

## University of Southampton Research Repository

Copyright © and Moral Rights for this thesis and, where applicable, any accompanying data are retained by the author and/or other copyright owners. A copy can be downloaded for personal non-commercial research or study, without prior permission or charge. This thesis and the accompanying data cannot be reproduced or quoted extensively from without first obtaining permission in writing from the copyright holder/s. The content of the thesis and accompanying research data (where applicable) must not be changed in any way or sold commercially in any format or medium without the formal permission of the copyright holder/s.

When referring to this thesis and any accompanying data, full bibliographic details must be given, e.g.

Thesis: Author (Year of Submission) "Full thesis title", University of Southampton, name of the University Faculty or School or Department, PhD Thesis, pagination.

Data: Author (Year) Title. URI [dataset]



**University of Southampton**

Faculty of Environmental and Life Sciences

School of Health Sciences

**An Exploration of the Relationship between Pilates Teachers and Clients with  
Persistent Low Back Pain**

by

**Nicola Clare Godfrey**

ORCID ID [0000-0002-1949-021X](https://orcid.org/0000-0002-1949-021X)

Thesis for the degree of Doctor of Philosophy

March 2020



# University of Southampton

## Abstract

Faculty of Environmental and Life Sciences

School of Health Sciences

Thesis for the degree of Doctor of Philosophy

### **An Exploration of the Relationship between Pilates Teachers and Clients with Persistent Low Back Pain**

by

Nicola Clare Godfrey

Clinical guidelines identify a clear role for managing back pain with structured exercise. Pilates is a commonly recommended modality; however, Pilates-specific research is limited. Research suggests the patient-practitioner relationship may be important in managing persistent low back pain, although further research is needed to evaluate its impact on outcomes. The purpose of this study was to identify the components of the relationship between Pilates teachers and clients with persistent low back pain, explore key influences on the relationship, and to examine whether the interaction represents a therapeutic relationship.

This qualitative study used a multi-site, ethnographically-informed methodology. Data collection included observation of 24 Pilates sessions at eight sites in the South of England, and 19 semi-structured interviews with Pilates teachers and clients with persistent low back pain. Data were audio-recorded, transcribed verbatim and analysed thematically. From the interviews and observations, ten themes emerged, of which six related to components of the relationship: (1) 'Being Known'; (2) 'Encouragement'; (3) 'Teacher Expertise'; (4) 'Mastery' of exercises, facilitated by the teacher; (5) 'Trust'; and (6) 'Professional Identity' of the teacher. Key influences on the relationship were identified in three themes: (7) 'Health Perceptions'; (8) 'Social Influences', such as group dynamic; and (9) 'Service Perceptions'. An additional theme described the perceived impact of the relationship: (10) 'Feeling Good'.

Further contextualisation of the findings using a social constructionist lens provided a tentative proposal that the relationship between Pilates teachers and clients with persistent low back pain may be considered a therapeutic relationship. The teacher-as-expert guided the client through culturally-based ritual-like practices associated with control of postural alignment and movement, facilitating a reduction in clients' anxieties by providing meaning for their back pain. This conceptualisation demonstrates a complex, multi-faceted interaction, where the teachers' authority is valued. This novel perspective offers a potential avenue for further research.

# Table of Contents

<b>Abstract</b>	<b>i</b>
<b>Table of Contents</b>	<b>ii</b>
<b>Table of Tables</b>	<b>ix</b>
<b>Table of Figures</b>	<b>x</b>
<b>List of Accompanying Materials</b>	<b>xii</b>
<b>Research Thesis: Declaration of Authorship</b>	<b>xiii</b>
<b>Acknowledgements</b>	<b>xiv</b>
<b>Operational Definitions</b>	<b>xv</b>
<b>Abbreviations</b>	<b>xvi</b>
<b>Thesis Layout</b>	<b>xvii</b>
<b>Chapter 1: Research Context</b>	<b>1</b>
1.1 Introduction	1
1.2 The societal impact of low back pain	2
1.3 Management of persistent low back pain	3
1.4 Pilates	5
1.4.1 Pilates exercises	5
1.4.2 The rise of Pilates to popular exercise method	11
1.4.3 Pilates and the management of low back pain	17
1.5 The relevance of relationship	20
1.6 The relationship between client and healthcare professional	21
1.6.1 Psychodynamic origins and concepts of the therapeutic relationship	22
1.6.2 Sociological perspective of the therapeutic relationship	24
1.6.3 Anthropological perspective of the therapeutic relationship	26
1.6.4 Biomedical perspective of the therapeutic relationship	27
1.7 Measures used to assess the therapeutic relationship	31
1.8 The relevance of the therapeutic relationship to Pilates	36
1.9 Chapter summary	40

<b>Chapter 2:</b>	<b>A Literature Review of the Influence of the Therapeutic Relationship in the Management of Persistent Low Back Pain .....</b>	<b>41</b>
2.1	Introduction .....	41
2.2	Literature search 1: the influence of the therapeutic relationship in Pilates interventions for persistent low back pain .....	43
2.2.1	Literature search strategy – Search 1 .....	43
2.2.2	Results of literature search 1 .....	45
2.3	Literature Search 2: The influence of the therapeutic relationship in physical therapy interventions for persistent low back pain .....	47
2.3.1	Literature search strategy – Search 2 .....	47
2.3.2	Results of literature search 2 .....	48
2.4	Literature search – critique and synthesis .....	51
2.4.1	The influence of the therapeutic relationship in Pilates .....	51
2.4.2	The influence of the therapeutic relationship in the management of persistent low back pain .....	56
2.5	Conclusion .....	67
2.6	Research questions .....	68
2.7	Chapter summary .....	70
<b>Chapter 3:</b>	<b>Methodology.....</b>	<b>71</b>
3.1	Introduction .....	71
3.2	The nature of the body-in-pain.....	71
3.3	Social constructionism .....	71
3.3.1	Considering the body .....	73
3.3.2	Social constructionism as a theoretical framework .....	73
3.3.3	Methodological choice .....	73
3.4	Ethnographic methodology .....	74
3.4.1	Relevance of methodological approach .....	75

3.5	Chapter summary .....	79
<b>Chapter 4:</b>	<b>Methods.....</b>	<b>81</b>
4.1	Introduction.....	81
4.2	Study Design .....	81
4.3	Study Setting.....	82
4.4	Patient and Public Involvement .....	83
4.5	Participants.....	84
4.5.1	Pilates teachers .....	85
4.5.2	Observation clients.....	90
4.5.3	Interview clients .....	92
4.6	Data collection methods.....	95
4.6.1	Questionnaire.....	96
4.6.2	Fieldwork .....	96
4.6.3	Participant observation .....	97
4.6.4	Fieldnotes .....	98
4.6.5	In-depth interviews .....	98
4.6.6	Internal pilot.....	101
4.7	Data analysis.....	102
4.7.1	Inductive data analysis process .....	104
4.7.2	Situating the data .....	111
4.8	Rigour .....	112
4.9	Ethical considerations.....	115
4.10	Chapter summary .....	118
<b>Chapter 5:</b>	<b>Findings – Inductive Analysis .....</b>	<b>119</b>
5.1	Introduction.....	119
5.2	Participant demographics.....	119
5.2.1	Participant location .....	119
5.2.2	Observation and interview demographics .....	120



5.2.3	Teacher characteristics .....	121
5.2.4	Interview client characteristics .....	123
5.3	Contextual background .....	124
5.3.1	Overview of observation context .....	124
5.3.2	Overview of a Pilates session .....	125
5.4	Inductive analysis .....	128
5.5	Theme 1 - Being Known .....	130
5.5.1	Remembering details .....	130
5.5.2	Individual attention .....	131
5.5.3	Summary of 'Being Known' .....	138
5.6	Theme 2 - Encouragement .....	140
5.6.1	Positive reinforcement .....	140
5.6.2	Reassurance .....	144
5.6.3	Taking responsibility .....	145
5.6.4	Summary of Encouragement .....	148
5.7	Theme 3 - Teacher Expertise .....	149
5.7.1	Pilates exercise knowledge .....	149
5.7.2	Medicalised knowledge .....	150
5.7.3	Qualifications .....	151
5.7.4	Summary of 'Teacher Expertise' .....	154
5.8	Theme 4 – Mastery .....	155
5.8.1	Comprehension .....	155
5.8.2	Control .....	157
5.8.3	Correction .....	159
5.8.4	Summary of 'Mastery' .....	165
5.9	Theme 5 - Trust .....	166
5.9.1	Building trust .....	166

5.9.2	Feeling safe.....	168
5.9.3	Summary of 'Trust' .....	169
5.10	Theme 6 – Professional Identity.....	170
5.10.1	Describing the relationship .....	170
5.10.2	Being human.....	172
5.10.3	Navigating boundaries.....	174
5.10.4	Summary of 'Professional Identity' .....	176
5.11	Theme 7 - Health Perceptions .....	177
5.11.1	Biomechanical reasons for back pain.....	177
5.11.2	Choosing Pilates .....	180
5.11.3	Summary of 'Health Perceptions' .....	181
5.12	Theme 8 - Social Influences .....	182
5.12.1	Environment .....	182
5.12.2	Group dynamic .....	184
5.12.3	Cultural differences .....	188
5.12.4	Summary of 'Social Influences' .....	189
5.13	Theme 9 - Service Perceptions .....	190
5.13.1	Convenience .....	190
5.13.2	Value.....	191
5.13.3	Summary of 'Service Perceptions' .....	194
5.14	Theme 10 – Feeling good .....	195
5.14.1	Noticing a difference .....	195
5.14.2	The 'feel-good' factor .....	197
5.14.3	Enjoyment .....	198
5.14.4	Summary of 'Feeling Good' .....	200
5.15	Dynamic Interconnection of Themes .....	201
5.16	Differences between one-to-one sessions and group class.....	204
5.17	Chapter summary .....	205

<b>Chapter 6:</b>	<b>Synthesis and Contextualisation.....</b>	<b>207</b>
6.1	Introduction .....	207
6.2	Situating findings within the literature.....	207
6.2.1	Situating findings within the Pilates literature .....	207
6.2.2	Situating findings within a wider context .....	217
6.2.3	Identifying components of the relationship .....	245
6.3	Situating findings in a socio-cultural context.....	247
6.3.1	Notions of low back pain .....	247
6.3.2	Practices of control - mastering the uncertain body.....	250
6.3.3	The authority of the teacher.....	254
6.3.4	The nature of the relationship – a social constructionist perspective ..	261
6.4	Theoretical synthesis .....	262
6.4.1	Psychotherapeutic lens.....	262
6.4.2	Anthropological lens .....	266
6.4.3	Biomedical lens.....	268
6.4.4	Other conceptual approaches .....	272
6.4.5	Moving beyond the theoretical .....	275
6.5	Chapter summary .....	277
<b>Chapter 7:</b>	<b>Summary and Conclusions.....</b>	<b>279</b>
7.1	Introduction .....	279
7.2	Summary of findings .....	279
7.3	Strengths and limitations.....	281
7.3.1	Theoretical approach.....	281
7.3.2	Literature search.....	283
7.3.3	Methodology.....	283
7.3.4	Methods.....	283
7.3.5	Transferability .....	288
7.3.6	Researcher bias and assumptions .....	288

7.4	Implications of research .....	290
7.4.1	Implications for practice.....	290
7.4.2	Implications for future research.....	291
7.5	Dissemination of findings .....	293
7.6	Autobiographical reflection.....	295
7.7	Conclusion .....	298
<b>Appendices</b>	.....	<b>301</b>
<b>Appendix A</b>	- Online Screening Questionnaire (Teacher).....	<b>301</b>
<b>Appendix B</b>	- Screening Questionnaire (Client) .....	<b>302</b>
<b>Appendix C</b>	- Pilot Interview Evaluation Questionnaire .....	<b>303</b>
<b>Appendix D</b>	- Interview Topic Guide (Teacher) .....	<b>304</b>
<b>Appendix E</b>	- Interview Topic Guide (Client) .....	<b>306</b>
<b>Appendix F</b>	- Participant Information Sheet (Pilot) .....	<b>309</b>
<b>Appendix G</b>	- Participant Information Sheet – Teacher .....	<b>311</b>
<b>Appendix H</b>	- Participant Information Sheet (Client - Observation) .....	<b>314</b>
<b>Appendix I</b>	- Participant Information Sheet (Interview Client) .....	<b>316</b>
<b>Appendix J</b>	- Consent Form (Pilot).....	<b>318</b>
<b>Appendix K</b>	- Consent Form (Teacher) .....	<b>319</b>
<b>Appendix L</b>	- Consent Form (Client – Observation) .....	<b>320</b>
<b>Appendix M</b>	- Consent Form (Client – Interview) .....	<b>321</b>
<b>Appendix N</b>	- Pilot Invitation Letter .....	<b>322</b>
<b>Appendix O</b>	- Teacher Invitation Letter .....	<b>323</b>
<b>Appendix P</b>	- Teacher Follow-up Letter.....	<b>324</b>
<b>Appendix Q</b>	- Observation Client Invitation Letter.....	<b>325</b>
<b>Appendix R</b>	- Interview Client Invitation Letter .....	<b>326</b>
<b>Appendix S</b>	- Selected Teacher Letter .....	<b>327</b>
<b>Appendix T</b>	- Selected Interview Client Letter.....	<b>328</b>
<b>Appendix U</b>	- Non-selected participant letter.....	<b>329</b>
<b>Appendix V</b>	– Spradley’s Descriptive Question Matrix .....	<b>330</b>
<b>List of References</b> .....		<b>333</b>

## Table of Tables

<i>Table 1. Commonly used measures of the therapeutic relationship in psychotherapy .....</i>	<i>32</i>
<i>Table 2. Measures of the therapeutic relationship in medicine (adapted from Eveleigh et al. (2012)) .....</i>	<i>34</i>
<i>Table 3. Key search terms for literature search 1 .....</i>	<i>44</i>
<i>Table 4. Inclusion and exclusion criteria for Literature Search 1 .....</i>	<i>44</i>
<i>Table 5. Articles included from literature search 1 .....</i>	<i>46</i>
<i>Table 6. Key search terms for literature search 2 .....</i>	<i>47</i>
<i>Table 7. Inclusion and exclusion criteria for literature search 2 .....</i>	<i>48</i>
<i>Table 8. Articles included from literature search 2 .....</i>	<i>50</i>
<i>Table 9. Research aims and objectives .....</i>	<i>69</i>
<i>Table 10. Summary of training providers .....</i>	<i>86</i>
<i>Table 11. Elements of interest - Pilates teachers .....</i>	<i>87</i>
<i>Table 12. Pilates teacher sampling strategy .....</i>	<i>87</i>
<i>Table 13. Data collected from Pilates teacher screening questionnaire .....</i>	<i>88</i>
<i>Table 14. Data collected from client questionnaire .....</i>	<i>93</i>
<i>Table 15. Examples of ethnographic interview questions .....</i>	<i>100</i>
<i>Table 16. Thematic analysis process .....</i>	<i>103</i>
<i>Table 17. Steps taken to promote reflexivity .....</i>	<i>114</i>
<i>Table 18. Observation and interview demographics .....</i>	<i>121</i>
<i>Table 19. Reported teacher characteristics .....</i>	<i>122</i>
<i>Table 20. Reported interview client characteristics .....</i>	<i>123</i>
<i>Table 21. Types of touch used in physiotherapy (Roger et al. 2002) .....</i>	<i>229</i>
<i>Table 22. Four models of the doctor-patient relationship .....</i>	<i>268</i>
<i>Table 23. Conceptualisations used to investigate the therapeutic relationship .....</i>	<i>273</i>
<i>Table 24. Components relating to models of the therapeutic relationship .....</i>	<i>274</i>
<i>Table 25. Publication plan .....</i>	<i>295</i>

# Table of Figures

<i>Figure 1. Layout of thesis chapters</i> .....	xvii
<i>Figure 2. Situating the Researcher</i> .....	1
<i>Figure 3. Examples of 'classical' Pilates exercises by N Godfrey, 2019</i> .....	6
<i>Figure 4. Examples of 'graded' Pilates exercises by N Godfrey, 2019</i> .....	8
<i>Figure 5. Reformers in a Pilates Studio by N Godfrey, 2019</i> .....	9
<i>Figure 6. Pilates equipment by J.A. Moore, 2021</i> .....	10
<i>Figure 7. Situating the researcher's background and motivation</i> .....	16
<i>Figure 8. Situating the researcher's influences</i> .....	20
<i>Figure 9. Literature search 1 results</i> .....	46
<i>Figure 10. Literature search 2 results</i> .....	49
<i>Figure 11. Literature search flow diagram</i> .....	51
<i>Figure 12. Geographic parameters for sampling</i> .....	82
<i>Figure 13. Decision trail for diversity</i> .....	83
<i>Figure 14. Decision trail for inclusion criteria</i> .....	85
<i>Figure 15. Flow chart of Pilates teacher recruitment process</i> .....	89
<i>Figure 16. Decision trail for sampling teachers</i> .....	90
<i>Figure 17. Flow chart of observation participant recruitment process</i> .....	91
<i>Figure 18. Flow chart of client interview recruitment process</i> .....	94
<i>Figure 19. Decision trail for sampling interview clients</i> .....	95
<i>Figure 20. Research tools</i> .....	95
<i>Figure 21. Reflections on interview bias</i> .....	99
<i>Figure 22. Internal Pilot process</i> .....	102
<i>Figure 23. Decision trail for transcription</i> .....	105
<i>Figure 24. Reflection – limitation due to lack of resource</i> .....	106
<i>Figure 25. First cycle coding mind map example</i> .....	107
<i>Figure 26. Example of exploring code patterns</i> .....	108
<i>Figure 27. The use of computer software package QSRNVivo12 Pro</i> .....	109
<i>Figure 28. Example of visualising themes</i> .....	110
<i>Figure 29. An ethnographically-informed study</i> .....	112
<i>Figure 30. Area spread of participants</i> .....	120
<i>Figure 31. Reflection on low response for interview participants</i> .....	123
<i>Figure 32. Reflections on the researcher's influence</i> .....	125
<i>Figure 33. Examples of teacher demonstration and tactile feedback by J.A. Moore, 2021</i> .....	127
<i>Figure 34. Emergent themes</i> .....	128
<i>Figure 35. Themes and sub-themes</i> .....	129
<i>Figure 36. Theme 1 - Being Known</i> .....	130

<i>Figure 37. Being Known - a vignette from observations with Grace and Coretta .....</i>	<i>136</i>
<i>Figure 38. Theme 2 - Encouragement.....</i>	<i>140</i>
<i>Figure 39. Encouragement - a vignette from observations with Cindy's classes .....</i>	<i>147</i>
<i>Figure 40. Theme 3 - Teacher Expertise.....</i>	<i>149</i>
<i>Figure 41. Theme 4 - Mastery .....</i>	<i>155</i>
<i>Figure 42. Mastery - a vignette from observations with Janey .....</i>	<i>164</i>
<i>Figure 43. Theme 5 – Trust .....</i>	<i>166</i>
<i>Figure 44. Theme 6 – Professional Identity .....</i>	<i>170</i>
<i>Figure 45. Theme 7 - Health Perceptions.....</i>	<i>177</i>
<i>Figure 46. Theme 8 - Social Influences .....</i>	<i>182</i>
<i>Figure 47. Theme 9 - Service Perceptions .....</i>	<i>190</i>
<i>Figure 48. Theme 10 - Feeling Good.....</i>	<i>195</i>
<i>Figure 49. Similarities between findings and study by Allen (2014) .....</i>	<i>210</i>
<i>Figure 50. Similarities between findings and study by Scarpellini (2013) .....</i>	<i>213</i>
<i>Figure 51. Similarities between findings and studies by Allen (2014) and Scarpellini (2013) .....</i>	<i>214</i>
<i>Figure 52. Core themes associated with the therapeutic relationship – Babatunde et al. (2017) .....</i>	<i>219</i>
<i>Figure 53. Factors influencing patient-therapist interactions – O’Keefe et al. (2016) .....</i>	<i>220</i>
<i>Figure 54. Factors influencing the therapeutic relationship – Kinney et al. (2018) .....</i>	<i>221</i>
<i>Figure 55. Similarities between findings and Babatunde et al. (2017) .....</i>	<i>244</i>
<i>Figure 56. Components of, influences upon, and impact of the relationship .....</i>	<i>245</i>
<i>Figure 57. Categories of ritual activity .....</i>	<i>258</i>
<i>Figure 58. Components of, influences upon, and impact of the relationship .....</i>	<i>280</i>
<i>Figure 59. Reflections on teacher hesitancy.....</i>	<i>284</i>
<i>Figure 60. Research presentation event.....</i>	<i>294</i>

## List of Accompanying Materials

Due to ethical concerns, supporting data cannot be made publicly available. Bona fide researchers, subject to registration and ethical approval may request supporting data via University of Southampton repository <https://doi.org/10.5258/SOTON/D1732>. Details of ethical restrictions behind these data: Supporting interview and fieldnote data have been anonymised using pseudonyms and removing direct identifiers; however, it is considered that there may still be a risk of re-identification through indirect identifiers. Removal of all indirect identifiers may remove valuable information from the data, and have therefore been kept. In order to protect participant confidentiality access is therefore restricted to bona fide researchers. University of Southampton Ethics Committee (Ethics ID: 24796).



# Research Thesis: Declaration of Authorship

Print name: Nicola Clare Godfrey

Title of thesis: An Exploration of the Relationship between Pilates Teachers and Clients with Persistent Low Back Pain

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission.

Signature: ..... Date: 27<sup>th</sup> March 2020

## Acknowledgements

I would like to thank the Pilates teachers and their clients who so generously offered their time in participating in this study, and without whom the research would not have been possible. I also extend my sincere gratitude to my supervisors Lisa Roberts and Maggie Donovan-Hall for their unfailing support, enthusiasm and outstanding ability to provide guidance and critique in just the right measure, with thanks to Rob Shannon for help in the early stages. I am grateful to members of the wider Pilates community: Dr Brent Anderson, local Pilates teachers, and clients for their interest in this research, and kind words of encouragement. Finally, special thanks to Simon Holloway for always believing in me.

## Operational Definitions

**Class:** A group session of Pilates exercise, led by a Pilates teacher

**Client:** A person, with or without any form of pre-existing medical or musculoskeletal condition, who is attending Pilates sessions with a Pilates teacher

**Component:** A constituent feature or part of something (Stevenson 2010)

**Contrology:** The original name given to Pilates exercises by Joseph Pilates

**Impact:** The strong effect that something has on someone, or something (Stevenson 2010)

**Influence:** The exertion of action of one thing upon another (Stevenson 2010)

**One-to-one:** An individual Pilates exercise session, with one client and one teacher

**Non-specific treatment effects:** Improvement after treatment not attributable to the intervention, also known as contextual or placebo factors (Price et al. 2008)

**Persistent low back pain:** Defined as pain or discomfort between the lower costal margin and above the inferior gluteal fold, with or without referred leg pain, persisting for at least 12 weeks (Airaksinen et al. 2006)

**Pilates:** A method of physical exercises created by Joseph Pilates in the early 20<sup>th</sup> century, designed to stretch, strengthen and balance the body (Latey 2001)

**Teacher:** A person qualified as a Pilates teacher, with or without any additional healthcare qualifications

# Abbreviations

APPI: Australian Physiotherapy and Pilates Institute

BCP: Body Control Pilates

CI: Confidence interval

IFC: Interferential current therapy

MET: Motivational enhancement therapy

NICE: National Institute for Health and Clinical Excellence

OR: Odds ratio

PPI: Patient and Public Involvement

REPS: Register of Exercise Professionals

RR: Relative risk

SMD: Standard Mean Deviation

UK: United Kingdom

WAI: Working Alliance Inventory

WATOCI: Working Alliance Theory of Change Inventory

<: less than

>: more than

≥: equal to, or more than

## Thesis Layout

This document represents an entire body of doctoral work, with the context for the research presented in Chapter 1 providing an overview of the subject, and Chapter 2 situating the research questions within the relevant literature. Chapter 3 provides a justification for the chosen methodology, setting this within a philosophical context, followed in Chapter 4 by an in-depth description of the research design: specifying data collection tools, and detailing the thematic analysis process. Findings are illustrated in Chapter 5, with ten themes emerging from the data, with Chapter 6 subsequently providing a synthesis of the findings within the wider physical therapy literature, and offering a contextualisation from a broad social constructionist perspective. Chapter 7 offers a summary of the research and conclusions. The layout of the document is summarised in Figure 1.

