southampton, Southampton, SO17 1BJ, Phone: (023) 8059 5578.

Will my taking part in this study be kept confidential?

Please be assured that any answers that you give within the questionnaire will remain strictly confidential. Your answers will not affect the quality of care you receive from your osteopath. The information that I obtain from you during this period will be used for the purposes of this study. All forms of data relating to you will be stored in a secured, locked place. Only the researcher (Katherine Bradbury) and her supervisor (Dr Felicity Bishop) will have access to this information. Results of this study will not include any of your identifying characteristics. All data from the study will be stored at the Department of Psychology, University of Southampton for 10 years (in line with the University's rules). After this time the data will be securely disposed of.

What will happen to the results of the research study?

The findings will be written up as part of a PhD. They will also be published in academic journals and reported at conferences.

Who is organising and funding the research?

This study is funded by the School of Psychology at the University of Southampton. It is also funded by the charity the Southampton Complementary Therapy Research Trust. It is co-ordinated by the researcher Katherine Bradbury with supervision from Dr Felicity Bishop.

Who has reviewed the study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee to protect your safety, rights, wellbeing and dignity. This study has been given favourable opinion by the Isle of Wight, Portsmouth and South East Hampshire Research Ethics Committee.

What do I need to do now?

If you decide you would like to take part then please complete the consent form and questionnaire pack enclosed. Then please return these to the researcher in the freepost

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envelope provided. Alternatively if you have any questions you can contact Katherine Bradbury at: kjb1e08@soton.ac.uk Tel- 07867963498. Please note we include two copies of the consent form so that you may keep a copy for your own records.

APPENDIX O: INVITATION LETTER AND PARTICIPANT INFORMATION SHEET FOR PHYSIOTHERAPY PATIENTS (STUDY 4)

Invitation to take part in the Research Study entitled “Physiotherapy and osteopathy within the NHS and private practice: A questionnaire study.”

I am writing to invite you to participate in the above research study. This will involve completing a single questionnaire about your thoughts, feelings and experiences of having lower back pain and being treated with either physiotherapy or osteopathy. More information about this study is given in the enclosed Participant Information Sheet.

Before reading the enclosed Participant Information Sheet, it is important for you to know that:

Taking part in the study will not affect your care.

The study will involve completing a questionnaire.

The study will not take too much of your time.

It is entirely up to you if you wish to take part.

If you do not wish to take part then please ignore this letter.

Attached to this letter I have provided more details for you to read. If you think you might be interested in helping with this research please read the information and follow the instructions provided.

Many thanks for your time.

Yours sincerely

Katherine Bradbury

Appendix O

Physiotherapy and osteopathy within the NHS and private practice: A questionnaire study

You are being invited to take part in a research study. Before you decide if you wish to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Talk to others about the study if you wish.

Part 1 tells you the purpose of the study and what will happen if you take part.

Part 2 gives you more detailed information on the conduct of the study

Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

PART ONE

What is the purpose of the study?

This study is designed to find out whether peoples' experiences of physiotherapy or osteopathy are the same or different between the NHS and private practice. By carrying out this study we hope to learn more about whether the healthcare sector might influence physiotherapy and osteopathy treatments.

Why have I been chosen?

You have been chosen to take part in this study because you are a patient at one of the participating physiotherapy clinics, and have lower back pain. We plan to include up to 150 patients who have experienced physiotherapy or osteopathy for lower back pain.

Do I have to take part?

No. It is up to you to decide whether or not to take part. If you decide to take part you will be free to withdraw from this study at any time without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive. If you do decide to withdraw, we will ask you if you wish us to use or destroy any data collected to that point. You might want to discuss whether or not to take part with the Patient Advice and Liaison Service (PALS), who you can contact on Email : PALS@suht.swest.nhs.uk or by calling 02380 79 8498.

What will happen to me if I take part?