*Figure 1. Layout of thesis chapters*





# Chapter 1: Research Context

## 1.1 Introduction

The purpose of this chapter is to provide context and background for this study, which aims to explore the nature of the relationship between Pilates teachers and clients with persistent low back pain: defined as pain between the lower margins of the ribs and the buttock creases (Dionne et al. 2008). Low back pain can rarely be attributable to an identifiable source such as fracture, infection or neoplasm (Henschke et al. 2009), with the majority of care episodes are labelled as non-specific (Hartvigsen et al. 2018).

This chapter begins with an introduction to the societal impact of low back pain, thereafter considering low back pain management, in particular the use of exercise as a therapeutic management tool, before presenting a description of one such exercise modality - Pilates. Subsequently, the role of the relationship between the client and healthcare practitioner is considered, providing an understanding of the different theoretical perspectives of this role, additionally considering how the relationship may be evaluated, and the relevance of relationship in the management of persistent low back pain using Pilates.

*Figure 2. Situating the Researcher*

### ***Situating the Researcher***

In considering the motivations and influences surrounding this PhD research, it is first appropriate to establish my background, interests and training. I am a Pilates teacher and Osteopath with a particular interest in the use of movement for low back pain. Throughout this document, breakout boxes will be used to situate the researcher within the research, chronicling decisions, personal reflections, biases and assumptions.

## 1.2 The societal impact of low back pain

Low back pain is common, reported as the leading cause of disability worldwide, with the reported prevalence (7.8% point prevalence) of activity-limiting pain implying 577 million people may be affected by low back pain at any one time (Vos et al. 2017). In the UK, low back pain imposes a greater burden on the economy than any other disease (Maniadakis and Gray 2000), with an estimated annual cost to the National Health Service of £2.8 billion (Hong et al. 2013). In the UK in 2006, one in seven consultations with general practitioners was for musculoskeletal complaints, with low back pain the most common (417 consultations per year per 10,000 registered people). This burden extends beyond healthcare costs to encompass absenteeism from work and loss of productivity (Hoy et al. 2012; Vos et al. 2017).

Low back pain may have considerable impact on the individual, both financially and personally. A cross-sectional study (Schofield et al. 2015) of 8,811 people in Australia considered how low back pain and other chronic health conditions might impact wealth. Results showed that people with one health condition (excluding low back pain) were six times more likely to have any wealth compared with those people with low back pain only (OR 6.22, 95% CI: 1.22 to 31.76) and those with two health conditions were four times more likely to have any wealth in comparison with those with low back pain and one other health condition (OR 3.62, 95% CI: 1.23 to 10.65) (Schofield et al. 2015). In Europe and Australia, low back pain is the most common reason for early retirement (Schofield et al. 2008; Bevan et al. 2009), which is also associated with reduced wealth (Schofield et al. 2011).

On an individual level, several syntheses of qualitative literature have described people's experience of low back pain. A systematic review and meta-synthesis of the impact of low back pain on people's lives (Froud et al. 2014) examined 49 qualitative articles, describing 42 studies of face-to-face discussions regarding the experience of low back pain. Five themes emerged: (1) participation in activities such as domestic chores and leisure activities was limited due to loss of function; (2) damaged interpersonal relationships; (3) work-related issues such as fear of job loss and the need to modify work tasks; (4) stigma concerning the legitimacy and credibility of low back pain claims; (5) changing outlooks with adaptation and acceptance. Findings described the pervasive impact of low back pain with life-changing psychological and social changes (Froud et al. 2014). The use of meta-synthesis to re-interpret meaning across multiple qualitative studies is useful in broadening understanding of a particular phenomenon (Grant and Booth 2009), and Froud et al.'s (2014) findings reflect the complexity of the lived experience of low back pain. However, methodological limitations were reported for primary studies, and whilst the authors of



the review (Froud et al. 2014) contend that these limitations may be independent of the content of the studies on which the review was based, Munthe-Kass et al. (2018) assert that methodological limitations for the body of review data may weaken confidence in the review findings.

A meta-ethnography of 38 articles (MacNeela et al. 2015) exploring experiences of persistent low back pain described similar themes depicting the negative impact of low back pain: (1) the undermining influence of pain, with the lack of ability to carry out daily activities and a fear for the future; (2) the disempowering impact with challenges to personal identity, family relationships and job security; (3) unsatisfying relationships with healthcare; and, (4) learning to live with pain with adaptation and self-management (MacNeela et al. 2015). Confidence in the review findings is weakened due to limited reporting of primary study descriptions and no reporting of the quality of included studies, making it difficult to assess relevance or methodological limitations (Munthe-Kaas et al. 2018).

Low back pain is increasingly considered a long-lasting condition with a fluctuating course (Hartvigsen et al. 2018), with research suggesting that after an initial episode, 44-78% of people experience further episodes of pain, with an estimated prevalence of 23% going on to have persistent low back pain labelled 'chronic', or more recently as 'persistent', of more than three months duration (Airaksinen et al. 2006). Multiple factors may contribute to persistent low back pain, including biophysical, psychological, social and societal influences, with this complexity creating a challenge for effective treatment and prevention (Hartvigsen et al. 2018). Given the significant societal and individual impact of low back pain, ongoing research into effective ways of managing low back pain is needed (Buchbinder et al. 2018).

### **1.3 Management of persistent low back pain**

Exercise therapy is a widely used conservative intervention for persistent low back pain, with evidence for effectiveness in reducing pain and improving function in patients with persistent pain (van Middelkoop et al. 2010). A systematic review and meta-analysis (Searle et al. 2015) of 39 randomised controlled trials including 4,109 participants, investigated exercise interventions (ranging from 1.5 to 18 weeks duration) for persistent low back pain. Results showed a small but significant effect for exercise interventions in decreasing back pain levels (SMD -0.32, 95% CI: -0.44 to -0.99,  $p < 0.01$ ) compared with control groups or other conservative treatments, such as electrotherapies and manual therapies (Searle et al. 2015). Exercise interventions were

categorised to four groups: coordination/stabilisation (n = 12); strength/resistance (n = 11); cardiorespiratory (n = 6); combined exercise (n = 14) with a small but significant effect demonstrated in the coordination/stabilisation group (SMD -0.47, 95% CI: -0.77 to -0.18) and in the strength/resistance group (SMD -0.50, 95% CI: -0.77 to -0.24), with no significant effect demonstrated in the cardiorespiratory or combined groups (Searle et al. 2015). Whilst this meta-analysis suggests coordination/stabilisation and strength/resistance exercise interventions may be preferred management tools for persistent low back pain, the heterogeneity of studies with differing method of exercise, duration and intensity may have impacted results. Additionally, limited reporting relating to the impact of risk of bias in individual studies lowers the overall quality of this review (Viswanathan et al. 2018).

Moreover, in a systematic review and meta-analysis of 21 randomised controlled trials including 30,580 non-symptomatic participants, Steffens et al. (2016) investigated the effectiveness of interventions for the prevention of low back pain, with interventions including exercise, education, exercise and education, back belts and shoe soles. With results presented as relative risks (RR), there was moderate quality evidence that exercise combined with education may reduce the risk of an episode of low back pain by 45% (RR 0.55, 95% CI: 0.41 to 0.74), with low to very low quality evidence that exercise alone might reduce the risk of an episode of low back pain by 35% (RR 0.65, 95% CI: 0.50 to 0.86) (Steffens et al. 2016). Other strategies did not show evidence of reducing the risk of low back pain episodes, thus Steffens et al. (2016) concluded that exercise, either alone or in combination with education, is effective at preventing an episode of back pain. Whilst limited by the quality of the included studies, and lack of reporting of the potential impact of publication bias on the results of the meta-analysis, this review (Steffens et al. 2016) provides evidence of the potential for the use of exercise interventions not only for symptomatic low back pain management, but also as a preventative measure.

In its recommendations for the treatment and management of low back pain and sciatica, the National Institute for Health and Clinical Excellence (NICE) guidelines identify a clear role for structured exercise (NICE 2016) and this is similar to other clinical guidelines worldwide (Foster et al. 2018). Herein, the term 'exercise' describes a category of physical activity where the activity is planned, structured, repetitive and purposeful (Dasso 2019), as opposed to incidental physical activity as part of daily living such as domestic chores, or non-specific ambulation within an occupational or domestic setting (Alzahrani et al. 2019). Structured exercise may encompass a wide range of different exercise types supervised by qualified instructors, but all have the purpose of improving or maintaining elements of physical fitness such as muscle strength, flexibility, precision of movement or cardiovascular fitness (Caspersen et al. 1985; NICE 2016). The NICE

guidelines (2016) identify four categories of structured exercise that may be used in the management of low back pain: (1) biomechanical exercise, directed at altering spinal mechanics through strengthening, stretching, range of motion and motor control, or by addressing problem movements (e.g. Pilates, McKenzie exercises, Feldenkrais); (2) aerobic exercise, directed at improving cardiovascular fitness and endurance (e.g. fitness class, running programme); (3) mind-body exercise, combining physical, mental and spiritual focus with philosophical standpoints (e.g. Yoga, Tai-Chi); (4) mixed modality exercise, combining any of the above categories. One exercise modality that has gained popularity in recent years as an intervention for persistent low back pain is Pilates (Allen 2014; Gaskell et al. 2019). A Cochrane review (Yamato et al. 2016) of 10 randomised controlled trials, including 510 participants, examined the effectiveness of Pilates in acute, sub-acute and persistent low back pain, demonstrating that in common with other exercise interventions, there is some evidence that Pilates can reduce pain and disability in short and medium term in comparison to minimal intervention. The following section introduces the Pilates method, followed by a review of its historical and cultural setting, and concluding with an overview of the use of Pilates as a therapeutic tool in the management of low back pain.

## **1.4 Pilates**

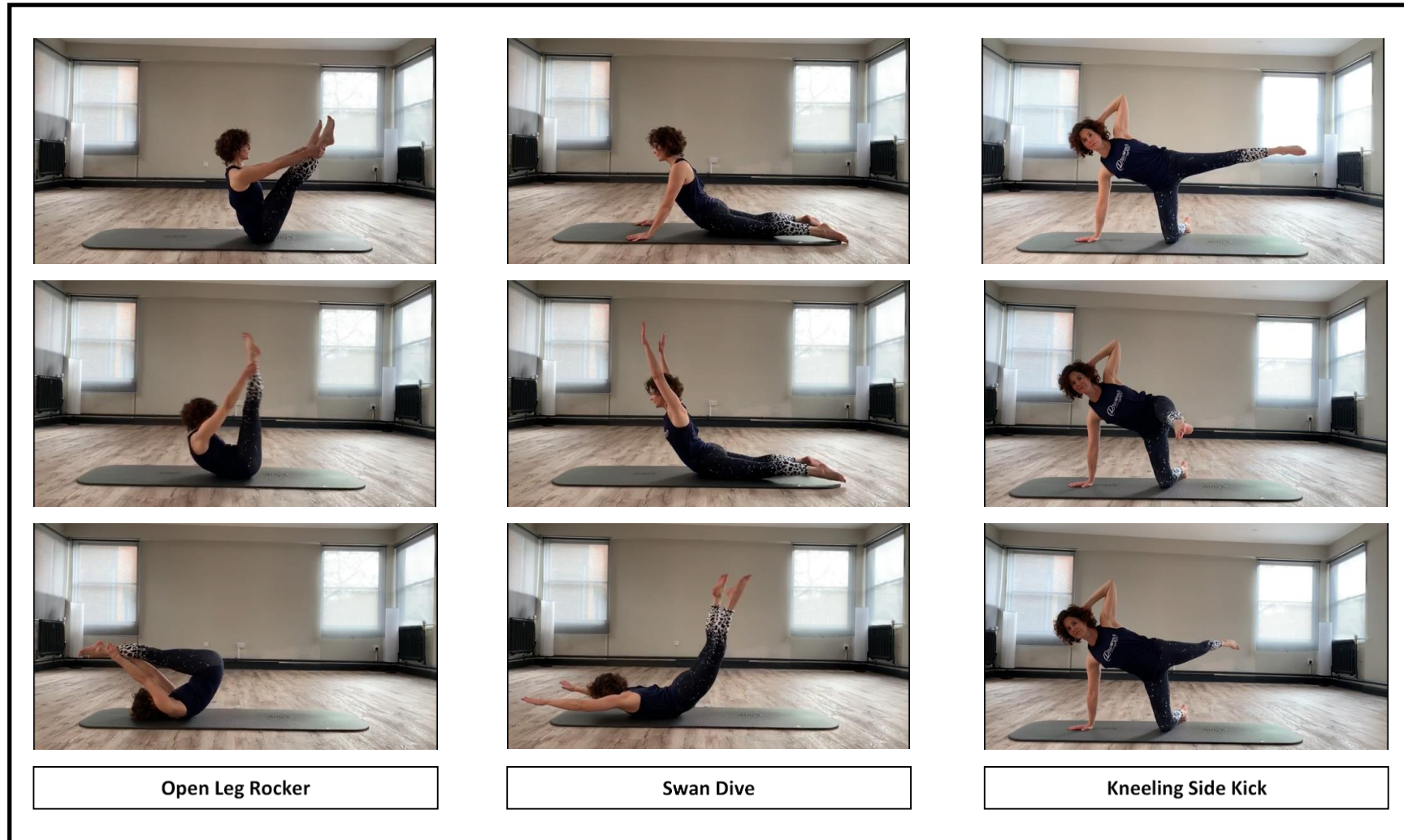
Pilates is a method of physical exercises created by Joseph Pilates in the early twentieth century, designed to stretch, strengthen and balance the body (Friedman and Eisen 1981; Anderson and Spector 2000; Latey 2001). Exercises include mat-based movements and the use of specialised Pilates equipment, standardised through the method's principles focussing on postural alignment, core control, flexibility, breathing, flowing movement, and co-ordination, (Latey 2001; Wells et al. 2012; Wells et al. 2013).

### **1.4.1 Pilates exercises**

According to Muscolino and Cipriani (2004), Pilates includes over 500 exercises divided between mat and equipment exercises. Taking each category, examples of the exercises and the Pilates equipment are provided, with discussion on how Pilates principles are applied to the movements.

Pilates mat exercises originally followed the movements shown in Joseph Pilates' 1945 book, *Return to Life through Contrology* (Pilates and Miller 1945). In this pamphlet, 34 floor-based exercises were depicted as a home exercise regime that "develops the body uniformly, corrects wrong postures, restores physical vitality, invigorates the mind, and elevates the spirit" (Pilates and Miller 1945 p18). Figure 3 (Godfrey 2019b) shows examples of the original mat exercises.

Figure 3. Examples of 'classical' Pilates exercises by N Godfrey, 2019



The exercises form a progressively demanding, flowing routine that focuses on challenging a person's ability to control movement by using the 'core', also known as the 'centre' or 'powerhouse' (Latey 1996). Here, the term 'core' represents the anterior and posterior abdominals, hip flexors and extensors, and pelvic floor musculature (Muscolino and Cipriani 2004) and 'core control' may be understood as the activation of these muscles in order to stabilise the pelvis and spine whilst moving the limbs (Wells et al. 2012). In addition to core control, each exercise should be performed with 'correct' alignment, whereby the relative positioning of body parts is maintained (Wells et al. 2012), requiring precision in executing the movement (Latey 2001). As Joseph Pilates states (Pilates and Miller 1945 p32), "good posture can only be acquired when the entire mechanism of the body is under control".

These earliest Pilates mat exercises are known as 'classical' (Shea and Moriello 2014) and are considered to be particularly challenging because of the relationship of gravity on the body (Anderson and Spector 2000). This has led to the evolution of other exercises that provide a graded movement approach to the principles of Pilates (Latey 1996), and with the majority of Pilates clients in the UK attending a mat class, progression in the stages of Pilates exercises is a common strategy employed by Pilates teachers (Allen 2014). Examples of graded exercises and how these may link to the classical exercises are shown in Figure 4 (Godfrey 2019a).

Figure 4. Examples of 'graded' Pilates exercises by N Godfrey, 2019



Single Knee Fold



Curl Up



Hundred - prep



'Classical' Hundred



According to Anderson and Spector (2000), specialised equipment was created by Joseph Pilates as an injury rehabilitation tool, particularly for dancers. These large apparatus provide assistance to movement through the use of springs and gravity to aid the client, and progression can be achieved through increasing spring tension or adding the challenge of gravity through body positioning (Anderson and Spector 2000).

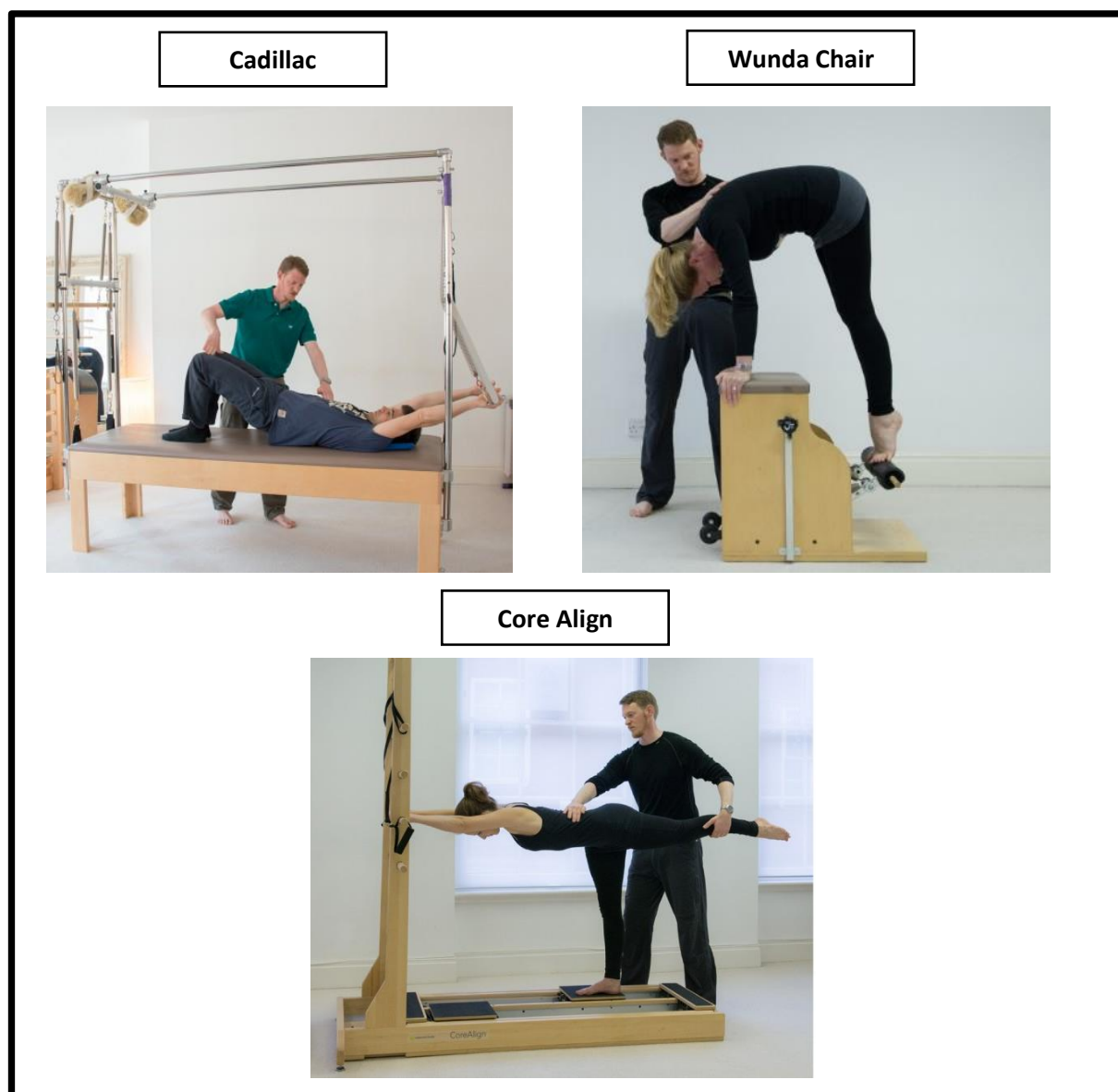
The Pilates equipment includes five pieces of large apparatus, with the Reformer the most commonly used (see Figure 5. (Godfrey 2019c)) comprising a bed-like frame with a sliding carriage, attached by springs to the frame, and with bars, ropes and pulleys to move the carriage (Johnson et al. 2007).

*Figure 5. Reformers in a Pilates Studio by N Godfrey, 2019*



The other Pilates equipment include the Cadillac (also known as Trapeze Table), Wunda Chair, Ladder Barrel and more recently, the Core Align. Each employs similar resistance with bars and springs to provide different environments for movement. Examples are shown in Figure 6. (Moore 2021a, e, b).

Figure 6. Pilates equipment by J.A. Moore, 2021



Photographs by Julie Ann Moore ©2021

Having briefly illustrated the exercises and equipment utilised in the Pilates method, the following section draws on socio-cultural history to chart the rise in popularity of Pilates, situating the exercise method within a wider context.



### 1.4.2 The rise of Pilates to popular exercise method

Although the Pilates method was developed in the early twentieth century by German-born Joseph Pilates, it did not rise to popularity in America and the United Kingdom (UK) until the late 1990s, some 30 years after his death (Latey 2001). To understand how Pilates traced a path through time, from one of many physical culture initiatives created in Germany at the turn of the twentieth century, to worldwide success story, it is important to consider the social context within which it is embedded. As Pfister (2003) points out, whilst sports and exercise may be governed by the laws of physiology, they are also subject to the prevailing social norms. Thus, the creation, practice and popularity of an exercise method may be influenced by socio-cultural factors.

#### Pilates – a historical and cultural perspective

Joseph Pilates was born in 1880 in Monchengladbach, Germany, where 'Turnen' (German gymnastics) was an established movement culture. This initiative, developed by Friedrich Ludwig Jahn (1778 – 1852), combined the use of apparatus (some of which are still used in modern day gymnastics, such as parallel bars) and formalised exercises, with a strong emphasis on tradition, national pride and a militaristic bias (Krüger 1996; Segel 1998; Pfister 2003). German 'Turnen' and the contemporaneous Swedish 'Ling' gymnastics shared similar philosophical and militaristic roots, providing structured systems for training the body with simple movements, accessible to all (Pfister 2003). Additionally, they proffered beneficial effects on the mind as well as the body, promoting a cure for modern ills and instilling moral virtues (Heggie 2016). Both have been described as mass movements (Pfister 2003; Heggie 2016), with evidence in the mass gymnastics festivals prominent during the period (Merkel 2013), and more incontrovertibly, in the wide adoption of gymnastics in physical education in schools, which persisted well in to the twentieth century (Kirk 1999).

In Germany, Turnvereine (gymnastics clubs) were commonplace in towns and villages, and Krüger (1996) asserts that club life was a focal element of everyday middle class culture. Latey (2001) reports that Pilates' father was a keen gymnast and that Joseph followed in his footsteps, building a career based on his physicality. Joseph travelled to England in 1912, working variously as a boxer, circus performer and self-defence instructor (Latey 2001). From a twenty-first century perspective, this seems an incongruent amalgam, but considered from a cultural perspective it may be argued that Joseph Pilates found employment within the popularity of the Modernist physical culture. Modernism was a cultural movement encompassing a variety of artistic and philosophical arenas, shaped by transformations in technology, communication and mass

consumption, along with the shadow of World War I (Toepfer 1997; Armstrong 1998). As Armstrong (1998, p1) states, “human experience changed in the early years of the twentieth century”, and the experience of the body was part of this transformation. Modernist anxieties examined the connections between stressful modern life and disorders such as neurasthenia and hysteria, concluding that the body was ‘out of step’ with the new world (Armstrong 1998).

A new ‘physical culture’ emerged embodying the feeling of the time, expressing concern for health and function as well as aesthetical display of the body, in opposition to the traditional gymnastics seen as preparation for war (Toepfer 1997; Eichberg 2009). Eichberg (2009) proposes that physical culture constituted a ‘third way’ of movement alongside gymnastics and sport, and included nudism, rhythmic-expressive gymnastics and body-building. Kirk (1999, p65) further expands the role of physical culture to a lifestyle, asserting, “systems of exercise were more than mere movements, but instead were embedded in beliefs, knowledge and broader individual and social practices”. Segel (1998) declares that the rise in the physical aesthetic led to the popular appeal of physical culture ‘gurus’ such as Eugen Sandow and Bernarr MacFadden. Sandow (1867 – 1925) a Prussian body-builder, achieved fame by winning a ‘strongman’ contest in London in 1889, gaining a legion of admirers ranging from King Edward VII to Conan Doyle (Waller 2011). He became an international celebrity, and capitalised on this success by publishing magazines and books, promoting and patenting his own equipment, and founding an Institute of Physical Culture in Piccadilly Circus (Segel 1998; Waller 2011). The similarity to the work Pilates was performing cannot help but lead us to question whether Joseph Pilates’ motivations for travelling to England were to seek fame and fortune too.

World War I interrupted Pilates’ career and he was interned in England, where it is purported that he began to rehabilitate the injured and bed-ridden using his body-building knowledge to utilise bed springs as a form of resistance (Latey 2001). At the end of the war, Joseph returned to Germany where he devised ‘Contrology’, a ‘corrective’ system of exercising (Pilates and Miller 1945), but moved to America in 1926 (Latey 2001). The commercial reality of sustaining a business amongst the profusion of novel exercise methods in Germany during this period was challenging (Segel 1998); however, Toepfer (1997) contends that physical culture provided export value. Indeed, Bernarr MacFadden had already built a health and publishing empire in America, using his celebrity status to endorse products and publications, including the monthly ‘Physical Culture’ magazine, and ‘MacFadden’s Encyclopedia of Physical Fitness’ (Fabian 1993). Adams (2009) declares that in the 1920s and 30s MacFadden could claim to be the most important health personality in America, entertaining political ambitions by running for governor and even

presidential candidate, as well as campaigning for Secretary for Health. It might therefore be postulated that economic opportunity influenced Joseph's decision to move to America.

### The American dream

Joseph founded a studio in New York (Latey 2001), yet little is known about his life during this period, other than the production of two pamphlets, 'Your Health' in 1934 and 'Return to Life' in 1945. Latey (2001) suggests he struggled as a new immigrant to establish his business, therefore an examination of the American cultural environment may provide clues as to the nature of his struggle.

Some authors believe Joseph's move may have been influenced by working with the World Champion boxer, Max Schmelling, postulating that his trainer helped fund Pilates' studio in New York to allow Schmelling to continue training with Pilates (Latey 2001). Whilst this may be considered speculative, boxing certainly attracted mass popularity in the 1920s, with boxers becoming symbols of the age of modern American 'athleticism' along with other sportsmen such as baseball player, Babe Ruth (Dyreson 1989). The huge celebrity of these athletes reflects an era when sport rose in the national identity to become a 'craze' (Dyreson 1989).

As sport became the dominant physical culture in America, it echoed the shifting norms of a more consumerist society; increasingly seen as entertainment, and as a respite from the demands of modern industrialisation (Dyreson 1989). This is in stark contrast to Joseph Pilates' belief that self-disciplined, formalised exercise was the respite from modern living (Pilates and Miller 1945) and marks a key juncture in the culture in which Joseph was working, with Latey (2001) suggesting that Joseph was frustrated that so few people were using Contrology. Whilst Germany had provided an incubator for Joseph's exercise method and his beliefs, which in the early 1900s had been echoed in America, a new consumerist era with sport as the dominant physical culture had changed the cultural role of exercise. Thus, it may be contended that Pilates' exercise method was out of tune with the social expectations of 1920s Americans.

### The search for legitimacy

It has been shown that Pilates arrived in America bringing his ideas of health and exercise with him which were deeply embedded in German culture, and Adam (2013) suggests that cultural transfer may have created an obstacle for Joseph in establishing a business in a new country. Cultural transfer refers to the exchange of ideas and concepts between different cultures, ultimately reshaping the cultures involved. In order to facilitate the acceptance of differing

cultural practices, the agent of transfer must be part of the receiving culture in order to legitimise the new cultural reference (Adam 2013). Joseph, however, was an agent of the contributing culture, and Adam (2013) argues that Pilates only became established after it was embraced by famous American dancers such as Ted Shawn, Martha Graham and George Balanchine, and with the help of 'Pilates Elders' who came from mainstream American society (Latey 2001; Adam 2013). Thus, Adam's (2013) contention provides insight to the beginnings of legitimacy for Pilates.

Suchman (1995, p574) defines legitimacy as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions". Legitimacy is therefore important to consider in relation to the rise in popularity of the Pilates method, as it shapes beliefs regarding what is considered 'appropriate' and therefore accepted within the cultural norms of a society (Tyler 2006).

Acceptance within the dance community allowed Joseph Pilates to frame his work within the legitimacy of providing rehabilitation and injury prevention to the arts community (Adam 2013), and after his death, the Pilates method continued to grow within the dance world, travelling back over the Atlantic to England with Alan Herdman in 1970. It remained; however, a niche exercise modality for the rehabilitation of dancers until Ron Fletcher's studio in Beverley Hills began attracting the Hollywood stars in the late 1970s, and thereafter the media followed (Latey 2001). This coincided with a shift in form of physical culture in the 1980s due to increased disposable income and new scientific understanding of the role of exercise in illness prevention (Kirk 1999). This shift paralleled a rising mass media interest in health and beauty, propelled on a wave of celebrity culture (Kirk 1999; Sternheimer 2011).

The role of celebrity culture in modern life, supported and projected by mass media, may be seen as the endorsement and promotion of certain lifestyles (Sternheimer 2011), with a lifestyle being defined as "a more or less integrated set of practices which an individual embraces, not only because such practices fulfil utilitarian needs, but because they give material form to a particular narrative of self-identity" (Giddens 2008, p81). Harrington (2008) asserts that cultural narratives have been important historically in the form of religious, folk or social stories that provided a means of connecting personal experience to a larger comprehension of identity and destiny, particularly with reference to understanding the lived experience of illness. These traditional sources of comfort may be considered to have less credibility in the modern world, yet our need for understanding remains (Harrington 2008), and Furedi (2010) proposes that celebrity culture provided society with a language of alternative authority by allowing the narratives of everyday life to be told through celebrity life. Thus it may be contended that the relevance of celebrity culture in the legitimisation of Pilates is that of sanctioned knowledge.

In addition to the legitimacy granted to Pilates through celebrity culture, in the first years of the twenty-first century, Pilates practitioners began to create allegiances with accepted medical knowledge, most significantly with the concept of 'core stability'. Hodges & Richardson's (1996, 1998) research ignited a stream of biomechanical research, hypothesising that delayed transversus abdominus contraction in low back pain indicated motor control deficit leading to insufficient stabilisation of the spine. This study led to the ubiquitous use of 'core control' exercise in clinical practice, with the emphasis placed firmly on training the contraction of transversus abdominis to stabilise the spine (Lederman 2010). Pilates placed itself at the heart of the movement with Anderson and Spector (2000, p399) stating, "such a phenomenon is at the root of Pilates-based work" and asserting that the research supported the movement principles advocated by Pilates. In Allen's (2014) study on the scope of Pilates in the UK, clients identified core strengthening as one of the main benefits of Pilates. This alludes to a percolation of the concept of core control from clinical practice to everyday terminology, suggesting that cultural influences may play a role in the decision to start or continue Pilates.

The premise here has been that cultural influences stimulated the creation and evolution of the Pilates method, allowing it to become a legitimised exercise modality, used for diverse purposes including rehabilitation. As Pilates promulgated the idea that it was the ideal modality for core stability, aligning itself with scientific paradigm, legitimisation came from physiotherapists who began using the method as part of their treatment protocol. Whilst not a protected title, Pilates is seen as a distinctive exercise method, practiced for fitness or rehabilitation and available in gyms, specialist Pilates studios and physical therapy clinics (Anderson and Spector 2000; da Luz et al. 2013).

Figure 7. Situating the researcher's background and motivation

***Situating the researcher – background and motivation***

My beginnings in Pilates dovetail with the rise in popularity of Pilates as a 'core stability' exercise, and my initial training and practice was underpinned by Hodges & Richardson's (1996, 1998) research. This research led to an explosion in the popularity of Pilates, and its recommendation by clinicians purely as a core stability modality.

As Hodge's early work was challenged (Allison and Morris 2008; Allison et al. 2008), the Pilates world faced a crisis of identity and feeling disillusioned I looked to deepen my knowledge by studying Osteopathy. As a curious child, I always wanted to know 'why'. As an adult, my passion for knowledge and learning remained, and whilst studying for my Masters I found this motivation distilled perfectly in A.T. Still's autobiography with the following quote,

*'Once in the operating-rooms you are in a place where printed books are known no more forever. Your own native ability, with nature's book, are all that command respect in this field of labor [sic]. Here you lay aside the long words, and use your mind in deep and silent earnestness; drink deep from the eternal fountain of reason, penetrate the forest of that law whose beauties are life and earth. To know all of a bone in its entirety would close both ends of an eternity' (Still 1902 p152).*

The search for understanding is my motivating force. The Masters journey satisfied this in part, giving me much deeper clinical knowledge and reasoning skills and developed my curious nature to a more critical thinking perspective. However, I found my education focused on mechanistic perspectives with hypothetico-deductive reasoning as the mainstay of diagnosis. As much as I valued the skills I gained, in practice I was drawn repeatedly to movement as a treatment modality over manual therapy.

This led to the focus of my clinical practice and academic interest returning to Pilates-based movement interventions.

### 1.4.3 Pilates and the management of low back pain

A thesis exploring the scope of Pilates in the UK (Allen 2014) included a large-scale online survey questionnaire (n = 420) of Pilates teachers to ascertain the types of clients attending Pilates, perceived effects of Pilates and length of time to achieve these effects. The majority of survey respondents (83.8%, n = 352/420) reported clients with back pain attending classes, with clients mainly being recommended (67.1%, n = 282/420) to Pilates by a healthcare professional. This corresponds to Von Sperling de Souza and Brum Viera's (2006) descriptive study of a Pilates client population (n = 327) in Brazil, where 73% (n = 240/327) of participants reported musculoskeletal pain prior to participation in Pilates exercises. Findings from a number of systematic reviews show that Pilates may be superior to minimal intervention in reducing patient reported outcome measure scores for pain and disability relating to low back pain (La Touche et al. 2008; Lim 2011; Wells et al. 2013; Yamato et al. 2016), with two reviews considering the timeframe for improvements (Wells et al. 2013; Yamato et al. 2016).

A Cochrane systematic review (Yamato et al. 2016) of 10 randomised controlled trials including 510 participants, examined the effectiveness of Pilates in acute, sub-acute and persistent low back pain in comparison to minimal intervention, or other exercises (general exercise, McKenzie exercises, static cycling), with a meta-analysis conducted for Pilates versus minimal intervention. Low quality evidence demonstrated that Pilates is better than minimal intervention for pain in the short-term (< 3 months after randomisation), with a medium effect size (SMD -14.05, 95% CI: -18.91 to -9.19, p = < 0.001), and with low quality evidence that Pilates improves disability in comparison to minimal intervention in the short-term, with a small effect size (SMD -7.95, 95% CI: -13.23 to -2.67, p = 0.003). The results of this meta-analysis should be interpreted with caution due to limitations in reporting quality with regard to the impact of risk of bias on the results. These findings show similarity to Wells et al. (2013), who conducted a systematic review of 14 randomised controlled trials, including 301 participants, comparing Pilates with either usual care and physical activity, massage therapy or other exercise. Results concluded that Pilates demonstrated improvements in pain and functional ability compared to usual care and physical activity in the short term; however, this conclusion was based on the balance of evidence, with more high quality studies reporting these findings (Wells et al. 2013).

There is some inconsistency with regard to intermediate term benefit ( $\geq 3$  months and < 12 months after randomisation) with Wells et al. (2013) concluding that Pilates did not improve measured outcomes of pain and disability at 24 weeks compared with usual care and physical

activity, but it should be noted that this conclusion was based on one study (Miyamoto et al. 2013). In contrast, Yamato et al. (2016) determined that there is moderate quality evidence for intermediate term reduction in pain, with a medium effect size (SMD -10.54, 95% CI: -18.54 to -2.62), and moderate quality evidence for a reduction in disability at intermediate term, with medium term effect size (SMD -11.17, 95% CI: -18.41 to -3.92). This discrepancy may be due to differences in included studies that reported intermediate effect, with Yamato et al. (2016) also including an additional study (Natour et al. 2014). None of the studies reported long-term follow up ( $\geq 12$  months after randomisation), and therefore conclusions cannot be drawn regarding the benefit of Pilates in the long-term without further research. Additionally, findings from systematic reviews provide evidence that Pilates is no more effective in reducing levels of pain and disability than other forms of exercise (Lim 2011; Wells et al. 2013; Yamato et al. 2016). Overall, systematic reviews conclude that the relatively small number of studies, plus the heterogeneity of the interventions and control groups, variable quality of studies, small sample sizes and lack of long-term follow-up suggest a need for future research with high quality studies. Moreover, the generally low quality of the systematic reviews with regard to methodological and reporting quality means that findings should be interpreted with some caution.

The research exploring the efficacy of Pilates in populations with persistent low back pain echoes other studies showing that no single exercise intervention is superior to another (van Middelkoop et al. 2011; Steiger et al. 2012). Moreover, there is evidence suggesting poor correlation between reduction in clinical outcome measures of pain and disability and improvements in physical function (such as strength and mobility) after exercise therapy (Steiger et al. 2012). A systematic review (Steiger et al. 2012) of 16 studies, including 1476 participants, examined the relationship between outcomes and physical function after exercise intervention. Results showed little evidence supporting a relationship between changes in pain and sagittal mobility (nine out of ten studies showed no correlation), extension strength (seven out of nine studies showed no correlation), endurance (seven studies reported no correlation). Results showed mixed evidence with regard to an association between changes in disability and mobility (three studies showed no correlation and two studies reported significant association) and disability (four studies showed no correlation and two studies reported a significant correlation). Studies included in the review were heterogeneous in terms of interventions, populations, control groups and outcome measures and were of variable quality. Additionally, the majority of studies did not report correlation coefficients to substantiate non-significant correlations, therefore results should be interpreted with caution.



It has been argued that symptoms of low back pain show a common pattern of improvement regardless of treatment (Artus et al. 2010), and that treatment effect, compared to placebo, is low in both acute and persistent low back pain (Balagué et al. 2012). This has drawn into question the mechanism of action of many treatments, including exercise therapy. Evidence indicates instead that cognitive and behavioural factors are correlated with pain and disability, and are predictive of outcome (Ramond et al. 2011; Alhowimel et al. 2018). A systematic review (Alhowimel et al. 2018) of 10 observational studies, with a total of 1280 participants, examined psychosocial factors associated with changes in pain and disability in patients with persistent low back pain who were treated by a physiotherapist. Results suggest an association between fear of movement, depression, self-efficacy and catastrophizing in modifying pain and disability. Whilst the quality of the included studies was considered to be 'fair', the small number and heterogeneity of studies limited analysis, and results should therefore be interpreted with caution.

Furthermore, Ramond et al. (2011) concluded in their systematic review of 23 articles (7561 total participants) evaluating psychosocial risk factors in persistent low back pain, that practitioner perceptions, together with patient expectations, were the most powerful predictors of outcome. A recent Cochrane systematic review (Hayden et al. 2019) of 60 studies, including 30,530 participants, evaluated the evidence for an association between recovery expectations and disability outcomes in adults with low back pain, with results demonstrating moderate-quality evidence that positive expectations of recovery were strongly associated with better work participation (OR 2.43, 95% CI: 1.64 to 3.62). It should be noted, however, that limitations with publication and reporting biases suggest results may be over-estimated (Hayden et al. 2019). Interest has therefore grown in the role of non-specific treatment effects related to patient beliefs and attitudes, and how these variables may be influenced by the patient-practitioner relationship (Artus et al. 2010; Ramond et al. 2011).

The patient-practitioner relationship is considered a key predictor of outcome in psychotherapy and related fields (Clarkson 2003; Norcross and Wampold 2011), and research suggests that the influence of this relationship may be an important predictor of outcome in persistent low back pain (Ferreira et al. 2013). A retrospective observational study (Ferreira et al. 2013) (n=182), nested within a randomised controlled trial comparing the efficacy of exercise compared with spinal manipulation, investigated whether the therapeutic relationship was a predictor or moderator of outcome. Results showed that the relationship between patients and physical therapists predicted all clinical outcomes (pain, disability, function, global perceived effect) at eight weeks, with higher levels of alliance associated with greater improvements (this study is

more fully described in Section [2.4.2](#)). However, research evidence is limited and further research is needed to evaluate the impact of this relationship on outcomes of other allied health interventions (Leach 2005).

*Figure 8. Situating the researcher's influences*

### ***Situating the researcher - influences***

The final catalyst for applying to study a PhD was stimulated by attending a course with Dr Brent Anderson, a physical therapist and founder of Polestar Pilates. His lecture considered the research indicating that perception was the biggest predictor of outcome in persistent low back pain, and how providing a positive movement experience without pain might be a contributing factor to successful outcome in patients.

In further conversations with Brent, I realised that the subject I'm passionate about had opportunities for academic research that could bring together the clinical aspects and mind / body connections of my experience in a project that would allow me to the opportunity to continue to expand my learning and development. My aim at the start of my PhD journey was to explore beyond the physiological effects of Pilates.

## **1.5 The relevance of relationship**

It may be argued that humans are an inherently social species (Haslam et al. 2018), with the interaction between individuals viewed as a basic element of social structure, and a relationship seen as a series of interactions between individuals over time, formed in the context of social and cultural influences (Brown and Levinson 1979). Due et al. (1999) define the structure of social relations as having two dimensions: formal relations, and informal social relations described as the social network.

“Formal relations are social relations due to one’s position and roles in society. It includes professionals and acquaintances. Social network is individuals and linkages between individuals with whom one has a close family relation and/or affection.”

(Due et al. 1999 p662)

One function of social relations is social support through providing emotional, informational and instrumental resource (House et al. 1988; Thoits 2011). Emotional support may be seen as love, care and encouragement; informational support as advice or appraisal to help solve a problem; and instrumental support as providing material or behavioural assistance with a problem (Thoits 2011). Evidence indicates a positive link between levels of social support and well-being (Holt-Lunstad et al. 2010) with these elements of support provided to individuals not just by their close relations but also by formal relations with professionals, such as when an individual seeks support when ill.

Research has shown that people with low back pain may seek Pilates specifically to address their pain (von Sperling de Souza and Brum Vieira 2006; Allen 2014) and it may consequently be considered an exercise modality used for therapeutic purposes (Anderson and Spector 2000; NICE 2016). Therefore, consideration of the relevance of the relationships within a therapy context will be expanded below.

## **1.6 The relationship between client and healthcare professional**

A therapeutic relationship may be defined as the “collaborative and affective bond between therapist and patient” (Martin et al. 2000 p438). It differs from informal social network relations in that it focuses specifically on the client’s needs, constituting more than basic interaction, encapsulating instead a meaningful engagement between therapist and patient, with the capacity to facilitate change and personal growth of the client through the use of communication (Fuentes et al. 2014; Varcarolis 2014). Moreover, it has been asserted that this relationship is integral to the healing process and as such has been a focus for research (Benedetti 2010).

The relationship between a client / patient and therapist has been variously termed therapeutic relationship, therapeutic alliance, working alliance or helping alliance (Martin et al. 2000). These terms encompass similar underlying notions and have been used somewhat interchangeably within the research arena (Leach 2005). Indeed, the specific nature of the therapeutic relationship and terms used to describe it have been conceptualised from different perspectives; therefore, to map a context and rationale for this study, an overview of the theoretical approaches discussed in the literature follows.

It has been proposed that the origins of conceptualising the therapeutic relationship lie within the psychodynamic tradition (Horvath 2001) and the concepts borne within this perspective have been used in various healthcare settings to link measurable definitions to patient outcomes

(Perraud et al. 2006). Thus, the psychodynamic perspective will be illustrated initially, followed by a review of the sociological, anthropological and biomedical perspectives of the relationship between patient and healthcare giver.

### **1.6.1 Psychodynamic origins and concepts of the therapeutic relationship**

Sigmund Freud is credited with first emphasizing the importance of the relationship between therapist and client (Horvath and Luborsky 1993). As theories of mental illness evolved, various terms were coined to express the relationship: Zetzel (1956) coined the term 'therapeutic alliance' to describe the client's ability to work with the therapist to accomplish tasks; whereas Greenson (1967) differentiated a 'working alliance' as alignment with tasks and 'therapeutic alliance' to describe the bond between client and therapist. This conceptual split of the relationship into component parts has been controversial, with the delineation being problematic for researchers to measure effectively, and with critics suggesting that in reality the components always overlap (Kozart 1996; Safran and Muran 2006). Alternate pan-theoretical concepts were proposed by Luborsky (1975) and Bordin (1979), reconceptualising the relationship and separating it from its psychodynamic roots, instead focusing on conscious 'working together' components inherent in all helping relationships.

Luborsky's (1975) concept of 'helping alliance' extrapolated the work of Zetzel (1956) and Stone (1962), formulating a dynamic two-stage development of the alliance, firstly allowing the patient to feel safe with an understanding and helpful therapist, moving towards collaboration in therapeutic tasks. Bordin's (1979) concept of 'working alliance' expanded Greenson's (1967) and Roger's (1957) concepts, centralising the importance of client / therapist collaboration, and positing specific conditions for an effective alliance:

- a) Agreement on therapeutic goals
- b) Collaboration in forming tasks
- c) Affective bond between client and therapist

It is claimed that Bordin's (1979) conceptualisation has become the predominant framework for the therapeutic relationship in psychotherapy as it does not require use of a particular type of therapy, contending that success is derived through collaboration and bonding facilitating the realisation of goals and tasks (Horvath and Luborsky 1993; Horvath and Greenberg 1994; Kozart 1996).

The emergence of a reconceptualised therapeutic relationship in the 1970s dovetailed with seminal research showing that different psychotherapies produce similar therapeutic gains, and

promoting interest in the therapeutic relationship (Luborsky et al. 1975; Smith and Glass 1977). The association between therapeutic alliance and outcome in psychotherapy has been measured repeatedly in the past decades, and results from meta-analyses support the assertion that strength of the alliance is predictive of outcome (Horvath and Symonds 1991; Martin et al. 2000; Horvath 2002; Horvath et al. 2011). A recent meta-analysis by Flückiger et al. (2018) provided a synthesis of 295 independent samples reporting a therapeutic alliance-outcome relation in adult psychotherapy, representing 30,000 clients over a time period of forty years. The overall alliance-outcome correlation was  $r = 0.278$  (95% CI: 0.256 to 0.299,  $p = < .0001$ ), almost identical to the effect size reported in Horvath et al.'s (2011) previous meta-analysis. Thus, research provides strong evidence for a predictive relation between alliance and psychotherapy outcomes (Flückiger et al. 2018). The magnitude suggests a modest effect, yet with therapist effect, it provides the strongest and most reliable factor in successful outcome (Wampold 2013). This robust evidence led to the broad acceptance of the alliance concept within psychotherapy (Krause et al. 2011); however, whilst the evidence provides a compelling link between therapeutic relationship and successful outcome, the available data is correlational and therefore a causal link cannot be assumed (Martin et al. 2000; Vowles and Thompson 2012). In addition, the importance of each of the elements contributing to the relationship has not been identified and has been recognised as an area for further research (Vowles and Thompson 2012).

Hatcher and Barends (2006) also contend that Bordin's (1979) concept of working alliance has become used as a proxy for the relationship as a whole. They point out that Bordin's framework requires a negotiated, purposive collaboration to be effective (Hatcher and Barends 2006). Concern has been raised that the more general the concept of alliance becomes, the more it may lose clinical relevance and merely represent a warm, supporting interaction undifferentiated from everyday interpersonal relations (Horvath and Greenberg 1994). Some argue that the therapeutic alliance is specific to psychotherapy (Kozart 1996; Gelso 2014) and whilst it is clear that the conceptualisation of the therapeutic relationship is grounded in psychoanalytic and psychotherapeutic fields, pan-theoretical constructs provide a framework to consider other non-psychotherapeutic relationships. Bordin writes (1979 p252),

"The working alliance can be defined and elaborated in terms which make it universally applicable... a working alliance between a person seeking change and a change agent can occur in many places besides the locale of psychotherapy. The concept of the working alliance would seem to be applicable in the relation between student and

teacher, between community action group and leader, and, with only slight extension, between child and parent.”