If you decide to take part, then this will involve completing the questionnaire enclosed in this pack and returning it to me in the freepost envelope provided. This questionnaire asks about you and your background. It also asks what your back pain is like and what you think about it. As well as what you think about treatment and your experiences of treatment so far. After you have completed the questionnaire your answers will be put with the answers of other people in our sample and will help us to answer our research questions.

What do I have to do?

If you decide to participate in the study then please complete the questionnaire provided within this pack and send it back to me in the freepost envelope provided.

What are the possible benefits and disadvantages of taking part?

There are no direct benefits to you of participating in this study. However, you may find it useful to have to reflect on your experiences when completing the questionnaire. Completing the questionnaire might equally raise issues that you find difficult, sensitive or

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challenging. Although this is unlikely, if you feel uncomfortable whilst completing the questionnaire then do stop. If appropriate you would be able to discuss these issues with your physiotherapist at your next consultation.

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2.

Will my taking part in the study be kept confidential?

Yes. I will follow ethical and legal practice and all information about you will be handled with confidence. The details are included in Part 2.

This completes Part 1 of the Information Sheet .If the information in Part 1 has interested you and you are considering participation, please continue to read the additional information in Part 2 before making any decision.

PART TWO

What if there is a problem?

If you have a concern about the study you should speak with the researcher in charge of the study (Katherine Bradbury, tel: 07867963498 or email kjb1e08@soton.ac.uk). If you remain unhappy you can contact Katherine's supervisor, Dr Felicity Bishop (02380 241072 or F.L.Bishop@soton.ac.uk) If you have questions about your rights as a

participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee. The chair can be reached at the Department of Psychology, University of Southampton, Southampton, SO17 1BJ, Phone: (023) 8059 5578.

Will my taking part in this study be kept confidential?

Please be assured that any answers that you give within the questionnaire will remain strictly confidential. Your answers will not affect the quality of care you receive from your physiotherapist. The information that I obtain from you during this period will be used for the purposes of this study. All forms of data relating to you will be stored in a secured, locked place. Only the researcher (Katherine Bradbury) and her supervisor (Dr Felicity Bishop) will have access to this information. Results of this study will not include any of your identifying characteristics. All data from the study will be stored at the Department of Psychology, University of Southampton for 10 years (in line with the University's rules). After this time the data will be securely disposed of.

What will happen to the results of the research study?

The findings will be written up as part of a PhD. They will also be published in academic journals and reported at conferences.

Who is organising and funding the research?

This study is funded by the School of Psychology at the University of Southampton. It is also funded by the charity the Southampton Complementary Therapy Research Trust. It is co-ordinated by the researcher Katherine Bradbury with supervision from Dr Felicity Bishop.

Who has reviewed the study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee to protect your safety, rights, wellbeing and dignity. This study has been

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given favourable opinion by the Isle of Wight, Portsmouth and South East Hampshire Research Ethics Committee.

What do I need to do now?

If you decide you would like to take part then please complete the consent form and questionnaire pack enclosed. Then please return these to the researcher in the freepost envelope provided. Alternatively if you have any questions you can contact Katherine Bradbury at: kjb1e08@soton.ac.uk Tel- 07867963498. Please note we include two copies of the consent form so that you may keep a copy for your own records.

APPENDIX P: QUESTIONNAIRE (STUDY 4)

Practitioner ID no:

Physiotherapy and osteopathy within the NHS and private practice: A questionnaire study

Questionnaire

This questionnaire contains questions about your background, your lower back pain symptoms and your thoughts on your lower back pain. It also contains questions about your relationship with your therapist and how you have found your treatment so far.

Please answer all the questions in each section as accurately and honestly as possible, making sure you do not miss out any of the questions.

Once you have filled in this questionnaire, please return it in the FREEPOST envelope provided.

Symptoms

When your back hurts, you may find it difficult to do some of the things you normally do.

This list contains sentences that people have used to describe themselves when they have back pain. When you read them, you may find that some stand out because they describe you *within the last twenty four hours*.

As you read the list, think of yourself *within the last twenty four hours*. When you read a sentence that describes you today, put a tick against it. If the sentence does not describe you, then leave the space blank and go on to the next one. Remember, only tick the sentence if you are sure it describes you within the last twenty four hours.

I stay at home most of the time because of my back.

I change position frequently to try and get my back comfortable.

I walk more slowly than usual because of my back.

Because of my back I am not doing any of the jobs that I usually do around the house.

Because of my back, I use a handrail to get upstairs.

Because of my back, I lie down to rest more often.

Because of my back, I have to hold on to something to get out of an easy chair.

Because of my back, I try to get other people to do things for me.

I get dressed more slowly than usual because of my back.

I only stand for short periods of time because of my back.

Because of my back, I try not to bend or kneel down.

I find it difficult to get out of a chair because of my back.

My back is painful almost all the time.

I find it difficult to turn over in bed because of my back.

My appetite is not very good because of my back pain.

I have trouble putting on my socks (or stockings) because of the pain in my back.

I only walk short distances because of my back.

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I sleep less well because of my back.

Because of my back pain, I get dressed with help from someone else.

I sit down for most of the day because of my back.

I avoid heavy jobs around the house because of my back.

Because of my back pain, I am more irritable and bad tempered with people than usual.

Because of my back, I go upstairs more slowly than usual.

I stay in bed most of the time because of my back.

Please select the number that best describes your lower back pain during the past 24 hours (circle one number only)

0 1 2 3 4 5 6 7 8 9 10

No

Worst

Pain

**Possible
Pain**

This next section describes some of the different ways a person may think or feel about his or her therapist. This will be used to help us understand the effect this relationship may have on your treatment and outcome, and **not** to evaluate individual therapists. Please read each statement and indicate the degree to which you agree or disagree by circling the appropriate number.

		strongly Disagree						strongly Agree
1	My therapist and I agree about the things I will need to do to help improve my situation	1	2	3	4	5	6	7
2	What I am doing gives me new ways of looking at my problem	1	2	3	4	5	6	7
3	I believe my therapist likes me	1	2	3	4	5	6	7
4	My therapist does not understand what I am trying to accomplish with my treatment sessions.	1	2	3	4	5	6	7
5	I am confident in my therapist's ability to help me	1	2	3	4	5	6	7
6	My therapist and I are working towards mutually agreed goals	1	2	3	4	5	6	7
7	I feel that my therapist appreciates me	1	2	3	4	5	6	7
8	We agree on what is important for me to work on	1	2	3	4	5	6	7
9	My therapist and I trust one another	1	2	3	4	5	6	7

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10	My therapist and I have different ideas of what my problems are	1	2	3	4	5	6	7
11	We have established a good understanding of the kind of changes that would be good for me	1	2	3	4	5	6	7
12	I believe the way we are working with my problem is correct	1	2	3	4	5	6	7

The Brief Illness Perception Questionnaire

The following questions concern your thoughts and feelings about your lower back pain and your treatment. Please circle the number that best corresponds to your views:

<p>How much does your lower back pain affect your life?</p>										
0	1	2	3	4	5	6	7	8	9	10
No affect						Severely				
at all						affects my life				
<p>How long do you think your lower back pain will continue?</p>										
0	1	2	3	4	5	6	7	8	9	10
A very						Forever				
short time										
<p>How much control do you feel you have over your lower back pain?</p>										
0	1	2	3	4	5	6	7	8	9	10
Absolutely						Extreme amount				
no control						of control				
<p>How much do you think your treatment can help your lower back pain?</p>										
0	1	2	3	4	5	6	7	8	9	10