Different professions have approached the client-therapist relationship from different perspectives, including but not limited to psychology, sociology and anthropology and no particular discipline can ‘own’ the relationship. Nonetheless, as Perraud et al. (2006, p224) express, it seems “blasphemous” to construct a discourse on therapeutic relationship outside of psychotherapeutic boundaries. Yet, if we return to basic human needs when unwell, Benedetti (2013) describes the patient-therapist encounter in the simplest terms, dividing it into four steps:

- 1) Feeling ill
- 2) Seeking relief
- 3) Meeting the therapist
- 4) Receiving the therapy

The context of these steps provides the uniqueness of the therapy relationship, overarching theoretical constructs. Whilst the psychotherapy tradition provides conceptual frameworks from which to theorise the therapeutic relationship, at its most profound, it is a unique human interaction that occurs in all cultures. As such, because various terms have been used to describe different aspects of the therapeutic relationship within psychotherapeutic research (Martin et al. 2000), the term ‘therapeutic relationship’ will be used henceforth, to differentiate from any specific reference to psychotherapy traditions.

### **1.6.2 Sociological perspective of the therapeutic relationship**

Benedetti’s (2013) explanation of the process of basic human needs in illness above provides a link to the sociological perspective of the patient-therapist encounter. Contemporary medical practices diagnose and treat ‘disease’ (pathophysiology in the structure and function of the body), whereas patients experience ‘illness’. From this standpoint, illness is not simply a biological process, it is inherently a social one, with the social environment influencing symptom severity and how the ill person engages in their social world (Taylor and Field 2007). The study of the sociology of health and illness has been characterised by three distinctive theoretical frameworks: functionalism, the political economical approach, and social constructionism (Lupton 2012).

The functionalist approach is based on Talcott Parsons’ (1951) formative work that explains the doctor-patient relationship in terms of the function of the ‘sick role’. In sickness, a person necessarily deviates from expected social roles and takes on a sick role, which exempts the person from social obligation. In order to maintain this exemption, the sick person must seek medical

help in order to return to 'normality', or be labelled as a 'malingerer', with the doctor representing the means to socially legitimise illness, and therefore viewed as an agent of social control (Parsons 1951). Thus, the doctor-patient relationship provides a mechanism to maintain social order, ensuring the sick person returns to their social obligations having received therapy (Lupton 2012). The functional perspective was influential in the 1950s and 1960s but critics argued against the 'moralism' of patients being malingerers and doctors as altruistic, beneficent characters (Turner 1995). Criticism pointed to the power struggle inherent within the relationship as each character seeks to satisfy their own interest, and the perspective became unfashionable as a result (Lupton 2012).

The political economy approach developed from the Marxist views of capitalism shaping social thought in the 1970s, and remained the dominant perspective until the 1980s (Lupton 2012). This perspective maintains that healthcare institutions exist to ensure the population remains healthy in order to contribute to the economic system, contending that ill, ageing and disabled groups (amongst others) are marginalised as they do not contribute to the production and consumption of commodities (Lupton 2012). Thus, this approach is oriented towards the origins of disease coming from within the capitalist economy: at the level of production through industrial injury, stress-related illness, the long-term implications of environmental pollution; and at the level of distribution where social inequality impacts health and access to the means of health (Turner 1995). The influence of this approach led to important insights into health inequality, but has been criticised as it neglects to recognise that disparity exists to the same extent within socialist states (Turner 1995).

Social constructionism emerged from the criticism of biomedicine in the 1970s, with proponents questioning whether illness was actually a social construct, created by medical professions (Freidson 1988). Freidson (1988, p206) suggests that "by virtue of being the authority on what illness 'really' is, medicine creates the social possibilities for acting sick". Whilst this echoes Parsons functionalist approach, social constructionism focuses on the construction of knowledge and realities as a product of social interactions (Lupton 2012). Critics assert that the social constructionist perspective can lead to relativism and nihilism, that if all knowledge is socially constructed then the validity of the perspective itself should be questioned on these grounds (Turner 1995). In addition, critics argue that social constructionism neglects the embodied experience of illness, instead conceiving illness as a purely social construct (Bury 1986). Lupton (2012), in contrast, contends that the social constructionist perspective has provided a new way to consider the claims of Western medicine, showing them to be as much social products as lay

beliefs, thus providing a theoretical framework for those interested in the cultural assumptions in which medical beliefs are rested.

### **1.6.3 Anthropological perspective of the therapeutic relationship**

The cultural perspective is also common to anthropology, with medical anthropologists studying health related phenomena as culturally-infused interactions (van der Geest 2014). Illness is viewed as “a form of communication – the language of organs through which nature, society and culture speak simultaneously” (Scheper-Hughes and Lock 1987 p31). Philosophers argue that the human experience necessitates the struggle to understand our existence by finding meaning with which to interpret the world and ourselves (Merleau-Ponty 1982; Dekkers 1998; Heidegger 2010). Thus, it follows that the natural human response to illness is to find a way of understanding through the explanations and care offered by healers (Verhulst et al. 2013). Whilst having much overlap with sociological frameworks, the focus on cultural aspects of the lived experience of illness differentiates this approach, with the boundaries of cultural reference including emotion, empathy, morality, embodiment, perception and religious experience (van der Geest 2014). In considering the doctor-patient relationship, two distinct anthropological approaches have emerged: the explanatory model, and critical medical anthropology.

The explanatory model, proposed by Kleinman et al. (1978) conceptualises the subjective sense of being sick, focusing on the meaning of illness and health for the individual. The beliefs, expectations and actions of an individual are developed in accordance to cultural patterning (Kleinman et al. 1978). Good and Good (1981 p175) describe illness as “fundamentally semantic or meaningful and ... all clinical practice is inherently interpretive”. Therefore the explanatory model seeks to provide a clinical perspective, helping medical professionals translate the patients’ models and thus enhance therapeutic outcomes by reducing the perceptual discrepancies within the therapeutic interaction (Lazarus 1988).

Lazarus (1988) considers that a significant contribution of this framework has been to illustrate that Western biomedical model is a sociocultural system. Foremost amongst the biomedical model’s assumptions is the Cartesian mind-body dualism, which emphasises disease over illness, thus negating the subjective experience of the body (Scheper-Hughes and Lock 1987). In reaction, anthropologist Thomas Csordas (1990) developed the concept of ‘embodiment’ to describe the incorporation of the social and cultural world into the physical body. The body may thus be defined as a “physical and symbolic artefact... naturally and culturally produced, and as securely anchored in a particular historical moment” (Scheper-Hughes and Lock 1987 p7). Whilst this model has been widely applied (van der Geest 2014), it is criticised for focusing on meaning and



ignoring the interaction itself (Young 1982; Lazarus 1988). Young (1982) contends that the explanatory model over-simplifies a complex exchange between doctor and patient, and fails to consider the wider implication of cultural and social influence.

In contrast, the critical medical anthropological perspective examines individual beliefs within the context of the larger medical system, itself embedded within the political economy (Lazarus 1988). Originating from Marxist interpretations of health inequality, this framework uses Foucauldian analysis to conceptualise the power possessed by medicine as an instrument of social control (van der Geest 2014). Within this conceptualisation, the doctor-patient relationship is considered asymmetric in terms of power, with the doctor holding access to health resources. As such, the relationship is one of dominance and dependence (Scheper-Hughes and Lock 1986; Scheper-Hughes and Lock 1987).

Thus, it can be seen that anthropological perspectives provide concepts of the body as a cultural construction, with the experiences of the body portraying the larger representation of society. This is in theoretical contrast to psychodynamic theory in which social practices are considered unconscious representations of the experience of the self (Scheper-Hughes and Lock 1987). Lévi-Strauss (2000) dissolves this theoretical impasse by reflecting on the parallels between shamanistic cure and psychoanalysis; asserting that both experiences furnish rituals that provide the patient with a means for attaining meaning.

#### **1.6.4 Biomedical perspective of the therapeutic relationship**

The influence of the doctor-patient relationship has been recognised since Ancient Greece, with the development of the Hippocratic Oath codifying a doctor's conduct towards a patient; however, the dynamics of the relationship have been shaped by historical context (Szasz and Hollender 1997). In the eighteenth century, the model of illness prioritised the interpretation of a patient's illness experience, resulting in a relationship based on the doctor's attentiveness to the patient's needs, with the patient holding the power (Kaba and Sooriakumaran 2007). With the rise in microbiological knowledge in the late nineteenth and twentieth century, medicine moved away from the subjective interpretation of symptoms to a model based in objective examination, leading to the diagnosis of a pathological causation for illness – the biomedical model (Szasz and Hollender 1997; Kaba and Sooriakumaran 2007). The primacy of the patient gave way to the expert knowledge of the doctor, resulting in a relationship based in the dominance of the doctor and the passivity of the patient. According to Harrison (2018, p178), the biomedical

“depersonalisation” of the patient during the twentieth century pushed the doctor-patient relationship to the margins of care.

Concurrent with the emergence and proliferation of the biomedical approach, the field of psychiatry was also developing, notably the psychoanalytic approach (Szasz and Hollender 1997). As described above in Section [1.6.1](#), psychoanalysis prioritised the listening role of the physician, with the patient as an active participant in a communicative relationship (Szasz and Hollender 1997). In the medical field, Balint’s (1955) work placed the concept of the ‘doctor as drug’ at the heart of the therapeutic relationship, with ‘mutual investment’ required for understanding the individual psychological and social context of the patient’s life, thereby viewing illness as more than a biological phenomenon.

Further revival of the importance of the doctor-patient relationship may be seen with Engel’s (1977) pivotal critique of biomedicine, rejecting the biomedical preoccupation with a biological causation for illness; instead, proposing that the interaction of diverse biopsychosocial factors could manifest as an individual’s illness experience. Engel (1977) further criticised the impersonality of biomedicine, asserting the importance of the doctor-patient relationship in influencing medical outcomes. He considered two elements crucial in determining the relationship: that the patient comes to the doctor because they do not know what is wrong, or feels incapable of helping themselves; and the doctor’s commitment to their role as healer, encompassing elements of educator and psychotherapist “to induce peace of mind in the patient” (Engel 1977, p386). Of particular interest to the current study, Waddell’s (1987) seminal article applied the biopsychosocial model to low back pain, suggesting the patient should be an active participant in their treatment, with the doctor’s role encompassing that of counsellor.

Interestingly, both Balint and Engel trained in psychoanalysis, and it may be contended that the twenty-first century biomedical interpretation of the therapeutic relationship stems from these psychoanalytically-informed conceptualisations, with the implementation of patient-centred care (Heritage and Maynard 2006). Patient-centred care was first described as a way of understanding the patient as a unique individual (Balint 1969). Whilst a range of descriptions have been applied to the patient-centred approach since then (McWhinney 1989; Gerteis et al. 1993; Stewart et al. 1995), in general the approach focuses on including patient views in medical interactions and promoting the patient-practitioner relationship (Ishikawa et al. 2013). This lack of definitional clarity led to a seminal narrative review of the conceptual and empirical literature pertaining to patient-centredness by Mead and Bower (2000), proposing five dimensions of importance: (1) the biopsychosocial perspective; (2) the ‘patient as person’, conceiving of the patient as an experiencing individual; (3) the egalitarian sharing of power and responsibility between doctor

and patient; (4) the therapeutic alliance, based on Roger's (1967) psychotherapeutic concept of the core therapist attitudes of empathy, congruence and unconditional positive regard; (5) the 'doctor as person', whereby the doctor's influence is seen as integral within 'two person medicine'. Thus, the patient-centred therapeutic relationship may be seen as one based in mutuality with a shared power dynamic.

It should be noted that the term patient-centred is not synonymous with therapeutic relationship as the relationship represents one facet of the multi-dimensional patient-centred approach, and some conceptualisations of patient-centred care do not focus on fostering a therapeutic alliance (Clarke et al. 2017). Additionally, the characteristics of the therapeutic relationship considered important as a means for establishing patient-centred care also vary, including: communication and partnership (Constand et al. 2014); empathy, trust and individualised care (Castro et al. 2016); respect, information, education and emotional support (Rathert et al. 2015). A recent systematic review (Langberg et al. 2019) of 80 articles pertaining to definitions of patient-centred care since Mead and Bower's (2000) review identified therapeutic alliance as the second most commonly referenced dimension, mentioned in 63 articles. Langberg et al. (2019) used only one database (PubMed) for the literature search which may have led to articles being missed, and the use of a conceptual review methodology instead of a systematic review may have been more appropriate, given the conceptual nature of the review. Nonetheless, the results point to the importance of the patient-practitioner relationship in the patient-centred approach.

Patient-centred care has been variously associated with reduced use of health care resources and costs, increased patient satisfaction and treatment adherence as well as healthcare professional fulfilment, with a reduction in malpractice complaints (Stewart et al. 2000; Lewin et al. 2001; Venetis et al. 2009; Rathert et al. 2013); however, research evidence shows inconsistent evidence regarding associations to physical and psychological outcomes (Michie et al. 2003; Rathert et al. 2013). A review (Rathert et al. 2013) of 40 articles, including 17,243 participants, examined the relationship between patient-centred care and outcomes. A wide range of study designs was included, capturing differing dimensions of patient-centred care, with results demonstrating positive relationships between patient-centred care and satisfaction (Rathert et al. 2013). However, methodological limitations weaken this review: risk of bias for included studies is not reported, a meta-analysis article is included, and summary data, effect estimates and confidence intervals for individual studies are not given.

Michie et al. (2003) investigated whether the use of different patient-centred approaches are differentially associated with health outcomes in chronic illness. A literature review returned 30

studies, which were divided to two categories: (1) the 'patient perspective' approach, where the consultation emphasised eliciting patients' beliefs and responding to them in a patient-centred way; and, (2) the 'patient activation' approach, with the patient taking an active part in the consultation. Of the 30 studies included in the review, 20 were categorised as 'patient perspective', and the remaining 10 studies categorised as 'patient activation', with satisfaction, adherence and physical health used as outcome measures. Results suggest that 'patient activation' may be associated with better physical health outcomes than 'patient perspective' approaches (Michie et al. 2003); however, the heterogeneity of study designs, varied quality of primary studies, coupled with a lack of study data reported in the review suggests these results should be interpreted with caution. Michie et al. (2003) suggest the variance between patient-centred approaches and health outcomes may relate to the focus of each approach. Patient perspective approaches may promote patient satisfaction, in turn increasing adherence to treatment and advice; however, it is the healthcare professional's ability to empower the patient to actively engage with their health management that is necessary to foster improved physical and psychological outcomes. Thus, empowerment may be seen as a key concept associated with the patient-centred approach (Holmström and Röing 2010).

The patient-centred approach has risen to prominence, with Roter (2000) suggesting it as the medical paradigm for the twenty-first century. In the UK, the adoption of patient-centred care is shown in the NHS Plan (Department of Health 2000, p4) stating, "the NHS will shape its services around the needs and preferences of individual patients, their families and carers". However, Latimer et al. (2017) argues that as patient-centred care entered the realm of health-care policy its emphasis changed to 'patient choice'. This resonates with Harrison's (2018) view that the introduction of greater market forces in UK healthcare has seen patients transformed to consumers, with the patient once again holding the power. Consumerism may be seen as largely based on concepts of autonomy relating to freedom of choice, and its influence in healthcare is associated with the rise in the consumer rights movement of the 1960's and 70's, bolstered by the healthcare policies of the early twenty-first century, championing partnership and patient choice (Latimer et al. 2017). Here, there is a conceptual overlap between consumerist and patient-centred care models of healthcare, with individual choice and empowerment (Arnold et al. 2020).

The concept of empowerment evolved as a reaction to oppression and inequality within society (Holmström and Röing 2010) where 'power over' represents a coercive and marginalising power, in contrast to 'power to' which is seen as a capacity to influence change (Chiapperino and Tengland 2015), with empowerment being seen as "having control over the determinants of one's quality of life" (Tengland 2006, p34). However, Holmström and Röing (2010) contend that in

healthcare this original emancipatory expression of empowerment has been replaced with an emphasis on individual choice and responsibility for health, with the shift from ‘control’ to ‘responsibility’ signalling a change from social liberation to individualism. Criticism surrounding this shift lies in the obligation it creates for the individual to conform to social expectations about their health (Arnold et al. 2020). As Chiapperino and Tengland (2015, p213) state,

“requiring citizens to take more responsibility for their health can hardly be an empowering step for citizens if optimal health is presented as a standard to which all members of the community are expected to conform.”

Here, the notion of empowerment based on an individual’s ‘responsibility’ for their own health faces a conceptual challenge, as it may appear that empowered individuals are free to choose healthier behaviours, but these behaviours are set out for them by healthcare professionals and institutions (Rose 2007). In this respect, patient ‘empowerment’ may be seen as simply masking persisting power asymmetries (Holmström and Röing 2010).

Thus, as portrayed above, the therapeutic relationship described from a medical perspective shows considerable variation of the doctor and patient roles throughout history, dependent on context and characterised by differing power relations. Having presented a conceptual review of the therapeutic relationship, the following section will situate clinical evidence of the role of the therapeutic relationship.

## **1.7 Measures used to assess the therapeutic relationship**

The sections above portray different theoretical conceptualisations of the therapeutic relationship, demonstrating the diversity of constructs used to describe the interaction. Likewise, the measures used to evaluate the therapeutic relationship are equally varied. Indeed, Greenhalgh and Heath (2010, p5) state, “the therapeutic relationship is something for which objective, valid and reproducible metrics are difficult, if not impossible, to develop”. This section provides an overview of ways in which the therapeutic relationship may be measured, but is not intended as a comprehensive review.

In psychotherapy, decades of research in to the therapeutic alliance have provided consistent evidence of an association between the therapeutic relationship and positive outcomes such as symptom reduction and well-being (Horvath and Symonds 1991; Martin et al. 2000; Horvath et al. 2011; Flückiger et al. 2018). The strength of the alliance between therapist and client is commonly measured using questionnaires from client, therapist or observer perspectives (Elvins and Green

2008). A wide range of instruments have been developed, with a recent meta-analytic synthesis of 295 studies covering over 30,000 patients (Flückiger et al. 2018) of the alliance in adult psychotherapy reporting thirty-five different assessment tools. Of these, four frequently used ‘core’ instruments were found to account for the measures used in two-thirds of the alliance-outcome studies: California Psychotherapy Alliance Scale; Helping Alliance Questionnaire; Vanderbilt Psychotherapy Process Scale; Working Alliance Inventory (Flückiger et al. 2018). Table 1 below, adapted from Elvins and Green (2008) provides a summary of these measures.

*Table 1. Commonly used measures of the therapeutic relationship in psychotherapy*

<b>Commonly used measures of the therapeutic relationship in psychotherapy</b>	
<i>Measure</i>	<i>Description</i>
California Psychotherapy Alliance Scale (Marmar et al. 1986)	Psychodynamic origins. Patient, therapist and rater versions. 30 item. Good validity data.
Helping Alliance Questionnaire (Alexander and Luborsky 1986)	Conceptualises patient’s view of the healthcare professional’s understanding and involvement, and the patient’s feelings. Patient report only with 5 scales. Limited validity data.
Vanderbilt Psychotherapy Process Scale (Suh et al. 1986)	Combines concepts of alliance, weighted towards alliance contributions from the patient. Good validity data.
Working Alliance Inventory (Horvath and Greenberg 1989)	Designed to measure Bordin’s (1975) working alliance concepts. Patient, therapist and observer versions. 36 item and 12 item versions. Good validity data.

An analysis of the California Psychotherapy Scale, Helping Alliance Questionnaire and the Working Alliance Inventory determined that a confident, collaborative relationship was a central theme of measurement (Hatcher and Barends 1996), yet Flückiger et al. (2018) contend that the diversity of the measures may contribute to variability in alliance-outcome relations in the research literature. Moreover, Elvins and Green (2008, p1169) consider that “key measures of alliance were developed alongside specific conceptual reworking of the alliance concept by different groups –

and often developed to synthesize (or in some cases to test) new theoretical constructs”, concluding that no one instrument represents all parts of the relationship.

In the field of medicine, the therapeutic relationship has been associated with increased patient compliance with treatment, levels of satisfaction and improved health outcomes (Stewart et al. 1979; Stewart 1995; di Blasi et al. 2001; Riedl and Schüßler 2017), where the relationship may be measured using outcome measures as well as direct evaluations of the relationship itself (Griffin et al. 2004). Outcome measures are ways of assessing the impact and quality of healthcare treatment (Donabedian 1966), and may be classified as objective, subjective or intermediate: objective measures may be categorised as physiological markers such as blood pressure; subjective measures may include questionnaires assessing patient reported perceptions of pain, anxiety, depression, functional status, and quality of life; and intermediate measures such as patient satisfaction, adherence to treatment or health-care costs (Griffin et al. 2004).

In considering specific measures of the therapeutic relationship, Eveleigh et al. (2012) reviewed the literature for questionnaires relating to the doctor-patient relationship, identifying 19 instruments from 43 articles, detailed below in Table 2.

Table 2. Measures of the therapeutic relationship in medicine (adapted from Eveleigh et al. (2012))

Measures of the therapeutic relationship in the field of medicine	
Measure	Origin of conceptual model of doctor-patient relationship
<ul style="list-style-type: none"> <li>• 4-point alliance scale</li> <li>• Agnew Relationship Measure</li> <li>• California Psychotherapy Alliance Scale</li> <li>• Dual-Role Relationships Inventory</li> <li>• Helping Alliance Questionnaire</li> <li>• Human Connection scale</li> <li>• Kim Alliance Scale</li> <li>• Inpatient Treatment Alliance Scale</li> <li>• Patient-Doctor Relationship Questionnaire</li> <li>• Stanford Trust in Physician scale</li> <li>• Vanderbilt Therapeutic Alliance Scale</li> <li>• Working Alliance Inventory</li> </ul>	Psychotherapeutic conceptualisations of the alliance
<ul style="list-style-type: none"> <li>• Consultation and Relational Empathy Measure</li> <li>• Difficult Doctor-Patient Relationship Questionnaire</li> <li>• Health Care Relationship Trust Scale</li> <li>• Scale to Assess therapeutic Relationship</li> <li>• The patient-physician relationship questionnaire</li> <li>• The relational communication scale for observers</li> <li>• Wake Forest (Physician) Trust Scale</li> </ul>	Primary / general health

It is noteworthy that 12 instruments originated from psychotherapy, showing overlap with commonly used measures in psychotherapy (California Psychotherapy Alliance Scales, Helping Alliance Questionnaire, Vanderbilt Therapeutic Alliance Scale and Working Alliance Inventory). Moreover, commonality may be seen in the relationship domains measured in the instruments, with Eveleigh et al. (2012) describing 'alliance' in the form of bond, goals, tasks and collaboration as the most frequently mentioned domains, whereas instruments developed for use in medical



health-care were more commonly based on the domains of trust and empathy. As with psychotherapy measures, the diversity of measures represents diversity of conceptual models (Eveleigh et al. 2012).

Eveleigh et al.'s (2012) review focused solely on instruments where the relationship was directly measured, excluding broader, more indirect aspects associated with the therapeutic relationship such as patient satisfaction, thus limiting the scope of the article. Patient satisfaction may be described as the outcome of a patient's subjective evaluation of their healthcare experience, influenced by the patient's expectations, previous experiences, beliefs and perceptions, as well as socio-economic variables (Batbaatar et al. 2015), and is considered an important outcome to measure (Brown et al. 2003). Measures of patient satisfaction commonly employ questionnaires that assess attributes including the humanistic qualities of the healthcare professional such as caring, compassion and concern, alongside communication and listening skills and information provision, as well as wider factors such as accessibility to services and healthcare setting (Junewicz and Youngner 2015; Batbaatar et al. 2017). Research evidence shows a consistent association between elements of the patient-practitioner interaction and levels of satisfaction (Batbaatar et al. 2017; Rossetini et al. 2020). Thus, it may be asserted that a key determinant of patient satisfaction lies in the therapeutic relationship

However, the use of patient satisfaction as a measure of therapeutic relationship may be considered problematic (Greenhalgh and Heath 2010). Patient characteristics such as age, race and socioeconomic status are associated with reported levels of satisfaction (Chen et al. 2019). Higher levels of patient satisfaction are associated with older age and increased socioeconomic status (Bleich et al. 2009; Chen et al. 2019), whilst those from minority ethnic groups are more likely to report dissatisfaction (Mead and Roland 2009; Hanssens et al. 2016). Moreover, levels of satisfaction may vary between countries (Bleich et al. 2009; Sánchez-Piedra et al. 2014), suggestive of the influence of wider societal factors as well as subjective factors unique to the individual.