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Not at all	Extremely									
Helpful										
How much do you experience symptoms from your lower back pain?										
0	1	2	3	4	5	6	7	8	9	10
No symptoms at all										Many severe symptoms
How concerned are you about your lower back pain?										
0	1	2	3	4	5	6	7	8	9	10
Not at all concerned										Extremely concerned
How well do you feel you understand your lower back pain?										
0	1	2	3	4	5	6	7	8	9	10
Don't understand at all										Understand very clearly
How much does your lower back pain affect you emotionally? (e.g. does it make you angry, scared, upset or depressed?)										
0	1	2	3	4	5	6	7	8	9	10
Not at all emotionally affected										Extremely emotionally affected

Please list in rank-order the three most important factors that you believe caused your back pain. *The most important causes for me:-*

1. _____

2. _____

3. _____

Appraisal of Treatment

In this questionnaire we are interested in your experiences of your treatment. There are no right or wrong answers. We are interested in your opinions. Please read each statement and indicate the degree to which you agree or disagree by circling the appropriate number.

		Strongly Disagree						Strongly Agree
1	I had to wait too long for treatment	1	2	3	4	5	6	7
2	I can always get appointments at a convenient time of day	1	2	3	4	5	6	7
3	My treatment is in a location convenient to me	1	2	3	4	5	6	7

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4	I have enough time during my treatment sessions	1	2	3	4	5	6	7
5	I can access as much treatment as I need	1	2	3	4	5	6	7
7	My therapist listens to me	1	2	3	4	5	6	7
8	My therapist tries to understand me as a whole person	1	2	3	4	5	6	7
9	My therapist examined me thoroughly	1	2	3	4	5	6	7
10	I feel I was given a general treatment which wasn't matched to me as an individual	1	2	3	4	5	6	7
12	I feel judged by my therapist	1	2	3	4	5	6	7
13	I worry that my therapist doesn't know what he/she is doing	1	2	3	4	5	6	7

		Strongly Disagree						Strongly Agree
14	I worry that the exercises my therapist recommends may hurt my back more	1	2	3	4	5	6	7

	(please ignore this question if you have not received exercises as part of your treatment.)							
15	I worry that my therapist could do damage to my back during treatment	1	2	3	4	5	6	7
16	I feel uncomfortable being undressed during my treatment sessions	1	2	3	4	5	6	7
17	I worry that my therapist may recommend that I have more treatment than I actually need (please only answer this if you have been treated in private practice).	1	2	3	4	5	6	7
18	I am confident that my current treatment will help my health problem	1	2	3	4	5	6	7
19	I am confident that my current treatment will help my symptoms	1	2	3	4	5	6	7
20	I am confident that my current treatment will improve my wellbeing	1	2	3	4	5	6	7
21	I am concerned that my current treatment will not be effective	1	2	3	4	5	6	7
22	I am confident that my current treatment will help me to stay healthy	1	2	3	4	5	6	7

Background

Age: _____

Gender: _____

Highest qualification: _____

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Occupational status: _____

Job title (if currently working): _____

How many episodes of lower back pain have you experienced? _____

How long has your current episode of lower back pain lasted for? _____

Have you ever used physiotherapy/osteopathy before? Yes/No (please circle)

If yes, how many previous times have you received this therapy? _____

Please list below any longterm health conditions which you have:

APPENDIX Q: PARTICIPANT INFORMATION SHEET, INVITATION LETTER AND CONSENT FOR OSTEOPATHS (STUDY 5)

Invitation to take part in the Research Study entitled “Practitioners experiences of treating lower back pain in the NHS and private practice: A qualitative study.”

I am writing to invite you to participate in the above research study, which will involve taking part in an interview with a researcher about your experiences of treating lower back pain. More information about this study is given in the enclosed Participant Information Sheet.

Before reading the enclosed Participant Information Sheet, it is important for you to know that:

The study will involve you talking to the researcher on one occasion only.

The study will not take too much of your time.

It is entirely up to you if you wish to take part.

If you do not wish to take part then please ignore this letter.

Attached to this letter I have provided more details for you to read. If you think you might be interested in helping with this research please read the information and follow the instructions provided.