Additionally, higher levels of patient satisfaction may not always correlate with improved outcomes. For example, Sites et al. (2018) carried out a cross-sectional study in America, examining the relationship between opioid use and patient satisfaction in 19,566 adults with musculoskeletal conditions. In analyses adjusted for health status, pain levels and sociodemographic factors, high satisfaction scores were associated with the prescription of opioids (OR 1.32, 95% CI: 1.18 to 1.49). The use of prescription opioids quadrupled since 1999, yet self-reported pain levels remained unchanged (Centers for Disease Control and Prevention 2011),

suggesting that higher satisfaction levels may be partially explained by the clinician's desire to meet patient expectations (Sites et al. 2018), leading to a potential correlation between the current opioid epidemic in America, the concomitant health risks associated with opioid addiction, and the emphasis placed on patient satisfaction scores (Khanna and Diab 2019).

As described above in Section [1.6](#), the relationship between those seeking care and healthcare professionals has been depicted as a complex interaction that may be conceptualised from a variety of perspectives. Equally, a wide range of measures related to the evaluation of the therapeutic relationship exist, emphasising different dimensions of the relationship but that may not capture its 'elusive essence' in its entirety. From this theoretical milieu, Greenhalgh and Heath (2010, p30) provide a useful summary stating that "from an academic perspective, it is important to keep the research field open" and not designate a particular approach as the "right way to study the topic".

## **1.8 The relevance of the therapeutic relationship to Pilates**

Whilst the theoretical concept of the therapeutic relationship originated within a psychoanalytical framework (Zetzel 1956; Greenson 1967; Bordin 1975; Luborsky 1975), Bordin (1979) proposed that a therapeutic relationship could exist in any setting where a person seeking change and a change agent formed an alliance, thus the concept may be applicable to a Pilates setting where a person may seek assistance in managing their musculoskeletal pain. The therapeutic relationship has been found to have a positive association with treatment outcome in diverse settings including psychotherapy, medicine and nursing (Horvath and Symonds 1991; Stewart 1995; Martin et al. 2000; Lewin et al. 2001; Charlton et al. 2008; Horvath et al. 2011; Kelley et al. 2014). Thus, consideration of the therapeutic relationship in the field of physical therapy may benefit a wider understanding of its potential influence on treatment outcomes in musculoskeletal conditions.

Hall et al. (2010) carried out a systematic review of 13 studies, including 3,160 participants, investigating the association between therapeutic relationship and outcome in physical rehabilitation settings, and whether the relationship is a predictor of outcome. Populations included people with brain injury (n = 253), cardiac conditions (n = 79), musculoskeletal conditions (n = 1989) and multiple pathologies (n = 839). From the 13 studies reviewed, 12 showed evidence of an association between therapeutic relationship and positive outcome in measures including pain, ability to carry out activities of daily living, reported treatment adherence, global assessment of physical health and treatment satisfaction (Hall et al. 2010). However, considerable

variation was reported in measures of the relationship: Working Alliance Inventory (n = 6); California Psychotherapy Alliance Scale (n = 1); MedRisk Instrument for Measuring Patient Satisfaction with Physical Therapy Care (n = 1); non-specific measures (n = 4); not-stated (n = 1). Whilst the Working Alliance Inventory and California Psychotherapy Scale are commonly used in psychotherapy research (as described above in Section [1.7](#)) (Flückiger et al. 2018), but the validity of using psychotherapeutic measures in physical therapy settings has been questioned (Hall et al. 2012). Further limitations may be seen with the use of a patient satisfaction measure as an indirect measure of the relationship, as described above in Section [1.7](#); in addition to the use of non-specific measures such as verbal and non-verbal behaviours. Whilst the review by Hall et al. (2010) points to a positive association between the therapeutic relationship and outcomes in physical therapy settings, the low quality of the review, alongside the limitations of included studies suggests these findings should be interpreted with caution.

Two systematic reviews specifically examined the effect of the relationship in physical therapy musculoskeletal settings (Kinney et al. 2018; Taccolini Manzoni et al. 2018). Kinney et al. (2018) investigated the impact of the therapeutic relationship in physical therapy for chronic musculoskeletal pain in a systematic review of seven studies, with a total of 480 participants. The review reports three randomised controlled trial studies, including 375 participants, examining the effect of the therapeutic relationship on chronic musculoskeletal pain (with all studies using a persistent low back pain sample). Results suggest an association between a therapeutic relationship and improved levels of pain; however, issues with blinding and selective reporting in the primary studies may have introduced bias. Moreover, the studies used measures of therapeutic alliance from psychotherapy (Working Alliance Inventory and Patient Rehabilitation Expectations Scale), with concomitant limitations as described for Hall et al. (2010).

Kinney et al. 's (2018) review also included a further four observational studies, totalling 105 participants with varied persistent pain conditions, considering factors that may influence the strength of the therapeutic alliance. Trust was identified in two studies (Bunzli et al. 2013; Harman et al. 2014), with individualised treatment also identified in two studies (Harman et al. 2014; Wilson et al. 2017). Other reported influencing factors included negative emotional states (anger expression, hostility and depression), understanding the person as a whole, rapport, support, active participation and a strategy for adherence to treatment (Kinney et al. 2018). The diversity of factors listed as influencing the strength of a relationship is suggestive of a lack of consensus. The study authors (Kinney et al. 2018) concede the small number of included studies impeded the provision of adequate evidence to make definitive claims regarding the influence of

the therapeutic relationship on chronic musculoskeletal pain. Additionally, the low quality of the systematic review, including limited reporting of how the heterogeneity of the studies may have impacted results, suggests results should be considered with caution.

Taccolini Manzoni et al.'s (2018) conducted a systematic review to determine the role of the therapeutic relationship on pain relief for patients with musculoskeletal disorders. Five articles and one dissertation from four studies were included in the review, totalling 387 participants, with all studies presenting samples composed of patients experiencing persistent low back pain. In contrast to Kinney et al. (2018), Taccolini Manzoni et al. (2018) reported a lack of strong evidence to support an association, however this may be due to the inclusion of one article (Nascimento et al. 2014) and one dissertation (Nascimento 2011) based on a cohort study not included in Kinney et al.'s (2018) review. A methodological quality assessment of the cohort study indicated a high risk of bias, with problems relating to sampling and the blinding of assessors, which may have impacted results. Taccolini Manzoni et al. (2018) conclude that a dearth of identified studies prevented a more definitive analysis, additionally citing a lack of information regarding contextual factors (such as therapist characteristics) and a lack of measures specific to physiotherapy/rehabilitation as factors limiting the review in clarifying the role of the therapeutic relationship in musculoskeletal settings. Methodological limitations of the review, including lack of detail reported for the literature search strategy, suggest results should be interpreted with caution. Therefore further research may help to develop understanding.

As presented above, emerging evidence points to the influence of the therapeutic relationship in the management of musculoskeletal conditions, including persistent low back pain. As described in Section [1.4.3](#) above, Pilates is an exercise method that may be employed in the management of persistent low back pain, and whilst Pilates is used for diverse purposes such as leisure or sports training, it may also be considered as a rehabilitative tool within a healthcare sphere (Di Lorenzo 2011; Cruz et al. 2016; Byrnes et al. 2018). In this regard, Pilates is now considered an accepted rehabilitation tool in the field of physiotherapy, used in NHS primary care and private physiotherapy practices (Giannakou and Gaskell 2020). Further context relating to the acceptance of Pilates within the physical therapy field may be provided when considering organisations providing Pilates training. For example, the Australian Physiotherapy and Pilates Institute (APPI) operates in 22 countries, training 4000 Pilates teacher per year, and delivering over 30,000 classes per year in its UK centres (Appihealthgroup.com 2020). Additionally, Polestar Pilates (founded by American physical therapist Dr Brent Anderson) provides Pilates training in nearly 40 countries, with the curriculum based in physical therapy principles and science-based techniques (Polestar Pilates 2020).

Whilst the relevance of the therapeutic relationship may be of interest for the management of a wide range of musculoskeletal conditions, low back pain is the leading cause of disability worldwide (Vos et al. 2017) with significant societal cost (Hoy et al. 2012) and individual impact (Froud et al. 2014). There has been a 'call for action' for further research in the treatment and prevention of low back pain (Buchbinder et al. 2018), and therefore low back pain is the focus of this thesis.

In summary, the use of Pilates as a rehabilitation tool in the management of low back pain has been demonstrated, with the exercise method commonly used in physiotherapy settings (Cuddy and Gaskell 2020; Giannakou and Gaskell 2020) as well as Pilates-specific settings (Anderson and Spector 2000). With emerging research evidence demonstrating a positive association between the therapeutic relationship and outcomes such as a reduction in pain in musculoskeletal rehabilitation settings, consideration of the therapeutic relationship in relation to Pilates teachers and clients with persistent low back pain is pertinent in furthering understanding of factors that may influence outcomes.

## 1.9 Chapter summary

Low back pain is common, and is considered the leading cause of disability globally (Vos et al. 2017). Over 23% of those experiencing an acute episode of low back pain go on to experience persistent low back pain, of more than three months duration (Airaksinen et al. 2006). In the management of low back pain, NICE guidelines (2016) provide a clear role for structured exercise, with Pilates a commonly recommended exercise modality (Allen 2014).

Pilates is an exercise method, created by Joseph Pilates in the early twentieth century, which has become associated with the concept of ‘core stability’, and it has been argued that this alignment with scientific research led to the legitimisation of the Pilates method and its’ popularity in the management of low back pain. Findings from systematic reviews highlight that Pilates is superior to minimal intervention in reducing levels of pain and disability (La Touche et al. 2008; Lim 2011; Wells et al. 2013; Yamato et al. 2016); however, research evidence suggests that Pilates is no more effective than other forms of exercise (van Middelkoop et al. 2011; Steiger et al. 2012).

It has been postulated that cognitive and behavioural factors are correlated to treatment outcomes, and that these variables may be influenced by the patient-practitioner relationship (Ramond et al. 2011; Alhowimel et al. 2018). This relationship, termed the therapeutic relationship, focuses specifically on the patient’s needs, and is distinct from other social relationships. The therapeutic relationship has been conceptualised from different theoretical perspectives, with a consequent variety of ways to define the elements of relationship and measure its impact on outcomes. Research evidence has shown a positive association between therapeutic relationship and treatment outcomes in diverse healthcare settings, including physical rehabilitation (Hall et al. 2010). Moreover, research suggests that the influence of this relationship may have a beneficial association with perceived pain levels in those experiencing persistent low back pain (Kinney et al. 2018).

It has been shown that Pilates is an accepted rehabilitation tool for the management of low back pain, used in Pilates-specific and physiotherapy settings (Anderson and Spector 2000; Giannakou and Gaskell 2020); therefore, understanding the relationship between Pilates teachers and clients with persistent low back pain may illuminate factors influencing outcomes.

The following chapter presents a literature review considering the influence of the therapeutic relationship in the management of persistent low back pain.

## Chapter 2: A Literature Review of the Influence of the Therapeutic Relationship in the Management of Persistent Low Back Pain

### 2.1 Introduction

The purpose of this chapter is to explore the literature pertaining to the therapeutic relationship in the management of persistent low back pain, with a specific interest in literature relating to the use of Pilates.

A scoping review was considered an appropriate approach for the literature review because “scoping studies aim to map the literature on a particular topic or research area and provide an opportunity to identify key concepts; gaps in the research; and types and sources of information to inform practice, policymaking and research” (Daudt et al. 2013, p8). In concert with this definition, there are four main reasons for undertaking a scoping review: (1) to examine the extent, range and nature of research activity; (2) to determine the value of undertaking a full systematic review; (3) to summarise and disseminate findings; and (4) to identify research gaps in the existing literature (Arksey and O'Malley 2005). The first and fourth goals were identified as pertinent justification for use of a scoping review approach for this study, due to the emerging nature of the research relating to the therapeutic relationship in physical rehabilitation settings as considered in Section [1.8](#) above.

Scoping reviews share some similarity with systematic reviews in that both systematically search the literature to identify and analyse relevant literature pertaining to a literature review question; however, they differ in their purpose and aim (Pham et al. 2014). Firstly, a systematic review may typically focus on a well-defined question, where appropriate study designs can be identified in advance; whereas a scoping review might typically focus on a broader question where many different study designs may be applicable to map the body of literature on a topic. Secondly, a systematic review requires the quality assessment of the included studies in order to summarise the best available research, whereas a scoping review is less likely to do so (Arksey and O'Malley 2005; Pham et al. 2014). Criticism has been raised regarding the lack of quality assessment in scoping reviews, with a call for this to be a necessary component with the use of validated tools (Daudt et al. 2013). Pham et al. (2014) contend that all literature, regardless of quality, should be included in a scoping review to fulfil the aim of providing an overview of existing literature in a

field of interest, whilst acknowledging that a quality assessment would further facilitate identification of gaps in the evidence base, and the feasibility of systematic reviews.

The methodological framework for conducting the scoping review in this study was underpinned by the six-stage process set out by Arksey and O'Malley (2005):

- Stage 1: identifying the review question
- Stage 2: identifying relevant studies
- Stage 3: study selection
- Stage 4: charting the data
- Stage 5: collating, summarising and reporting the data
- Stage 6 (optional): consultation exercise with stakeholders

For this study, the first five stages guided the literature review process. Initially, the scoping review was intended to answer the following literature review question: What is the extent and nature of the scientific literature pertaining to the influence of the therapeutic relationship in the Pilates management of persistent low back pain? However, the very limited search results prompted a widening of the review question to: What is the extent and nature of the scientific literature pertaining to the influence of the therapeutic relationship in the physical therapy management of persistent low back pain? This modification allowed for the search to consider literature in the field of physical therapy, where Pilates is a commonly used management tool (Cuddy and Gaskell 2020; Giannakou and Gaskell 2020). Relevant studies were identified using a search strategy, and selected against inclusion and exclusion criteria (outlined below in Sections [2.2.1](#) and [2.3.1](#)). Thereafter, data extracted from selected articles were systematically charted in Excel, with information on authorship, study type, population, measures of therapeutic relationship (if used) and key findings. Finally, data were collated and summarised to report on the influence of the therapeutic relationship in the management of persistent low back pain.

The results of the scoping review are presented below, followed by a justification for the basis of this study, with details of the research questions, aims and objectives.



## **2.2 Literature search 1: the influence of the therapeutic relationship in Pilates interventions for persistent low back pain**

### **2.2.1 Literature search strategy – Search 1**

An electronic database search was conducted including EBSCO (Medline, CINAHL, PsychInfo), EMBASE, AMED, Scopus, Web of Science, Cochrane Library and SPORTDiscus with no date limit.

Search terms relating to persistent low back pain were developed from scoping searches, the Cochrane Back Review Group guidelines (Furlan et al. 2009) and discussion with supervisors. With regard to terms relating to the therapeutic relationship, as seen in Section [1.6](#) above, there is no singular theory or conceptual model explaining the relationship, with Hoff and Collinson (2016, p252) concluding that it “remains somewhat amorphous in its ability to be reduced to an easily predictable set of variables or causal statements”. This may be seen in the multiplicity of elements associated with the therapeutic relationship in Section 1.6. Whilst comprehensiveness and breadth are considered important in a scoping review, so too are constraints of time, resource and personnel (Colquhoun et al. 2014). Thus, search terms relating to the relationship as a whole were developed from scoping searches and discussion with supervisors, in order to provide a pragmatic literature search strategy for a self-funded, part-time PhD study, whilst acknowledging this as a limitation (see Section [7.3.2](#)). A wildcard function (\*) was applied to ensure relevant endings were searched and BOOLEAN operators were employed to focus results (see Table 3 for search terms and Table 4 for inclusion and exclusion criteria). Reference lists were manually searched for other relevant papers.

Table 3. Key search terms for literature search 1

Key search terms for literature search 1	
<u>Pilates</u>	
Low back pain / low back ache / back pain / back ache / spin* pain / spin* ache / lumbar pain / lumbar ache / lumbar spin* pain / lumbar spin* ache / lumbago / chronic back pain / chronic low back pain / persist* back pain / persist* low back pain / recurr* back pain / recurr* low back pain	
Therapeutic relationship / therapeutic alliance / working alliance / helping alliance **Doctor-patient relation* / physician-patient relation* / therap*-patient relation* / therap*-client relation / physio*-patient relation* / physiotherapeutic relation* / professional-patient relation* / professional-client relation* / practitioner-patient relation* / practitioner-client relation* / patient-provider relation* / consumer-provider relation* / teacher-student relation* / teacher-client relation* / instructor-student relation* / instructor-client relation* **these terms also searched with 'interaction' replacing 'relation*	

Table 4. Inclusion and exclusion criteria for Literature Search 1

Inclusion and exclusion criteria for literature search 1	
Inclusion criteria	<ul style="list-style-type: none"> <li>Articles relate to the use of Pilates for low back pain</li> <li>Articles have sought to investigate the relationship between practitioner and client, considering the therapeutic relationship as a whole</li> <li>Any study design</li> <li>English language only</li> </ul>
Exclusion criteria	<ul style="list-style-type: none"> <li>Articles not meeting inclusion criteria</li> </ul>

### **2.2.2 Results of literature search 1**

No results were returned from the original search. Search terms were modified, excluding terms related to therapeutic relationship, and articles were searched for reference to the therapeutic relationship within the text. From 1715 results returned, after duplicates were removed and titles and abstracts screened, 62 articles were identified from the modified search for in-depth reading to ascertain if they reported aspects related to the therapeutic relationship. Two doctoral theses were found that discuss the therapeutic relationship. Modified search results are shown in Figure 9, followed by a summary of articles in Table 5.

Figure 9. Literature search 1 results

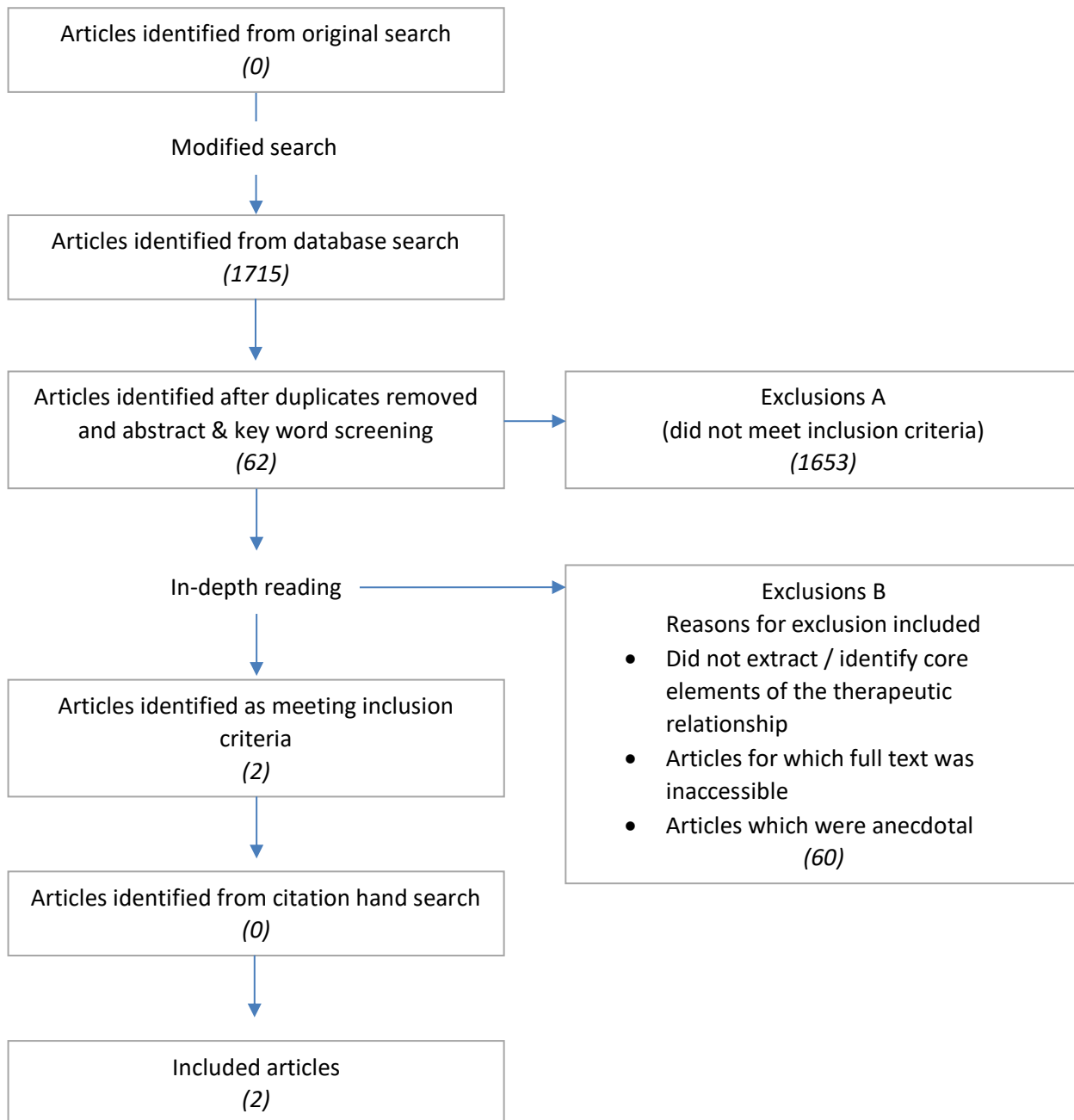


Table 5. Articles included from literature search 1

Articles included from literature search 1	
Allen (2014)	Establishing the scope of Pilates through systematic evaluation: evidence and current practice
Scarpellini (2013)	Becoming multidimensional: an interpretative phenomenological analysis of client's experiences of transformation with teacher-led Pilates

The articles identified from the literature search were unpublished doctoral theses (Scarpellini 2013; Allen 2014). Whilst broadening the extent of a literature review, the addition of unpublished, or 'grey', literature may need to be considered with caution as studies are not peer-reviewed in the same manner as published articles (Hartling et al. 2017); however, it is considered appropriate for a scoping review to provide a broader scope of literature (Munn et al. 2018). Given the paucity of literature investigating the role of the therapeutic relationship in Pilates for clients with low back pain, a pragmatic decision was made to expand the literature review to include physical therapy studies relating to the therapeutic relationship in patients with low back pain.

## 2.3 Literature Search 2: The influence of the therapeutic relationship in physical therapy interventions for persistent low back pain

### 2.3.1 Literature search strategy – Search 2

An electronic database search using search terms for persistent low back pain and therapeutic relationship as developed for the initial search was conducted as above, for articles pertaining to physical therapy interventions, and reference lists were manually searched for other relevant papers (see Tables 6 and 7 for search terms and inclusion / exclusion criteria).

Table 6. Key search terms for literature search 2

Key search terms for literature search 2
Low back pain / low back ache / back pain / back ache / spin* pain / spin* ache / lumbar pain / lumbar ache / lumbar spin* pain / lumbar spin* ache / lumbago / chronic back pain / chronic low back pain / persist* back pain / persist* low back pain / recurr* back pain / recurr* low back pain
Therapeutic relationship / therapeutic alliance / working alliance / helping alliance **Doctor-patient relation* / physician-patient relation* / physio*-patient relation* / physiotherapeutic relation* / therap*-patient relation* / therap*-client relation / professional-patient relation* / professional-client relation* / practitioner-patient relation* / practitioner-client relation* / patient-provider relation* / consumer-provider relation* / teacher-student relation* / teacher-client relation* / instructor-student relation* / instructor-client relation* **these terms also searched with 'interaction' replacing 'relation*

*Table 7. Inclusion and exclusion criteria for literature search 2*

<b>Inclusion and exclusion criteria for literature search 2</b>	
Inclusion criteria	<ul style="list-style-type: none"> <li>• Articles relate to low back pain</li> <li>• Articles pertain to physical therapy interventions</li> <li>• Articles have sought to investigate the relationship between practitioner and client, considering the therapeutic relationship as a whole</li> <li>• Any study design</li> <li>• English language only</li> </ul>
Exclusion criteria	<ul style="list-style-type: none"> <li>• Articles not meeting inclusion criteria</li> </ul>

### **2.3.2 Results of literature search 2**

In total 2198 results were returned. After duplicates were excluded, titles and abstracts were reviewed against inclusion / exclusion criteria. Following in-depth inspection by the researcher, 10 studies were included. Results are shown in Figure 10, with a summary of articles given in Table 8, and Figure 11 illustrates the overall literature search process.