Many thanks for your time.

Yours sincerely

Katherine Bradbury

Practitioners' experiences of treating lower back pain in the NHS and private practice: A qualitative study

You are being invited to take part in a research study. Before you decide if you wish to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Talk to others about the study if you wish.

Part 1 tells you the purpose of the study and what will happen if you take part.

Part 2 gives you more detailed information on the conduct of the study

Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

PART ONE

What is the purpose of the study?

This study is designed to find out about osteopaths' and physiotherapists experiences of treating lower back pain within the NHS and private practice.

Why have I been chosen?

You have been chosen because you are an osteopath who treats lower back pain in the NHS or private practice (or both).

Do I have to take part?

No. It is up to you to decide whether or not to take part. If you decide to take part in the study then please complete the reply slip and consent form provided within this pack and return it to me in the freepost envelope provided. You are free to withdraw at any time without giving a reason. If you do decide to withdraw, we will ask you if you wish us to use or destroy any interview information collected to that point.

What will happen to me if I take part?

If you decide to participate, you will take part in a one off interview over the telephone with Katherine Bradbury, a researcher at the University of Southampton. The interview will take place at a time and date convenient to you and the researcher will ring you on a phone number of your choice. The interview will take approximately one hour; it might take less or more, it will be up to you. During the interview I will ask you to talk all about your experiences of treating lower back pain, and this will include talking about what it is like to treat lower back pain, what things you feel are important to lower back pain treatments, what it is like to work as an osteopath in private practice/the NHS and about working with other colleagues.

With your permission, the interview will be audio taped and later typed up in detail. You will be free to ask me to turn the tape recorder off at any point during the interview, or to request the deletion of recorded information once the interview is over. After the interview I will ask you some questions from a short questionnaire which will ask you about your age, years of experience of working as an osteopath, years of experience of working within private practice/the NHS and your education. This information will not be linked with your individual interview recordings or the typed up transcription of your interview, it will be put with the answers from all participants in order for the study to describe its overall sample of participants. The typed up interview will be added together with the interviews with other people included in the study and these will be read in detail to help me understand practitioners' experiences of treating lower back pain. I will offer a summary of the findings of the study when it is completed.

What do I have to do?

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If you decide to participate in the study I will contact you to confirm your eligibility and arrange a suitable time to meet for the interview.

What are the possible benefits and disadvantages of taking part?

There are no direct benefits to you of participating in this study, although you may find it useful to have the opportunity to reflect on your experiences of treating lower back pain. The process of reflection might equally raise issues that you find difficult, sensitive or challenging. Although this is unlikely, if you feel uncomfortable during the interview, the interview will be stopped or suspended.

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2.

Will my taking part in the study be kept confidential?

Yes. I will follow ethical and legal practice and all information about you will be handled with confidence. The details are included in Part 2.

Contact Details:

Please contact Katherine Bradbury for more information about this study, telephone:
07867963498

or email: kjb1e08@soton.ac.uk

This completes Part 1 of the Information Sheet.

If the information in Part 1 has interested you and you are considering participation, please continue to read the additional information in Part 2 before making any decision.

PART TWO

What if there is a problem?

If you have a concern about the study you should speak with the researcher (Katherine Bradbury) and who will do her best to answer your questions (tel: 07867963498 or email kjb1e08@soton.ac.uk). If you remain unhappy you can contact Katherine's supervisor, Dr Felicity Bishop (02380 241072. F.L. Bishop@soton.ac.uk . If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Department of Psychology, University of Southampton, Southampton, SO17 1BJ, Phone: (023) 8059 5578.

In the event that something does go wrong (which is unlikely in an interview) and you are harmed during the research study there are no special compensation arrangements. If you are harmed and this is due to someone's negligence then you may have grounds for a legal action for compensation against the University of Southampton but you may have to pay your legal costs.

Will my taking part in this study be kept confidential?