Figure 10. Literature search 2 results

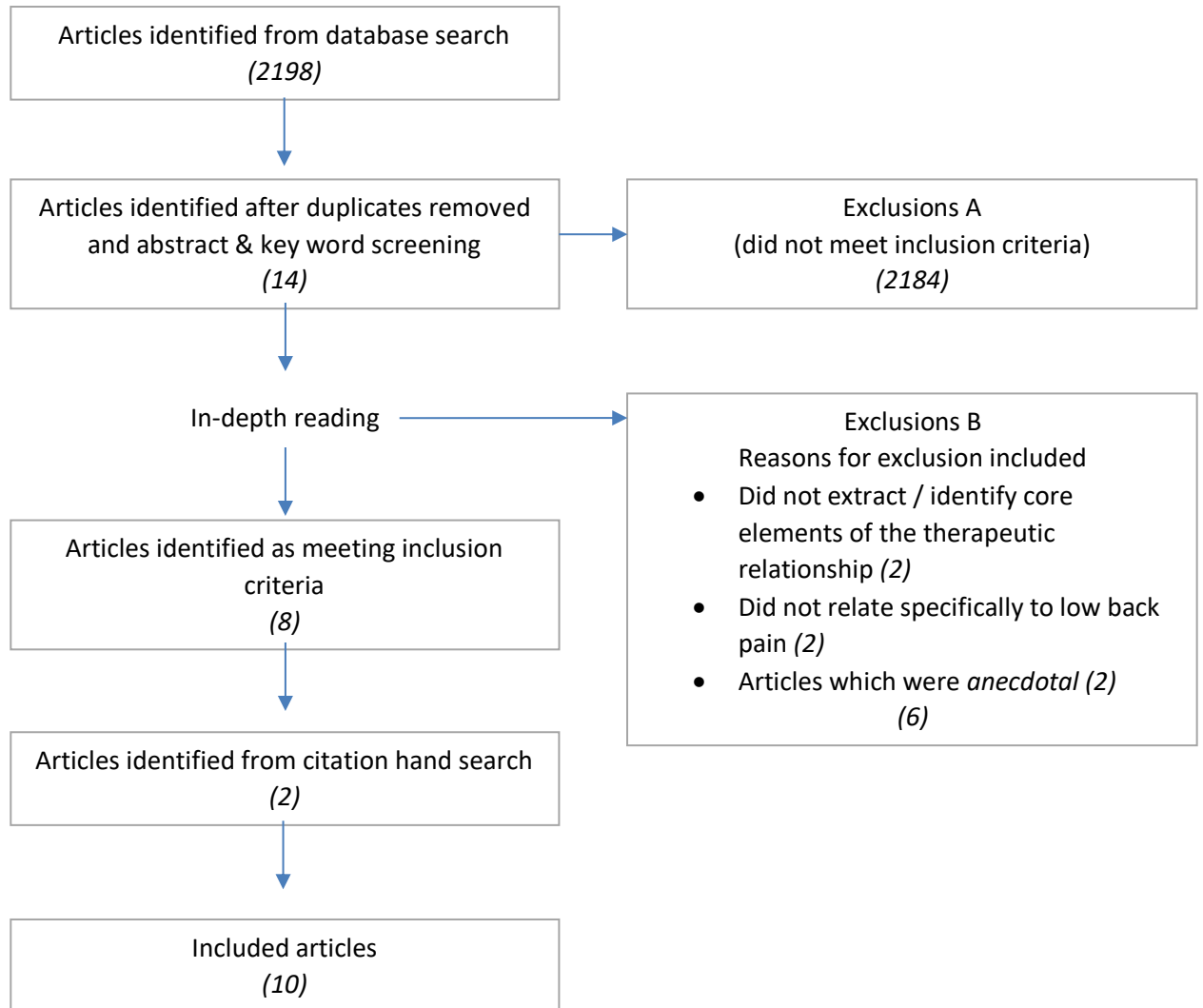
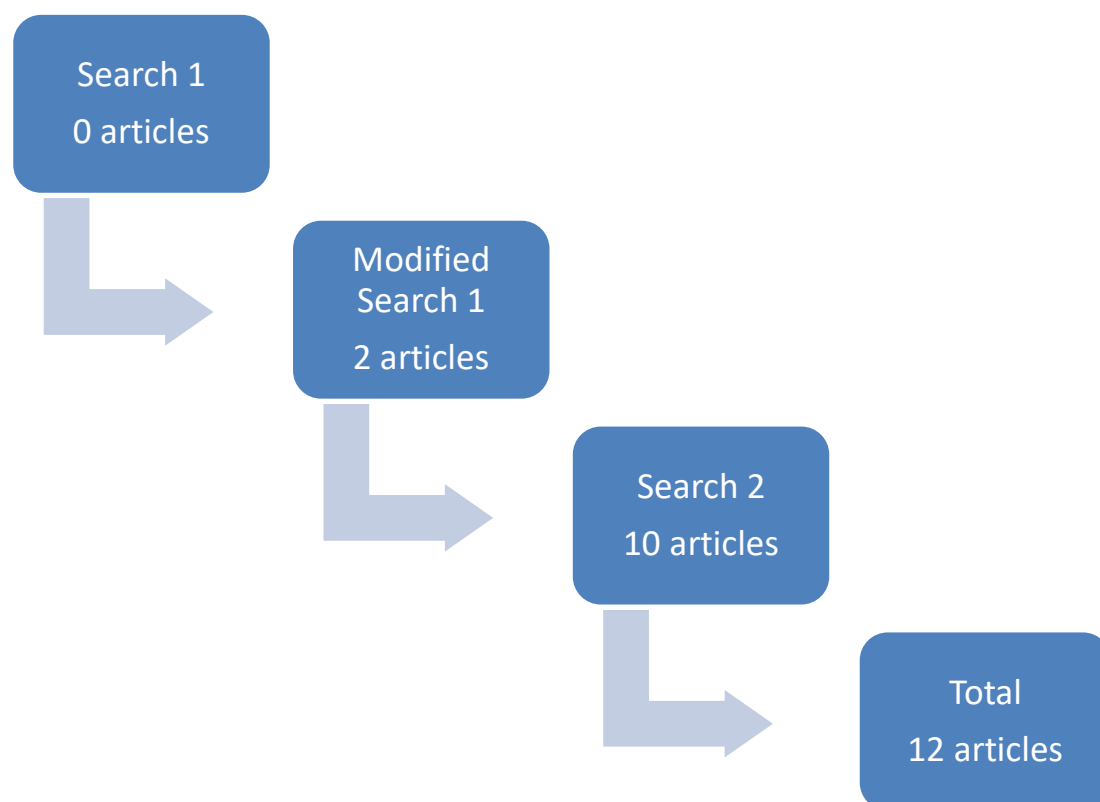


Table 8. Articles included from literature search 2

Articles included from literature search 2	
Burns et al. (1999)	Relationships among patient hostility, anger expression, depression, and the working alliance in a work hardening program
Brunner et al. (2019)	Associations between alliance, physiotherapists' confidence in managing the patient and patient-reported distress in chronic low back pain practice
Calner et al. (2019)	Physiotherapy treatment experiences of persons with persistent musculoskeletal pain
Cheing et al. (2014)	Testing a patho-analytic mediation model of how motivational enhancement physiotherapy improves physical functioning in pain patients
Ferreira et al. (2013)	The therapeutic alliance between clinicians and patients predicts outcome in chronic low back pain
Fuentes et al. (2014)	Enhanced therapeutic alliance modulates pain intensity and muscle pain sensitivity in patients with chronic low back pain: an experimental controlled study
Harman et al. (2014)	Working with people to make changes: A behavioural change approach used in chronic low back pain rehabilitation
Holopainen et al. (2018)	From "Non-encounters" to autonomic agency. Conceptions of patients with low back pain about their encounters in the health care system
Mirsky (2002)	Anger expression, working alliance, and treatment outcome following multidisciplinary chronic pain treatment
Nascimento et al. (2014)	Relationship between therapeutic alliance and deep abdominal muscle recruitment in patients with nonspecific low back pain



Figure 11. Literature search flow diagram



## 2.4 Literature search – critique and synthesis

### 2.4.1 The influence of the therapeutic relationship in Pilates

Results from the initial literature search returned two unpublished doctoral theses that discussed elements relating to the relationship between Pilates teachers and clients (Scarpellini 2013; Allen 2014). Allen (2014) investigated the use and effects of Pilates in the UK, to establish the types of clients attending Pilates, reason for starting, facilitators and barriers to attendance and clients' perceptions of the effects of Pilates and timeframe to achieve these effects. The research design included two focus group studies of teachers and clients to explore the experiences and meanings attached to attending Pilates, forming the basis for the development of two large-scale online questionnaires for teachers and Pilates clients nationally.

Participants in the teacher focus groups ( $n = 27$ ) were recruited via a UK Pilates training provider, Body Control Pilates, with an article placed in their monthly newsletter. Focus groups were facilitated by an experienced moderator not involved with the research, and audio- and video-recorded, thus enhancing credibility (Noble and Smith 2015). Data were analysed using thematic

analysis, with findings sent to the moderator and participants for verification, a strategy associated with credibility and trustworthiness (Lincoln and Guba 1985; Mays and Pope 2000). Findings depicted four themes: (1) benefits for long-term conditions; (2) individualised form of exercise; (3) mind-body link; and, (4) barriers to Pilates. Teachers described the most common reason for clients starting Pilates was to deal with musculoskeletal problems, particularly low back pain; with client education, individualised exercise provision with corrective feedback and a good therapeutic relationship central to perceived benefits. Additionally, aspects of empowerment, confidence-building and relaxation were associated with psychological well-being. With regard to barriers to Pilates, teachers perceived that Pilates may be associated with making musculoskeletal problems worse, attributing this to short training courses and lack of individualised exercise provision (Allen 2014).

Participants in the client focus groups (n = 25) were recruited from clients attending Pilates classes in Northern Ireland, via information provided to them by their Body Control Pilates trained teachers. Recruitment of participants may have introduced bias, and no information is given on the number of teachers included in the recruitment, or why focus groups were Northern Ireland-specific, which limits the credibility and transferability of the study (Noble and Smith 2015). Data collection and analysis proceeded as for the teacher focus groups. From the data, five themes emerged: (1) long-term commitment to Pilates; (2) improved health and well-being; (3) personalised form of exercise; (4) belief in the Pilates instructor; and, (5) barriers to Pilates. Participants, all long-term users of Pilates, described musculoskeletal issues as the primary reason for starting Pilates but with the positive effects to well-being and condition management as the reason for their continued attendance. In common with teachers' views, clients expressed how personalised adaptation of exercises and corrective feedback by the teacher were central to their experience. Moreover, clients described their confidence in the teacher, with professional background, understanding of the body and ability to transfer knowledge seen as valued aspects. Barriers to Pilates were considered to be financial outlay and potential misconceptions about Pilates by the general public (Allen 2014).

The research design for both focus group studies was well considered, with the use of Pilot studies to test focus group questions, the use of an independent moderator, audio- and video-recording and participant validation all enhancing trustworthiness (Korstjens and Moser 2018). However, participants were recruited from one Pilates training organisation, therefore transferability may have been limited, indicating the need for further research investigating the views of teachers and clients from a wider variety of Pilates providers. Additionally, whilst a phenomenological approach is stated as the theoretical basis for the focus group, no further

information is provided regarding how the thematic analysis followed a phenomenological approach. Further information may have mitigated this limitation.

In order to establish if the views of focus group participants were representative of a wider population, two large-scale online questionnaire surveys of Body Control Pilates teachers (n = 420) and clients (n = 720) were conducted. Questionnaires were developed from the findings of the focus groups, in addition to a literature search, and pre-tested with those who had attended the focus groups, thus enhancing validity (O'Dwyer and Bernauer 2013).

Participants for the teacher survey (n = 420) were recruited via the Body Control Pilates newsletter, with the survey administered via email and an online survey tool (Survey Monkey), and data analysis carried out via a statistical software package. The use of statistical software is considered to enhance internal validity; however, it is not clear if data analysis was blinded which may present a limitation (Tilling et al. 2005). Results from the survey provided demographic data including teacher and client population characteristics, in addition to perceived effects of Pilates, timeframe to effect and barriers to Pilates. In common with focus group finding, teachers reported musculoskeletal conditions as a common reason for attending Pilates (91.7%, n = 385/420), alongside general fitness amongst those with no health problems (87.1%, n = 366/420). The most prevalent perceived benefits of Pilates were reported as improvements to posture, core stability and sense of well-being, seen as being achieved in the short-term, with longer term benefits to physical conditioning perceived as occurring at 3-6 months. In contrast to the focus groups, adverse effects were reported, with teachers reporting the potential to increase pain (21.4%, n = 90/420) or for Pilates to have no effect (23.1%, n = 97/420). The main barriers to continued Pilates attendance were reported as lack of time (61.7%, n = 259/420) and financial cost (48.6%, n = 204/420).

Participants for the client survey (n = 720) were recruited through teachers who had participated in the teacher survey (n = 213). Data collection and analysis proceeded as for the teacher survey, with results including: client demographics; reasons for starting and continuing Pilates; background of the teacher; components of Pilates class; effects of Pilates and time for effect. Results showed similarity with the focus groups with musculoskeletal conditions being the most common reason for starting Pilates (27.5%, n = 210/762), but as with the teacher survey, continued attendance was considered to be improved health and well-being (31.2%, n = 238/762). In common with the focus groups, the beneficial components of Pilates classes were considered to be: corrective feedback through hand-on correction (88.2%, n = 672/762) and verbal cues (85.2%, n = 649/762); appropriate individualisation of exercises (61%, n = 465/762) and mind-

body link (52.1%, n = 397/762). Corresponding to the teacher survey, the effects of Pilates were primarily reported as improved core stability (95.4%, n = 727/762) and posture (92.8%, n = 707/762), with the timeframe to general effect reported as three months (62.3%, n = 475/762). In contrast to the client focus group, only 14.8% (n = 113/762) felt the background of their teacher was important to the clients' experience.

Power calculations were carried out to determine adequate samples sizes for both surveys, with the high response rate for teachers (53%, n = 420/737) and clients (78.5%, n = 762/971) indicating fully powered studies. However, generalisability of these studies may be limited as the nature of web-based surveys may have excluded some potential participants, with further potential limitations due to self-selection, and participant teachers recruited from only one training organisation (O'Dwyer and Bernauer 2013). Additionally, selective sampling of clients by their teachers cannot be ruled out and may have led to selection bias (O'Dwyer and Bernauer 2013).

Whilst the focus of this study was primarily to consider the scope of Pilates through demographic analysis, examination of both teacher and client focus groups, plus client questionnaires, demonstrated the potential importance of the teacher-client relationship.

From the teacher focus groups, Allen (2014) developed the theme 'therapeutic alliance', describing how teachers felt that good communication skills such as verbal encouragement and hands-on correction were an essential competence to facilitate the clients' confidence and trust in the teacher. The teachers described building rapport with clients that spanned months or years, additionally reporting a sense of community and social support (Allen 2014). Clients considered that belief in their instructor was an important part of their decision to attend class, and that the teacher's level of knowledge instilled a sense of trust. They felt the impact of the relationship was an increased understanding and awareness of the body, relating this to improved posture and core stability (Allen 2014).

Allen's (2014) findings are suggestive of the importance of interpersonal relationships between clients and Pilates teachers. However, the author uses the term 'therapeutic alliance' without providing explanation or justification for the term's use. Certain descriptive features such as rapport and trust may indicate a strong interpersonal relationship, but this does not provide robust evidence of a therapeutic relationship. Thus, whilst Allen's (2014) thesis provides important UK-specific data for the scope of Pilates, it provides insufficient evidence to conceptualise the relationship between Pilates teachers and clients. This may in part be due to the generalised nature of the study, incorporating diverse client views from those seeking improved fitness or injury prevention, to those with specific medical conditions. This range of

motivations may have diluted data specific to a therapeutic relationship, therefore, further research directed towards a specific population seeking a 'therapeutic' change is indicated to extrapolate this further.

In a phenomenological study exploring the inter-relationship between structured exercise and psychological well-being, Scarpellini (2013) aimed to develop a counselling psychology perspective of psychological change in a non-psychotherapy setting. To achieve this, the lived experiences of clients ( $n = 8$ ) taking teacher-led Pilates were explored as an arena for transformation.

Participants were recruited via Body Control Pilates teachers in London, who provided study information to their clients. No further information is provided on how many teachers participated in the recruitment, or how they identified potential clients as participants, thus, selection bias cannot be discounted (Noble and Smith 2015). Participants were recruited from London, and clients attended classes only with Body Control Pilates teachers, limiting transferability. Additionally, it appears that participants were selected via a convenience sample, further limiting trustworthiness (Noble and Smith 2015).

Data were collected using semi-structured interviews, and analysis followed an Interpretive Phenomenological Analysis, with two main themes emerging from the cross-case analysis: (1) weekly teacher-led Pilates classes can provide opportunities for valued interactional experiences; and, (2) weekly teacher-led Pilates classes can provide an invaluable arena for transformation. The first theme related to participants descriptions of their experiences of classes, interactional experiences, and their evaluations of these. Participants described their experience of Pilates as requiring concentration and effort, but this was perceived as enjoyable or therapeutic, with all participants describing 'mind-body' learning experiences. Furthermore, participants depict a strong connection with their preferred teacher, describing experiences of feeling acknowledged and understood by their teacher, considered important in achieving a satisfying experience of Pilates. The second theme portrayed participants' experiences of transformation with Pilates, whereby regular Pilates classes were perceived as enhancing awareness of the body through learning about posture and movement leading to a sense of increased connection and control, with transformation of emotional attitudes or feelings about the body. Additionally, participants' accounts described enjoyment and empowerment in relation to positive transformation (Scarpellini 2013).

As part of the wider study, the meaning and significance of the teacher and the relationship with the teacher were considered. 'Intense' relationship experiences were depicted, with teachers

perceived as perceptive and empathic and the classes therapeutic / restorative (Scarpellini 2013). Participants described 'synchronicity' with their teachers, and emphasised that 'feeling acknowledged' and 'understood' were important in building a close relationship with their teacher. Moreover, a sense of connection was described through the teacher's detailed observation of the body in movement, and through the use of touch to provide feedback, with all participants valuing the feeling of safety and comfort within the relationship (Scarpellini 2013).

Whilst this thesis (Scarpellini 2013) provides evidence of the importance of the strong relationship between clients and Pilates teachers, it does not develop a theoretical framework relating to the relationship, the primary aim being to show similarities between talking therapy and teacher-led Pilates. In this respect, it affords the viewpoint that Pilates offers an appropriate setting for a change process with the clients actively describing transformative experiences. It is interesting to note that the Pilates class environment provided a "mastery motivational climate" (Scarpellini 2013, p115) with the teacher providing tasks and feedback, unlike self-directed Pilates which was considered less motivating and developmental. This is suggestive of the potential role of the Pilates teacher to facilitate change through a trusting relationship with the client. It may be argued that Scarpellini's (2013) research begins to unravel the elements that influence and construct the relationship between Pilates teachers and clients, but it leaves the reader without a fully formed representation that considers the components of the relationship and whether it could be considered a therapeutic relationship.

Strengths of this study include the relevance of Interpretive Phenomenological Analysis in the field of health psychology, the rich descriptions of participants' lived experiences and the detailed description of methods, including locating the researcher within the research (Brocki and Wearden 2006). However, it is unclear if respondent validation was carried out to check accuracy, considered important in case study research, potentially limiting credibility (Thomas 2017).

#### **2.4.2 The influence of the therapeutic relationship in the management of persistent low back pain**

The second literature search, with broader search terms, returned ten studies investigating the influence of the therapeutic relationship within the context of physical therapy interventions for low back pain.

##### Studies measuring the effect of the therapeutic relationship on treatment outcomes

In a retrospective observational study nested within a randomised controlled study, Ferreira et al. (2013) investigated whether the relationship between physical therapists and patients with low

back pain predicted outcomes of pain, disability, function and perceived effect of treatment, following conservative physical therapy treatments of exercise prescription or spinal manipulation. Participants were patients with persistent low back pain ( $n = 240$ ) from three outpatient physiotherapy departments in Australia, who had participated in a randomised controlled trial investigating the outcomes of general exercise, motor control exercises and spinal manipulation and motor control exercise. A computer generated randomisation process was used to allocate participants to the experimental groups, and participants attended up to 12 treatments over an eight week period with a physical therapist ( $n = 7$ ), receiving treatment from the same therapist throughout the trial. Primary outcome measures in the main study were a patient-specific measure of function (Patient-Specific Functional Scale) and perceived effect of treatment (Global Perceived Effect Scale), with secondary outcome measures of pain (visual analogue scale) and disability (Roland Morris Disability Questionnaire). These measures were collected at a follow-up appointment at the end of the intervention by a physical therapist blinded to allocation.

For the nested study, participants ( $n = 182$ ) completed the Working Alliance Theory of Change Inventory (WATOCI) questionnaire, a measure designed to assess the elements of the therapeutic relationship: mutually agreed goals, tasks, and the affective bond between client and therapist, plus assessment of the patient's theory of change. Questionnaires were administered by a researcher blinded to allocation at the end of the second treatment session. Results of linear regression models showed that the relationship (referred to as alliance) between physical therapist and patient was a non-specific predictor for outcome, presenting statistically significant results in all four clinical outcomes: function ( $p = 0.005$ ); global perceived effect ( $p < 0.000$ ); pain ( $p = 0.001$ ) and disability ( $p < 0.000$ ). It should be noted that the WATOCI scores in this study were generally high, and whilst data from 76% of the primary study were gathered for the nested study, patients with a poorer perception of alliance may have been less motivated to provide data, thus potentially contributing to a ceiling effect (Tilling et al. 2005).

Strengths of the study include the computer generated randomisation process, plus participant allocation and data analysis were blinded, enhancing internal validity (O'Dwyer and Bernauer 2013). A limitation may be suggested with the use of the WATOCI questionnaire. This is an adaptation of the well-established Working Alliance Inventory, shown to be a valid tool for use in psychotherapy (Elvins and Green 2008); however, its validity within a physical rehabilitation setting has been questioned, with a RASCH analysis of the WATOCI questionnaire recommended re-contextualising for a physical rehabilitation setting (Hall et al. 2012). Accordingly, the results of

the study by Ferreira et al. (2013), whilst suggestive of the influence of the therapeutic relationship as a predictor of outcome in patients with low back pain, may not be considered a full assessment. Additionally, the therapeutic alliance ratings in Ferreira et al.'s (2013) study were collected after the second therapist-patient interaction only. Whilst Horvath (2001) recommends measuring the alliance between first and fifth treatments, or within the first third of treatment, the study by Ferreira et al. (2013) provided up to twelve treatments in an eight week period. Whilst the timing of the data collection was intended to consider whether the alliance may predict outcome, the study could have been improved with additional time points for data collection to enable comparison between points and how these may relate to clinical outcomes.

Moreover, information on therapist behaviours or interpersonal skills was not collected. In psychotherapy settings, patients' ratings of alliance are more strongly correlated with outcomes than therapists' ratings, with therapists more likely to misjudge the status of the relationship by over-estimating the quality of the alliance (Horvath and Symonds 1991). The ability of the therapist to accurately assess the quality of the relationship may be viewed as central in achieving an optimal interaction (Horvath 2005), and it is therefore important to understand therapist behaviours and interpersonal skills, especially in the physical rehabilitation setting where this research is in its infancy.