Please be assured that anything you say within the interview and all other information collected about you during the course of the research will remain strictly confidential. Confidentiality will only be broken if there is a serious risk of harm to either yourself or somebody else. The information I obtain from you during this period (contact information, recordings of the interviews, transcripts and researcher notes from the interviews and answers to the short questionnaire) will be used for the purposes of this study. All forms of data relating to you will be stored in a secured, locked place. Only the researcher (Katherine Bradbury), her supervisor (Dr Felicity Bishop) and the trained individual who types up your interview will have access to the original interview recordings. When your interview is typed up, anonymised transcripts will be made which will not contain your name or any of your details. To ensure your anonymity any identifiable details about you in the transcripts will be altered. You will have the

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opportunity to review a summary of the interview to ensure that you agree with what has been typed up. Anonymised transcripts (or quotes from the anonymised transcripts) will then be used for research, educational and clinical purposes. All data from the study will be stored at the Department of Psychology, University of Southampton for 10 years (in line with the University's rules). After this time the data will be securely disposed of.

What will happen to the results of the research study?

The findings from this study will be written up as part of my PhD research project and published in academic journals and reported at conferences. If you have agreed to it, I might use word-for-word quotations of some of what you say in your interview when we publish the results. Any quotations from you that are used in this way will be anonymous.

Who is organising and funding the research?

This study is funded by the School of Psychology, University of Southampton, and co-ordinated by the researcher Katherine Bradbury with supervision from Felicity Bishop.

Who has reviewed the study?

All research conducted at the University of Southampton is looked at by an independent group of people, called a Research Ethics Committee to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given favourable opinion by the School of Psychology research ethics committee, at the University of Southampton.

What do I need to do now?

Please will you let us know if you would like to take part in this study by completing the reply slip and a copy of the consent form and returning these in the pre-paid envelope. If you prefer or if you have any questions then you can contact Katherine Bradbury at: kjb1e08@soton.ac.uk Tel- 07867963498. Please note a second copy of the consent form is included for you to keep for your own records.

Thank you for taking the time to read this Information Sheet. This is a copy for you to keep for your reference.

REPLY SLIP

Practitioners' experiences of treating lower back pain in the NHS and private practice: A qualitative study.

Your Name

Your Address

.....

.....

Telephone Number

Good times to contact you

.....

Signed Date

Thank you for completing this form, your help is appreciated. Now please complete one copy of the consent form provided on the following page.

Please return this slip and consent form to Katherine Bradbury, Health Psychology, Shackelton Building, University of Southampton, FREEPOST, S017 1BJ.

CONSENT FORM

Project Title: Practitioners' experiences of treating lower back pain in the NHS and private practice: A qualitative study.

Project Researcher: Katherine Bradbury

Please initial box:

I confirm that I have read and understand the patient information sheet dated 05/01/11 (Version 1) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical or legal rights being affected.

I understand the interview will be audio-taped and that anonymised word-for-word quotations of statements I make during the interview may be used for research, educational and clinical purposes.

I understand that the answers that I give to the short questionnaire will not be linked with my interview recordings or transcripts and will be used only to describe the overall sample of participants.

I agree to take part in the above study

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Please print your name, the date and sign your name below.

Name of Participant Date Signature

Name of Researcher Date Signature

Once you have completed this please return this form to the University of Southampton in the Freepost envelope provided. The second copy of this consent form is for your own records.

When completed: 1 copy for participant, 1 copy for researcher.

APPENDIX R: INVITATION LETTER, PARTICIPANT INFORMATION SHEET AND CONSENT FORM FOR PHYSIOTHERAPISTS (STUDY 5)

Invitation to take part in the Research Study entitled “Practitioners experiences of treating lower back pain in the NHS and private practice: A qualitative study.”

I am writing to invite you to participate in the above research study, which will involve taking part in an interview with a researcher about your experiences of treating lower back pain. More information about this study is given in the enclosed Participant Information Sheet.