Fuentes et al. (2014) conducted a double-blind, placebo controlled experimental study to investigate the effect of an enhanced therapeutic relationship (referred to as therapeutic alliance) on pain intensity and muscle sensitivity in patients ( $n = 117$ ) with persistent low back pain, following treatment with active or sham interferential current therapy (IFC). Participants with persistent low back pain were recruited from the local community via a convenience sample, which may be associated with a risk of bias, threatening the study's external validity (Etikan et al. 2016). Computer generated randomisation and concealed allocation was used to determine experimental groups, enhancing internal validity (Tilling et al. 2005).

The manipulation of the therapeutic alliance, by grouping participants in to limited or enhanced groups, was used to investigate causal association. The limited groups received five minutes of therapist interaction to explain the treatment, but therapists did not converse with the participants and left the room. In the enhanced groups, the therapist stayed with the participant throughout the treatment and engaged with the participant through active listening, tone of voice and non-verbal behaviours, in addition to the use of an empathic, encouraging and supportive manner. Outcome measures were reported for pain intensity (PI-NRS), pressure pain sensitivity measured using a mechanical algometer, the therapeutic alliance (Pain Rehabilitation Expectations Scale), level of expectations (Credibility and Expectancy Questionnaire) and self-



perceived change (Global Rating Scale). Baseline measurements for pain intensity, pressure pain thresholds and expectations were assessed, with pain intensity, expectations, therapeutic alliance and perceived change measured post-test.

Results showed statistically significant differences in reported pain intensity between the group receiving the sham IFC and limited therapeutic alliance and the other three groups ( $p < 0.01$ ), with the larger difference between the sham treatment and limited therapeutic alliance group and enhanced therapeutic alliance groups (whether sham or active IFC). Muscle sensitivity testing also showed statistically significant results between the sham IFC and limited therapeutic alliance group and both the enhanced therapeutic alliance groups ( $p < 0.05$ ). The authors conclude that the study shows dose-response effect with the value of the active IFC / enhanced therapeutic alliance group in reducing pain intensity and muscle sensitivity exceeding clinically meaningful results. Interestingly, the sham IFC and enhanced therapeutic alliance group showed better results than the active IFC and limited therapeutic alliance. This points to the relevance of the interaction between therapist and patient within a treatment intervention. Whilst this was not a statistically significant result, it is suggestive of the importance of the therapeutic relationship as a therapeutic variable.

Whilst the results suggest that an optimal therapeutic relationship is beneficial in reducing pain levels, one of the limitations of the study was that it only recorded the immediate measurement of the effect of the alliance. Within the field of psychotherapy, it is posited that measurements of therapeutic relationship earlier in the timeline of treatment are stronger predictors of outcome than those measured later (Horvath and Symonds 1991). However, the status of the relationship is considered to be dynamic, in that it may change (Kivlighan and Shaughnessy 2000; Castonguay et al. 2006; Ardito and Rabellino 2011), and therefore further research in this field has been indicated to advance understanding of the development of the relationship over time (Castonguay et al. 2006). Future research in physical therapy settings should also consider the influence of time on the effect of the therapeutic relationship.

The study reports that the enhanced interventions included active listening, empathy, caring, support and encouragement but does not clarify the training provided to enhance the skills of the therapists. The authors state that improving patient-therapist interactions relies on more than simply improving communication skills but depends on engaging and meaningfully interacting with the patient (Fuentes et al. 2014). As with Ferreira et al. (2013), the effect of the therapeutic relationship has been investigated without fully exploring the qualities necessary to provide the

optimal therapeutic environment. Therefore, further research identifying therapist qualities and effective training methods is indicated.

Cheing et al. (2014) conducted a secondary analysis of a randomised controlled trial investigating the effect of incorporating motivational enhancement therapy (MET) to physiotherapy treatment on physical function in patients with persistent low back pain (Vong et al. 2011). MET integrates elements of motivational interviewing to facilitate engagement in behavioural change (Vong et al. 2011). Data for this study ( $n = 67$ ) were extracted from the original study (Vong et al. 2011) where participants ( $n = 88$ ) were recruited consecutively from an out-patient physiotherapy department in a hospital in Hong-Kong. Primary outcome measures included the Pain Rehabilitation Expectations Scale and Pain Self-Efficacy Questionnaire, with secondary outcome measures of pain intensity (visual analogue scale), physical function (lifting capacity test and Roland Morris Disability Questionnaire) and exercise adherence recorded in a self-reported log book. Participants were randomly assigned to the experimental groups using a computer generated randomisation programme and blinded allocation. Each group received ten sessions of 30 minutes of physiotherapy treatment in eight weeks; additionally, the experimental group received MET from their physiotherapist ( $n = 6$ ).

The secondary analysis by Cheing et al. (2014) hypothesised that increased outcome expectations and enhanced therapeutic relationship mediated the relationship between MET and physical function. Selected outcome measures (Pain Rehabilitation Expectations Scale, Visual Analogue Scale and lifting capacity test) were included in a path analysis. Initial results of the path-analysis showed that enhanced therapeutic relationship did not mediate the relationship between MET and physical function; however, a revised analysis demonstrated that MET enhanced working alliance, which was associated with increased outcome expectancy and a concomitant decrease in pain intensity and improvement in physical function (Cheing et al. 2014).

The validity of path analysis to infer causal relationships is predicated on the model used (Heise 1969) and the path analysis model in this study was revised after first results and this may pose a limitation to the study. Whilst results of the study suggest that training in MET enhances the therapeutic relationship, the purported connection between therapeutic relationship and pain level is arguable, with the main study (Vong et al. 2011) showing both experimental and control groups reporting a reduction in pain intensity, with no significant difference between-groups (within-group effect,  $p < 0.001$ ). Furthermore, the secondary analysis by Cheing et al. (2014) selectively reported outcome measures from original study, excluding measures of disability and exercise adherence, and therefore bias may have been introduced with selective reporting (O'Dwyer and Bernauer 2013).

As with the studies by Ferreira et al. (2013) and Fuentes et al. (2014) data relating to therapist and behaviours and interpersonal skills was not reported. The original study (Vong et al. 2011) describes a pilot study to verify the validity of MET for patients with pain, which encompassed training for the physiotherapists delivering the interventions, in either MET or general communication skills; however, no further details of the training process are provided. A trained researcher then evaluated the physiotherapists' use of MET strategies, with results showing that MET trained physiotherapists used these strategies over 50% of the time in practical sessions. Whilst those in the general communication group rarely used MET strategies, data relating to other therapist qualities may have enhanced understanding of factors influencing the therapeutic relationship.

Nascimento et al. (2014) undertook a cohort study to investigate the impact of the therapeutic relationship in the recruitment of deep abdominal muscles in patients with persistent low back pain. Participants ( $n = 12$ ) with persistent low back pain undertook a lumbar stabilisation programme for up to 12 sessions split into two phases. Therapeutic relationship was measured using the Working Alliance Inventory (WAI), with other outcome measures reporting pain levels (McGill Pain Questionnaire), fear of movement (Tampa Scale of Kinesiophobia), beliefs (Multidimensional Health Locus of Control), disability (Roland Morris Disability Questionnaire), and activation of transversus abdominus and internal oblique muscles assessed using ultrasound imaging. All measures were reported pre-test, and with the addition of the WAI as a measure of the therapeutic relationship, after the first phase and at completion of the final phase.

Results showed a statistically significant reduction in levels of pain ( $p = 0.04$ ) and disability ( $p = 0.03$ ); however, there was no improvement in muscle recruitment following the intervention ( $p = 0.5$ ). Furthermore, no association was found between muscle recruitment and levels of therapeutic relationship. The methodological quality of this study presents limitations, including a small sample size, and with no reporting of sampling procedures and limited reporting of method and statistical analysis (Tilling et al. 2005). Additionally, the use of the WAI which is not specific to physiotherapy settings suggest these findings should be interpreted with caution.

#### Studies measuring factors that may influence the therapeutic relationship in low back pain

Burns et al. (1999) carried out a cross-sectional, correlational study examining the relationship between patient hostility, anger expression, depression, and the therapeutic relationship in a 'work hardening programme'. It was hypothesised that patient hostility, depressed mood and/or expression of anger would be negatively associated with the therapeutic relationship between

patient and therapist. Participants ( $n = 71$ ) comprised males who had sustained workplace injuries, and were participating in a multidisciplinary programme in Illinois, America, with 48 (67.6%) reporting low back pain as their primary complaint. The multidisciplinary programme consisted of five to seven weeks of daily work simulation, weight training and cardiovascular conditioning, plus group cognitive behavioural training and vocational rehabilitation. Measures included the Beck Depression Inventory, Cook-Medley Hostility Scale and Anger Expression Inventory. Therapeutic relationship was measured using the Working Alliance Inventory (WAI) on the eighth day of the programme, with both patient and therapist completing the WAI.

Of 127 seven patients originally agreeing to participate, 41 dropped out of the study before the WAI was administered, with an additional five missing forms. Results from the remaining 71 participants showed that hostility and anger expression were negatively correlated to the therapeutic relationship only from the patient perspective, thus limiting the patient's ability to foster a therapeutic relationship with their therapist. Interestingly the two predictors were inter-correlated suggesting a common element in hostility and anger may account for this association (Burns et al. 1999). Results also showed that depressed mood and anger expression predicted therapist relationship ratings ( $p < 0.01$ ), whereas depressed mood with no anger expression was unrelated to therapist ratings. Burns et al. (1999) suggest this result may be the result of therapists finding it challenging to work with depressed patients who also voice complaints, frustration and emotional distress; however, this explanation may be seen as speculative.

Furthermore, results demonstrated that patient and therapist evaluations of the therapeutic relationship were only marginally related, in common with findings from psychotherapy where the therapist may misjudge the status of the relationship (Horvath and Symonds 1991). Whilst the initial hypothesis of the study (Burns et al. 1999) was partly supported, the cross-sectional and correlational nature of the study precluded a causal link. Study limitations include a high patient drop-out rate ( $n = 41$ ) which threatens internal validity, and the selective reporting of correlations that only showed statistical significance and the exclusive male sample population lessens the generalisability of the results (Price and Murnan 2004).

An unpublished doctoral thesis (Mirsky 2002) described a longitudinal study investigating the effects of anger expression and hostility on working alliance and treatment outcome, for patients participating in a multidisciplinary chronic pain rehabilitation programme for persistent low back pain. Participants ( $n = 11$ ) were recruited from three sites through a convenience sample, prior to initial treatment. No information was provided on the multidisciplinary treatment that patients received, length of treatment, or the characteristics of the practitioners delivering the treatment.

Outcome measures included Pain Severity Subscale of the Multifactorial Pain Inventory, Beck Depression Inventory, Medical Outcomes Study Short-Form Health Survey, Cook and Medley Hostility Scale, Anger Expression Inventory and the Working Alliance Inventory (WAI). The WAI was used to measure participants' evaluations of the therapeutic relationship at the second or third day of treatment, and at the end of treatment. Reporting on administration of other measures is unclear but appear to have been pre-treatment and at the end of treatment.

Results did not support the hypothesis that working alliance would moderate the relationship between anger expression, hostility and treatment outcomes such as pain severity.

Non-parametric tests demonstrated no statistical significance between working alliance scores and outcome measures such as depression ( $p = 0.149$ ) and pain severity ( $p = 0.375$ ). Further analysis between working alliance and other outcomes measures demonstrated no statistical significance, but no figures were provided (Mirsky 2002). Results from this study should be interpreted with caution due to considerable methodological limitations which threaten the validity of the study, including limited reporting of research methods, small sample size with high dropout ( $n = 6$ ) from an original sample of 17 participants, and poor reporting of data analysis (Price and Murnan 2004).

Brunner et al. (2019) explored associations between therapeutic relationship, physiotherapists' confidence in managing patients with persistent low back pain, and patient-reported psychological distress in a naturalistic observational study. Participants ( $n = 21$ ) with persistent low back pain were recruited from a waiting list for a musculoskeletal physiotherapy department in a public hospital in Switzerland. Participants were assigned to physiotherapists ( $n = 9$ ) based on availability, with treatment at the therapists' discretion. Participating physiotherapists were qualified ( $n = 6$ ) or students ( $n = 3$ ). Outcomes measures included the German Four-Dimensional Symptom Questionnaire to measure psychological distress, the Visual Analogue Scale for pain intensity and the Roland Morris Disability Questionnaire for back-specific function, all completed prior to intake. The German Working Alliance Inventory (WAI) was completed by patients after the third physiotherapy session. Physiotherapists completed two questions relating to their own competence and enthusiasm in managing the patient after the first session (Brunner et al. 2019).

Results supported the hypothesis that high patient-reported alliance scores were associated with high self-reported physiotherapist confidence, with physiotherapist confidence dependent on patients' psychological distress at baseline. A linear mixed model estimated a positive effect (therapist confidence  $\times$  patient distress) on patient-rated alliance (estimated effect,  $\beta = 0.15$ , 95% CI: 0.03 to 0.27) (Brunner et al. 2019). The small sample size, use of the WAI and single-

point evaluation of the relationship present limitations previously discussed in relation to the study by Ferreira et al. (2013). Nonetheless, these results suggest physiotherapists' characteristics, such as confidence, may influence the formation of a therapeutic relationship. Brunner et al. (2019) proposed enhancing therapist skill in dealing with patients' psychological distress may therefore be beneficial. In contrast to the previous studies examining the influence of patient characteristics on the strength of the therapeutic relationship (Burns et al. 1999; Mirsky 2002), this study (Brunner et al. 2019) provides insight to the therapists' characteristics as a potential influence, together revealing the complexity of the interaction.

#### Qualitative studies exploring the therapeutic relationship in low back pain management

Holopainen et al.'s (2018) phenomenographic study explored the conceptions of patients with low back pain of their encounters within the healthcare system in Finland. Participants (n = 17) with persistent or episodic low back pain were recruited from primary or occupational health care and open recall interviews were carried out, comprising the patients' reflections on viewing a video of their initial consultation with a physiotherapist, and recalling other healthcare experiences.

Data were analysed using the phenomenographic method, which is an approach investigating the variations of conceptions related to a particular phenomenon (Cibangu and Hepworth 2016). Five themes relating to conceptions of healthcare encounters emerging, with themes placed in a hierarchical structure of four categories: 'non-encounters', seeking support, empowering cooperation, and autonomic agency. Categories described a continuum of clinical interactions: from 'non-encounters' describing the patient seeking help but not having expectations met or being unable to build a connection with the healthcare professional; to autonomic agency where regular physiotherapy was no longer needed, but the patients valued the continued support of the physiotherapist (Holopainen et al. 2018). The key differences between these categories were considered by Holopainen et al. (2018) to relate to aspects of the therapeutic relationship with patients valuing clear explanations, personalised guidance, reciprocal understanding, and respect and listening. The relationship was perceived as being built slowly on a foundation of common ground and continuity of therapist presence, allowing the patient to feel relaxed and safe (Holopainen et al. 2018).

Strengths of the study include a considered approach to data analysis, with group discussion to refine coding and consistency with original data, thus increasing trustworthiness (Stenfors-Hayes et al. 2013). The use of participant quotations strengthened credibility; however, this may have been enhanced with a more detailed description of changes and decisions made during the

research process (Stenfors-Hayes et al. 2013). Whilst this study provides insight to valued elements of the therapeutic relationship, further research is indicated to identify the transferability of findings to healthcare services in other cultures.

Calner et al. (2019) explored the physiotherapy experiences of people with persistent musculoskeletal pain in Sweden, in an exploratory qualitative study. Participants (n = 11) were recruited from a previous study (n = 6), with additional participants (n = 5) recruited via purposive sampling of patients who had recently completed physiotherapy treatment at two primary care services. Five participants (45%) presented with persistent low back pain, therefore the study has been included in this literature review. Semi-structured interviews were conducted and data were analysed using qualitative content analysis. A main theme was identified: 'towards acceptance and management of pain', encompassing perceptions of the physiotherapy treatment process and their current status, and considered a thread running through the sub-themes. Four sub-themes emerged, describing the patients' experiences: (1) establishing and maintaining a therapeutic alliance; (2) being active, taking initiative and facing challenges; (3) appreciating guidance, incentive and having a sounding board; (4) acquired knowledge and new body awareness change behaviours (Calner et al. 2019).

Establishing and maintaining a therapeutic alliance was considered key, with trust and confidence in the physiotherapist considered prerequisites. Additionally, participants expressed the importance of individualisation of treatments, predicated by the therapist acknowledging the person as an individual and leading to feelings of safety. The value of open and collaborative communication with the physiotherapists was also described. Further sub-themes portray the participants' awareness of their responsibility to be active and to perform the exercises, whilst also expressing difficulty with accomplishing an exercise they did not fully understand. This related to participants' descriptions of how they needed and appreciated the physiotherapists' guidance and instructions, with the therapist acting as a sounding-board or coach to provide encouragement. The result of the treatment process was depicted as the acquirement of knowledge relating to pain mechanisms and disadvantageous movements or postures, together with a new body awareness, perceived by participants as leading to perceptions of decreased pain (Calner et al. 2019).

The research process for this study was transparent and clearly described, enhancing credibility, with discussion of the coding process between authors reducing the risk of bias (Noble and Smith 2015). Findings from Calner et al. (2019) demonstrate similarity to Holopainen et al. (2018), with participants in both studies describing the importance of a trusting, collaborative relationship

where the therapist takes time to understand the patient as an individual. The physiotherapist was seen as key in encouraging the participants' active participation, providing information regarding low back pain which led to new participant insights and body awareness (Holopainen et al. 2018; Calner et al. 2019). However, the study by Holopainen et al. (2018) develops the analysis beyond the healthcare setting, with participants describing the positive effects of rehabilitation in gaining support from friends, family and peers and facilitating positive lifestyle changes that impacted the whole family.

Harman et al. (2014) used a qualitative observational study to develop themes to describe a physiotherapists behavioural change approach in a 'Back to Fitness' programme in the UK, for military personnel with persistent low back pain who had low to moderate levels of fear avoidance (measured by the Tampa Scale of Kinesiophobia). The programme included one lecture and two exercise classes each week for six weeks. Whilst the main aim of the study was to determine the behavioural change techniques used, the establishment of a therapeutic relationship was posited as a central tenet from which behavioural change techniques could be applied in the treatment of persistent low back pain (Harman et al. 2014). In this study, video clips of classes from a cohort of 12 participants led by a single physiotherapist were analysed, followed by an in-depth interview with the physiotherapist. Three main themes emerged from the data describing the physiotherapist's approach: (1) building a trusting, supportive relationship through rapport; (2) establishing a need in the patient's mind to engage in rehabilitation; and, (3) finding workable solutions most likely to be adopted by the individual patients (Harman et al. 2014). The physiotherapist considered establishing a therapeutic relationship with the patient an essential foundation to successful outcome, facilitating open communication and the ability for the therapist to assess the patient's readiness to change. Elements of the therapeutic relationship were described as learning patient values, and building trust so that patients were more likely to continue the programme when challenged (Harman et al. 2014).

Whilst the evidence from this research indicates the potential importance of the therapeutic relationship in interventions for persistent low back pain, findings should be interpreted with caution. The study is based on one physiotherapist, and whilst qualitative work may produce rich data from a small number of cases (Morse 2000), transferability may have been enhanced if the study had been widened to other physiotherapists using the Back to Fitness programme. Moreover, there is the potential for bias in considering only the therapist's perspective on what is valuable in the development of the therapeutic relationship. Given the collaborative nature of the therapeutic relationship, it is important for therapists to understand what factors are important in its formation from the patient's perspective (Kinney et al. 2018). Therefore,



credibility may have been enhanced in the Harman et al. (2014) study if the patient participants had been interviewed.

## 2.5 Conclusion

The influence of the therapeutic relationship in achieving positive outcome is considered to have equal importance to treatment method in psychotherapy settings (Norcross and Wampold 2011), and previous research in psychotherapy and general medicine have shown the patient-therapist alliance to be a consistent and key predictor of outcome (Martin et al. 2000; Kelley et al. 2014). Given that research findings appear to show transferability of this concept to the physical therapy setting (Hall et al. 2010; Kinney et al. 2018; Taccolini Manzoni et al. 2018), further research has been indicated in this area in order to promote clinical effectiveness. The scoping literature review presented above provides some evidence for the positive association of the therapeutic relationship to outcome in physical therapy for persistent low back pain populations. However, the number of studies is small, and the use of some measures that may not be valid for physical rehabilitation settings implies that findings should be viewed with caution, and that further research is warranted to expand the knowledge base.

Of the studies selected, two compared standard physical therapy intervention with standard intervention plus enhanced therapeutic relationship (Cheing et al. 2014; Fuentes et al. 2014). In both cases, physiotherapists had training to provide improved therapeutic relationship. This suggests that understanding the factors influencing the therapeutic relationship could contribute knowledge for effective therapist training. Three studies examined factors that may influence the development of the therapeutic relationship (Burns et al. 1999; Mirsky 2002; Brunner et al. 2019), providing evidence that negative client emotional states and therapist confidence may act to weaken or strengthen the perceived relationship. Furthermore, two qualitative studies explored elements of the therapeutic relationship considered important from a patient perspective (Holopainen et al. 2018; Calner et al. 2019) and one study from the therapist perspective (Harman et al. 2014). These studies showed similarities with value placed on a supportive, cooperative relationship with the therapist providing individualised treatment (Harman et al. 2014; Holopainen et al. 2018; Calner et al. 2019).

Two doctoral theses reported on the therapeutic alliance within a general Pilates setting, as part of wider investigations into the scope of Pilates (Allen 2014) and its use as an arena for psychological change (Scarpellini 2013) respectively. Both studies present data showing the importance of the relationship between client and teacher, with elements such as rapport, trust

and partnership, in addition to the provision of tasks. Whilst these elements share similarity with Bordin's (1979) descriptors of the therapeutic relationship: the collaborative nature of the relationship; the affective bond between client and therapist; agreement on treatment goals and tasks, this does not signify correlation. To date, no research has explicitly explored the nature and construction of the relationship between Pilates teacher and client in relation to persistent low back pain management, and whether it represents a therapeutic relationship. Research suggests that the therapeutic relationship is a predictor of outcome in persistent low back pain (Ferreira et al. 2013), therefore understanding the nature of the relationship between teacher and client may provide insight for future research endeavours and inform healthcare practice in the management of persistent low back pain.

## 2.6 Research questions

The literature review has provided evidence for the justification of conducting further research exploring the influence of the therapeutic relationship in the management of persistent low back pain. NICE guidelines (2016) provide a clear role for the use of structured exercise in the management of low back pain, and Chapter [1](#) shows that Pilates is one such exercise method. Given the paucity of research exploring the nature of the relationship between Pilates teachers and clients with persistent low back pain, a gap in the knowledge base has been identified. Thus, the following research questions were developed to provide the basis for this body of work:

- 1) *What are the components of the relationship between Pilates teachers and clients with persistent low back pain?*
- 2) *What are the key influences on the components of the relationship?*
- 3) *What is the nature of the relationship?*
- 4) *Can the relationship between Pilates teachers and clients with persistent low back pain be considered a therapeutic relationship?*

Herein, the term 'component' is defined as a constituent feature or part of something, 'influence' relates to a phenomenon that exerts an effect upon something else, causing it to be changed, and 'nature' is considered the inherent or essential quality or constitution of a thing, wherein a combination of properties gives the object its fundamental character (Stevenson 2010). Thus, question (1) relates to distinct elements that may combine to create (3) the fundamental

character of the relationship between Pilates teacher and clients with persistent low back pain. Question (4) pertains to whether this relationship may be considered as a specific type of relationship i.e. therapeutic, and question (2) relates to factors that may exert an effect upon the relationship. The aims and objectives relating to these research questions are detailed in Table 9.