Before reading the enclosed Participant Information Sheet, it is important for you to know that:

The study will involve you talking to the researcher on one occasion only.

The study will not take too much of your time.

It is entirely up to you if you wish to take part.

If you do not wish to take part then please ignore this letter.

Attached to this letter I have provided more details for you to read. If you think you might be interested in helping with this research please read the information and follow the instructions provided.

Many thanks for your time.

Yours sincerely

Appendix R

Katherine Bradbury

Practitioners' experiences of treating lower back pain in the NHS and private practice: A qualitative study

You are being invited to take part in a research study. Before you decide if you wish to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Talk to others about the study if you wish.

Part 1 tells you the purpose of the study and what will happen if you take part.

Part 2 gives you more detailed information on the conduct of the study

Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

PART ONE

What is the purpose of the study?

This study is designed to find out about physiotherapists and osteopaths experiences of treating lower back pain within the NHS and private practice.

Why have I been chosen?

You have been chosen because you are a physiotherapist who treats lower back pain in the NHS or private practice (or both).

Do I have to take part?

No. It is up to you to decide whether or not to take part. If you decide to take part in the study then please complete the reply slip and consent form provided within this pack and return it to me in the freepost envelope provided. You are free to withdraw at any time without giving a reason. If you do decide to withdraw, we will ask you if you wish us to use or destroy any interview information collected to that point.

What will happen to me if I take part?

If you decide to participate, you will take part in a one off interview over the telephone with Katherine Bradbury, a researcher at the University of Southampton. The interview will take place at a time and date convenient to you and the researcher will ring you on a phone number of your choice. The interview will take approximately one hour; it might take less or more, it will be up to you. During the interview I will ask you to talk all about your experiences of treating lower back pain, and this will include talking about what it is like to treat lower back pain, what things you feel are important to lower back pain treatments, what it is like to work as a physiotherapist in private practice/the NHS and about working with other colleagues.

With your permission, the interview will be audio taped and later typed up in detail. You will be free to ask me to turn the tape recorder off at any point during the interview, or to request the deletion of recorded information once the interview is over. After the interview I will ask you some questions from a short questionnaire which will ask you about your age, years of experience of working as a physiotherapist, years of experience of working within private practice/the NHS and your education. This information will not be linked with your individual interview recordings or the typed up transcription of your interview, it will be put with the answers from all participants in order for the study to describe its overall sample of participants. The typed up interview will be added together with the interviews with other people included in the study and these will be read in detail to help me understand practitioners' experiences of treating lower back pain. I will offer a summary of the findings of the study when it is completed.

What do I have to do?

Appendix R

If you decide to participate in the study I will contact you to confirm your eligibility and arrange a suitable time to meet for the interview.

What are the possible benefits and disadvantages of taking part?

There are no direct benefits to you of participating in this study, although you may find it useful to have the opportunity to reflect on your experiences of treating lower back pain. The process of reflection might equally raise issues that you find difficult, sensitive or challenging. Although this is unlikely, if you feel uncomfortable during the interview, the interview will be stopped or suspended.

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2.

Will my taking part in the study be kept confidential?

Yes. I will follow ethical and legal practice and all information about you will be handled with confidence. The details are included in Part 2.

Contact Details:

Please contact Katherine Bradbury for more information about this study, telephone:
07867963498

or email: kjb1e08@soton.ac.uk

This completes Part 1 of the Information Sheet.

If the information in Part 1 has interested you and you are considering participation, please continue to read the additional information in Part 2 before making any decision.

PART TWO

What if there is a problem?

If you have a concern about the study you should speak with the researcher (Katherine Bradbury) and who will do her best to answer your questions (tel:07724789575 or email kjb1e08@soton.ac.uk). If you remain unhappy you can contact Katherine's supervisor, Dr Felicity Bishop (02380 24107; F.L.[Bishop@soton.ac.uk](mailto:F.L.Bishop@soton.ac.uk)). If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Department of Psychology, University of Southampton, Southampton, SO17 1BJ, Phone: (023) 8059 5578.

In the event that something does go wrong (which is unlikely in an interview) and you are harmed during the research study there are no special compensation arrangements. If you are harmed and this is due to someone's negligence then you may have grounds for a legal action for compensation against the University of Southampton but you may have to pay your legal costs.

Will my taking part in this study be kept confidential?

Please be assured that anything you say within the interview and all other information collected about you during the course of the research will remain strictly confidential. Confidentiality will only be broken if there is a serious risk of harm to either yourself or somebody else. The information I obtain from you during this period (contact information, recordings of the interviews, transcripts and researcher notes from the interviews and answers to the short questionnaire) will be used for the purposes of this study. All forms of data relating to you will be stored in a secured, locked place. Only the researcher (Katherine Bradbury), her supervisor (Dr Felicity Bishop) and the trained individual who types up your interview will have access to the original interview

Appendix R

recordings. When your interview is typed up, anonymised transcripts will be made which will not contain your name or any of your details. To ensure your anonymity any identifiable details about you in the transcripts will be altered. You will have the opportunity to review a summary of the interview to ensure that you agree with what has been typed up. Anonymised transcripts (or quotes from the anonymised transcripts) will then be used for research, educational and clinical purposes. All data from the study will be stored at the Department of Psychology, University of Southampton for 10 years (in line with the University's rules). After this time the data will be securely disposed of.

What will happen to the results of the research study?

The findings from this study will be written up as part of my PhD research project and published in academic journals and reported at conferences. If you have agreed to it, I might use word-for-word quotations of some of what you say in your interview when we publish the results. Any quotations from you that are used in this way will be anonymous.

Who is organising and funding the research?

This study is funded by the School of Psychology, University of Southampton, and coordinated by the researcher Katherine Bradbury with supervision from Felicity Bishop.

Who has reviewed the study?

All research conducted at the University of Southampton is looked at by an independent group of people, called a Research Ethics Committee to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given favourable opinion by the School of Psychology research ethics committee, at the University of Southampton.

What do I need to do now?

Please will you let us know if you would like to take part in this study by completing the reply slip and a copy of the consent form and returning these in the pre-paid envelope. If you prefer or if you have any questions then you can contact Katherine Bradbury at:

kjb1e08@soton.ac.uk Tel- 0772478575. Please note a second copy of the consent form is included for you to keep for your own records.

Thank you for taking the time to read this Information Sheet. This is a copy for you to keep for your reference.

Appendix R

REPLY SLIP

.

Practitioners' experiences of treating lower back pain in the NHS and private practice: A qualitative study.

Your Name

Your Address

.....

.....

Telephone Number

Good times to contact you

.....

Signed Date

Thank you for completing this form, your help is appreciated. Now please complete one copy of the consent form provided on the following page.

Please return this slip and consent form to Katherine Bradbury, Health Psychology, Shackelton Building, University of Southampton, FREEPOST, S017 1BJ.

CONSENT FORM

Project Title: Practitioners' experiences of treating lower back pain in the NHS and private practice: A qualitative study.

Project Researcher: Katherine Bradbury

Please initial box:

I confirm that I have read and understand the participant information sheet dated 05/01/11 (Version 1) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical or legal rights being affected.

I understand the interview will be audio-taped and that anonymised word-for-word quotations of statements I make during the interview may be used for research, educational and clinical purposes.

I understand that the answers that I give to the short questionnaire will not be linked with my interview recordings or transcripts and will be used only to describe the overall sample of participants.

I agree to take part in the above study

Appendix R

Please print your name, the date and sign your name below.

Name of Participant	Date	Signature
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Name of Researcher	Date	Signature
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Once you have completed this please return this form to the University of Southampton in the Freepost envelope provided. The second copy of this consent form is for your own records.

When completed: 1 copy for participant, 1 copy for researcher.

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