*Table 9. Research aims and objectives*

<b>Research aims and objectives</b>	
<b>Research aims</b>	<b>Research objectives</b>
1) To explore how Pilates teachers build and maintain a relationship with clients with persistent low back pain, and use their skills to optimise Pilates outcome	<ul style="list-style-type: none"> <li>• To identify observed components of the relationship</li> <li>• To identify Pilates teachers' perceptions of key components of the relationship</li> <li>• To identify clients' perceptions of key components of the relationship</li> </ul>
2) To investigate influences on the relationship between Pilates teachers and clients with persistent low back pain	<ul style="list-style-type: none"> <li>• To identify observed influences on the components of the relationship</li> <li>• To identify Pilates teachers' perceptions of influences on the relationship</li> <li>• To identify clients' perceptions of influences on the relationship</li> </ul>
3) To establish the nature of the relationship between Pilates teachers and clients with persistent low back pain	<ul style="list-style-type: none"> <li>• To use a theoretical framework to explore data relating to the nature of the relationship</li> </ul>
4) To establish parameters to identify if the relationship between Pilates teachers and clients with persistent low back pain may be considered a therapeutic relationship	<ul style="list-style-type: none"> <li>• To link the characteristics of the relationship to the research literature</li> <li>• To link the characteristics of the relationship to established theory</li> </ul>

## **2.7 Chapter summary**

This chapter provided a scoping literature review relevant to this study. The literature review process was illustrated, showing the use of appropriate strategies including the application of search terms within a range of professional databases. Owing to the small number of articles retrieved from the initial search strategy, the pragmatic decision to widen the search criteria to discover further relevant studies was detailed. Searches provided articles relating to the influence of the therapeutic relationship in low back pain populations in a physical therapy context, and additionally, two doctoral theses provided valuable information related to the therapeutic relationship between Pilates teachers and clients. However, information regarding the nature of the relationship between Pilates teachers and clients with persistent low back pain is lacking. It is therefore asserted that knowledge regarding this relationship would benefit from further investigation. Finally, the research questions for this thesis were presented.

## Chapter 3: **Methodology**

### **3.1 Introduction**

Having justified the need to investigate the relationship between Pilates teachers and clients with persistent low back pain in the previous chapter, this chapter elucidates the ontological and epistemological standpoints that provide the theoretical structure informing the study, and from which the research design was built. The chapter begins with an exploration of the socially-constructed nature of the body-in-pain, before providing a rationale for the use of a social constructionist framework. Subsequently, the relevance of an ethnographically-informed methodology is discussed.

### **3.2 The nature of the body-in-pain**

In health, it may be easy to ignore the physicality of our own bodies; in contrast, when illness or pain are experienced, the body is brought in to our awareness with a sharp focus (Lupton 2012). As Bourke states in *The Story of Pain* (2014), 'pain' as a word presupposes unique and different personal experiences of discomfort. In order to communicate suffering, people in pain reach out to others through language, facial expressions and body language, not simply to convey their distress, but also to provide information from which others can act to provide care and compassion (Scarry 1985; Bourke 2014). Consequently, the nature of pain may be considered inherently social and thus subject to cultural influences on the meaning and experience of pain (Moscoco 2012; Bourke 2014). The interaction of body, language and culture may therefore be viewed as a dynamic relationship, allowing research investigation into the socially-constructed nature of the body-in-pain. It is a social constructionist standpoint that informs the philosophical perspective of this research.

### **3.3 Social constructionism**

Social constructionism is concerned with the processes by which people describe and explain the world they live in, where meaning is created through social interactions (Gergen 1985). In order to understand how this relates to other perspectives, the concepts of ontology and epistemology are discussed briefly below to locate social constructionism within a broader philosophical conception.

Philosophical assumptions, or ontologies, offer explanations on the nature of reality and exist on a continuum of perspectives from realism, which posits that reality exists independent of human beings; to relativism, which contends that there is no single reality independent of individual interpretation (Crotty 1998). The two major philosophical traditions of positivism and interpretivism take opposing ends of this continuum. Positivism assumes that knowledge can only be based in objective observation and measurement of the world (Crotty 1998), and may be seen as the predominant perspective in current Western scientific thinking (Kleinman 1993). Conversely, interpretivism assumes that knowledge is constructed by humans as they seek to interpret the world around them, and is thus shaped by experience, historical and social context (Crotty 1998). Interpretivism is a broad term that encompasses the social constructionist perspective (Williamson 2006).

In designing a research project, it is important to consider knowledge claims, or epistemologies, as these provide the researcher with assumptions about how they will learn and what they will learn (Creswell 2013). This should not be done to disregard other theoretical perspectives, but to recognise that our understanding of the world can be enhanced by considering the offering each perspective can generate (Williamson 2006). Social constructionism provides a frame of understanding whereby knowledge is considered as the product of social interaction and language (Holstein and Gubrium 2008b), and is grounded in one or more assumptions (Gergen 1985; Crotty 1998). Firstly, it challenges the positivist view of objective knowledge, instead asserting that meanings are constructed by people in order to interpret the world with which they are engaging (Gergen 1985; Burr 2015). This leads to the assumption that knowledge is constructed through the social processes of day-to-day interactions, creating multiple realities (Gergen 1985; Crotty 1998; Burr 2015). Furthermore, ways of understanding are viewed as historically and culturally specific, “we are all born into a world of meaning bestowed upon us by our culture” (Creswell 2013, p9). Finally, this socially-constructed knowledge may be viewed as being intimately bound with power relations, as our historically and culturally specific understanding of the world sustains some patterns of social action and excludes others (Gergen 1985; Burr 2015).

The origins of social constructionism lie within the interpretive social sciences, where researchers questioned how notions of reality are created (Berger and Luckmann 1967; Gergen 1985; Levin and Levin 1988). From these beginnings, social constructionism has been applied in a wide variety of disciplines including the analysis of health, illness, medicine and the body (Lupton 2012).

### 3.3.1 Considering the body

As Bloor (2007, p182) points out, the “object of all professional clinical work... is the patient’s body”. A social constructionist perspective considers the body as “shaped, constrained or invented by society” (Shilling 2012, p75), emphasising how bodily experiences such as pain and illness may be interpreted by the individual through the lens of cultural and historical context (Lupton 2012). Here, the use of social constructionism to explore elements of a movement modality such as Pilates faces a theoretical difficulty. With its attention to the primacy of language, social constructionism may seem to ignore other forms of interaction, and in downplaying the embodied aspects of our experience, leave intact the mind-body dualism of mainstream biomedicine (Cromby and Nightingale 1999; Burr 2015). Shilling (2012) contends that whilst social constructionist approaches place the body in a social context, the dimension of the body as a biological entity may disappear from view. With this regard, a stance that includes non-verbal communication will be employed in order to foster a richer understanding of interactions (Onwuegbuzie and Byers 2014) within the everyday world of Pilates.

### 3.3.2 Social constructionism as a theoretical framework

The use of a theoretical or conceptual framework to facilitate a coherent research project may be considered judicious (Green 2014). In determining the difference between frameworks, Parahoo (2014) proposes that the term ‘theoretical’ should be used when one theory is employed to underpin research, and ‘conceptual’ should be applied where concepts have been drawn from more than one theory. Green (2014) suggests that the use of an underpinning framework may provide a rationale for the development of research questions, the operationalisation of the research design and strengthen confidence in findings. The theoretical framework underpinning this study was based on the epistemology of social constructionism. Given the exploratory nature of the research project, the design of the study provided an inductive approach for analysis, and thereafter, a social constructionist contextualisation was applied to the inductive findings.

### 3.3.3 Methodological choice

It has been suggested that pain, as an integral element of health and illness, depends on social as much as biological criteria (Burr 2015). Hence, in researching the interaction between Pilates teachers and clients with persistent low back pain, it may be argued that a social constructionist perspective allows for a rich exploration of factors influencing the relationship. Fundamental to the social constructionist perspective are the day-to-day interactions and events that people use

to make sense of their experiences (Holstein and Gubrium 2008a). In order to investigate the interactions of Pilates teachers and their clients with persistent low back pain, a methodological approach was required that allowed access to the everyday lives of this group: to ascertain how the relationship is constructed; and what influences it, including historical and cultural context. It will be argued that using an ethnographically-informed methodology met these requirements.

### **3.4 Ethnographic methodology**

Ethnography can be described as the in-depth study of people belonging to a particular group or culture, within their natural settings, in order to explore the social meanings of everyday activities instead of testing hypotheses about them (Hammersley and Atkinson 1987; Fetterman 1998; Brewer 2000). The researcher is a 'participant observer' (Denzin 1978), immersed directly in the setting in order to learn about the symbolic world of the people within that setting (Brewer 2000). This is accomplished by the collection of data through flexible and iterative methods, primarily through observation and interviews, with a view to developing themes and theories (Brewer 2000; Creswell 2013).

This approach may be considered divergent from the tradition of positivism in the scientific method, which promotes the detachment of the researcher in order to provide unbiased findings (Hammersley and Atkinson 1987; Brewer 2000). The collection of ethnographic data may be considered subjective and therefore contrast unfavourably with numerate data in providing objectivity (Brewer 2000). Early ethnographers sought to accurately record the settings which they were researching, aiming to eliminate the effect of the researcher and instead seeking objective 'truth' (Brewer 2000). This 'naive realism' was highly criticised in the 1980s, most prominently in 'Writing Culture' (Clifford and Marcus 1986), which exposed the constructed nature of descriptions of other cultures, with critics arguing that accounts were fictions representing a partial picture constructed within the parameters of the researcher's own biographies (Brewer 2000).

Contemporary ethnography acknowledges that the researcher is part of the world they study, and makes choices about what to research, and how to interpret and represent the data (Spencer 2007). This response has led to a requirement for reflexivity within the research, to situate data in the context of the social processes that brought them about, and to recognise the partiality and limitations of the research (Hammersley 1992; Brewer 2000; O'Reilly 2009). Thus, a reflexive stance has been taken, seeking to provide in-depth understanding of a Pilates setting, whilst



acknowledging that research findings are not objective 'truth' but a construction resulting from the interconnection between the researcher and participants.

### **3.4.1 Relevance of methodological approach**

It has been argued that ethnography is a methodology that captures richly-detailed qualitative data of everyday interactions in a particular group or culture, and is therefore suited to a constructionist framework as it provides opportunities for the elicitation of perceptions and meanings (Williamson 2006; Holstein and Gubrium 2008a). Furthermore, Savage (2006) argues that ethnography is particularly appropriate for the exploration of healthcare experiences and the impact of cultural issues. A key feature of traditional ethnography is the immersion, and active involvement, of the researcher into the social world of the participants in order to more fully understand the social behaviours of the participants in the context of their culture (Roper and Shapira 2000; Higginbottom et al. 2013). This may require extended periods of research in the 'field', the everyday environment of the group being studied (Spradley 1980; Hammersley and Atkinson 1987).

In healthcare research, the time and finance required for such an extensive endeavour may be limited, and focused ethnography has emerged as a useful tool (Higginbottom et al. 2013). Here, the research is more problem-specific and focuses on a discrete community or social group. Participant numbers may be limited to those holding specific knowledge and experience relating to the particular issue being explored (Knoblauch 2005). Participant observation may be episodic and multi-sited, as participants sharing the same experience of the issue under investigation may not live in the same location (Muecke 1994; Higginbottom et al. 2013). Additionally, Roper and Shapira (2000) assert that focused ethnography shares with classical ethnography the same commitment to participant observation within a naturalistic setting and using ethnographic questioning to gain an understanding of people and events within everyday lives and cultures.

The elements of a focused ethnography presented a pragmatic and practical solution for the research design of this unfunded study. However, criticisms of this approach contend that time is a necessary requirement to capture the multitude of dimensions of a particular social world, and that this raises questions regarding the trustworthiness of knowledge gained (Muecke 1994; Stahlke Wall 2014). Indeed, Muecke (1994, p203) states that the "greatest risk of focused ethnographies is that the boundaries of their focus unknowingly exclude what is relevant", contending that for problem-specific work another methodology may be more appropriate. In contrast, Wall (2014) asserts that it is the focus on cultural description and understanding, rather

than the form in which the data is collected, that defines an ethnography. Thus, the practical advantages afforded by a more focused approach were chosen for this study. The use of a reflexive stance was used to enhance trustworthiness, as outlined in Section [4.8](#). Acknowledging that this approach is not 'traditional' but nested within an ethnographic perspective, the term ethnographically-informed will be used to describe the chosen methodology.

In considering an appropriate methodology for this study, other potential methodologies were examined from the lens of a social constructionist perspective. Phenomenology has its roots in early twentieth century European philosophy, particularly of Husserl (1913), and is focused on exploring phenomena through the lived experience or life world of persons (Van Manen 2016). To capture the 'essence' of a phenomenon requires a rich description of the lived situation, identifying general themes and moving beyond surface expressions to read between the lines to access implicit meanings (Finlay 2012). The aspect of interpretation is, however, contested with researchers distinguishing between descriptive and interpretive phenomenology (Finlay 2012). Husserlian-inspired descriptive phenomenology focuses on the structures of an experience, staying close to the data; whereas interpretive phenomenology, emerging from the work of hermeneutic philosophers such as Heidegger (2010) and Gadamer (1976), emphasises 'the situated meaning of a human in the world' focusing on interpreting unconscious aspects within that experience (Lavery 2003).

Phenomenology has been criticised on a number of points: firstly, the failure of its progenitors to provide clear conceptual definitions (Paley 2016); secondly, pointing to philosophical limitations with the use of "flat reductionism that rules out the existence of causal mechanisms and takes the world to consist of nothing but phenomena to be described or interpreted" (Paley 2016, p30). In defence of phenomenology, Zahavi and Martiny (2019) contend that of far more importance than philosophical arguments is that the practical application of phenomenological research may allow for new insights.

Phenomenology was considered able to provide a richly detailed portrayal of the 'lived experience' of Pilates for clients with low back pain, and that of their teachers, to provide multiple perspectives (Denscombe 2014). Whilst this located a phenomenological methodology within the interpretive tradition, phenomenology is focused on the subjective aspects of social life rather than observable social interaction (Eberle 2015). In attempting to understand the nature of the relationship between Pilates teachers and their clients, it was felt that the use of an ethnographic approach to observe social interactions in a naturalistic way, as well as recording participants' experiences would provide a deeper understanding.

Grounded theory also utilises data generated in naturalistic conditions (Glaser and Strauss 1967) and was considered as a potential methodology. Derived from sociological fieldwork, Glaser and Strauss (1967) pioneered the approach using observations of social interactions and interviews with participants, with an emphasis on theory development as a distinguishing characteristic (Charmaz 2017). However, there is criticism that epistemological assumptions have been subject to debate, and are therefore not clearly articulated (Hallberg 2006). Charmaz (2017) asserts that a much contested assumption is Glaser's (2013) requirement that researchers should enter research with no preconceptions, as reading earlier research and theory would influence data interpretation. For Glaser (2013), theory is wholly present in the data, whilst Strauss and Corbin (1990) argue that theory is only partly grounded in data, the remainder derived from researcher interpretation. Charmaz (2014), argues for a constructivist stance, using 'theoretical agnosticism', whereby the researcher's own assumptions, existing research and theory are assessed with critical scepticism through reflexivity. Despite these differences, the techniques that most grounded theorists agree upon include: intensive interviewing; iterative data collection and analysis; hierarchical coding processes with initial line-by-line coding, followed by focused, then axial or theoretical coding; use of the constant comparison method; memo-writing; theoretical sampling to delineate the boundaries of the emerging theory; and constructing new theory (Hallberg 2006; Charmaz 2017).

In considering a relevant methodology for the current study, grounded theory could have provided an inductive approach to explore the relationship between Pilates teachers and clients with persistent low back pain; however, the researcher's early engagement with existing literature identified concepts and ideas considered relevant in considering the research design. In particular, the cultural influences on Pilates were considered to be of importance in understanding the socially-constructed nature of the relationship, and as ethnography specifically focuses on the relevance of culture, it was therefore deemed a more suitable methodology. Furthermore, an aim of the current study was to establish parameters to identify if the relationship between Pilates teachers and clients with persistent low back pain may be considered a therapeutic relationship by relating findings to existing theory.

In justifying the use of an ethnographically-informed methodology, it is important to consider the contribution of this type of research to provide insight for future research endeavours and inform healthcare practice in the management of persistent low back pain. Pope et al. (2002) assert that qualitative methods provide a contribution to quality improvement in healthcare by illuminating different 'facets' of phenomena to quantitative research. In this respect, Green and Thorogood

(2018) list a range of potential outputs from qualitative research, including: the development of conceptual definitions, or typologies and classifications; exploring associations between attitudes, behaviours and experiences; explaining phenomena; and generating new theories. From this perspective, whilst paradigmatically distinct, qualitative research may be viewed as complementary to, rather than in opposition with, quantitative research; together providing a more comprehensive understanding of a subject area (Maree 2020).

### 3.5 Chapter summary

In this chapter, it has been argued that the experience of pain may be explored from a socially-constructed perspective through the dynamic interaction of body, language and culture. It was proposed that a social constructionist perspective provided an appropriate framework from which to conduct this research study, whereby meaning is constructed through the social processes of day-to-day activities. Justification has been provided for the use of an ethnographically-informed methodology, not only with respect to ontological and epistemological considerations but also in providing rich data to illuminate the research questions. Pragmatic considerations for an unfunded study have been explored and the use of a focused approach have been discussed. The relevance of ethnography has been considered within health and illness criteria, and an assertion was made that the findings of the research may have application in informing future practice within the management of persistent low back pain.

In summary, an ethnographically-informed methodology within a constructionist framework was chosen for a research investigation exploring the relationship between Pilates teachers and clients with persistent low back pain. Details of the research methods are given in the next chapter.



## Chapter 4: **Methods**

### **4.1 Introduction**

In the preceding chapter, justification was provided for an ethnographically-informed methodology within a social constructionist framework to explore the following research questions: (1) What are the components of the relationship between Pilates teachers and clients with persistent low back pain? (2) What are the key influences on the components of the relationship? (3) What is the nature of the relationship? (4) Can the nature of the relationship between Pilates teachers and clients with persistent low back pain be considered a therapeutic relationship? This chapter provides a detailed description of the methods used for this study.

The chapter begins with a summary of the research design, followed by a description of the Patient and Public Involvement used to guide the research design. Thereafter, the strategies and processes used for participant recruitment are presented. This is followed by an explanation of data collection methods and data analysis. Steps taken to enhance the rigour of the research are then demonstrated. Lastly, an examination of ethical considerations are detailed.

### **4.2 Study Design**

The research consisted of a multi-site design, with one researcher visiting eight different Pilates sites in the South of England. Participants in the study were Pilates teachers and their clients. The sites comprised the places where participating Pilates teachers practiced, and included Pilates studios, village halls or the teachers' own homes. The use of the key ethnographic data collection methods of observation and interviews (Brewer 2000) were situated within the multi-site design. At each site, data collection involved researcher observation of Pilates mat or equipment classes or one-to-one sessions, in order to gain understanding of everyday interactions in a Pilates context. Thereafter, data collection continued with semi-structured interviews of the Pilates teachers and participating clients with persistent low back pain guided by Spradley's (2016) structure for ethnographic questions. Data from transcribed interviews and fieldnotes were analysed using a thematic analysis approach. A favourable ethics opinion was gained for this study from the University of Southampton Ethics Committee (Ethics ID: 24796).

### 4.3 Study Setting

The research comprised a multi-site study. Given the widely-spread distribution of Pilates teachers throughout the UK (Allen 2014), a multi-site study provided a pragmatic decision, which allowed access to a cross-section of people in different contexts within the field (Brewer 2000), yet also considered the time and financial constraints of a lone researcher. For these reasons, the geographic area of the South of England was been chosen with boundaries created by the M5, M4, M25, M23 and A23. Figure 12 shows in red the geographic parameters for the research, and figure 13 details considerations for diversity.

*Figure 12. Geographic parameters for sampling*



©MAPS IN MINUTES™ 2014. Contains Ordnance Survey data ©Crown Copyright and database right 2011



Figure 13. Decision trail for diversity

**Decision trail - “Considering Diversity”**

*Supervision meeting discussions on 27/02/17 and 27/03/17 highlighted the challenge of searching for hard to reach groups (lower socio-economic groups, rural communities, ethnic minorities). Pilates is primarily run as a private business enterprise with an average class cost between £10 - £15.*

*Online search results were placed into an Excel spreadsheet which included categories for area and urban / rural. These results were compared with socio-economic and ethnic maps of the south of England.*

*A University of Southampton staff member with experience in socioeconomic analyses was approached and made suggestions for online search terms to use to aid location of hard to reach groups. Specific search terms were applied: “community Pilates classes”, “low cost Pilates classes”, “charity Pilates classes”. Results did not provide suitable Pilates classes within the geographic parameters and this limitation is considered in Section [7.3.4.](#)*

#### 4.4 Patient and Public Involvement

Research guidance suggests that members of public should be *actively* involved in research projects, rather than research being carried out *about* them (INVOLVE 2012). Patient and Public Involvement (PPI) benefitted the developmental stage of this study’s research design, gathering opinion on preferred method for interview, and assisting in the improvement of interview guidelines through feedback on Pilot interviews (described in Section [4.6.6.](#) below).

In considering methods of conducting interviews i.e. face-to-face or telephone, Patient and Public Involvement was used to garner opinion from Pilates clients as to the preferred method, to ensure the choice of method was appropriate and acceptable for potential research participants (INVOLVE 2012). Four Pilates teachers known to the researcher were approached, and gave their agreement for the researcher to attend the end of one of their Pilates classes to gain client views. Clients were made aware of the purpose of the researcher’s attendance prior to the class and were free to abstain from participating in the discussion. Opinion was sought from 56 Pilates clients in four different locations, and clients were asked if they would prefer face-to-face or

telephone interviews, with 74% stating they would prefer face-to-face interviews as they felt they would be more comfortable talking to someone they did not know in person. Consequently, face-to-face interviews with Pilates teachers and clients were incorporated into the study design.

A common form of participant involvement in qualitative research is respondent validation, referring to an interviewee's review of their own interview transcript, emerging findings or draft report (Thomas 2017). Whilst this has been claimed to enhance the credibility and trustworthiness of the research (Lincoln and Guba 1985; Mays and Pope 2000), a narrative review of the qualitative research literature revealed conflicting views regarding the importance of feedback from participants (Thomas 2017). Where the representation of individual perspectives was intended, such as case studies, accuracy checking through participant feedback was considered justified; however, where research aimed to portray processes common to multiple participants, feedback was not considered necessary as findings were synthesised and abstracted across individuals (Thomas 2017). Moreover, Morse et al. (2002) contend that in addressing participants' post-hoc concerns, researchers may be forced to restrain findings to a descriptive level; thus, respondent validation may "actually invalidate the work of the researcher and keep the level of analysis inappropriately close to the data" (Morse et al. 2002, p16). Additionally, Thomas's (2017) review showed no evidence that research quality was enhanced by respondent validation in these circumstances. The design of the current study represents an observational study exploring commonalities in dynamic inter-relations across multiple participants, and therefore respondent validation was not considered appropriate.

## **4.5 Participants**

Participants for this study included three related groups: Pilates teachers, observation clients participating in Pilates sessions being observed by the researcher, and interview clients. Eligibility, sampling and recruitment processes will be described for each group below.

Pilates interactions are facilitated through Pilates teachers, therefore access for subsequent sampling and recruitment of clients for observation and interview was achieved through participating teachers. The recruitment process therefore followed three stages in an iterative cycle between February and October 2017:

1. Pilates teachers (for observation and interview for each teacher).
2. Clients as a convenience sample when observing the Pilates teachers' practices.
3. Clients with persistent low back pain for interview.

### 4.5.1 Pilates teachers

Pilates teachers were recruited from across the South of England, and eligibility, sampling strategy and recruitment process are detailed below.

#### Eligibility

##### *Inclusion criteria*

The following inclusion criteria were chosen:

- Minimum qualification requirements: recognised Pilates training-provider training; Register of Exercise Professionals (REPS) Level 3 Pilates; allied-health degree plus Pilates training. The minimum qualification ensured a baseline for participating Pilates teachers.
- Based in South of England for pragmatic reasons, as defined in the sample location section below.
- Currently work with clients with persistent low back pain in either group class or one-to-one settings to ensure a broad perspective.
- Minimum 1-year experience as a Pilates teacher. This aimed to ensure the participant was familiar with the culture being studied, a key point in the choice of participants according to Spradley (1980).

*Figure 14. Decision trail for inclusion criteria*

#### ***Decision Trail – choosing minimum training requirements***

*The inclusion criteria for Pilates Teachers was discussed with supervisors on 28/07/2016. Pilates is un-regulated and it is therefore possible to undertake training to become a Pilates teacher in one weekend or over several years. It was felt that sampling teachers with at least a minimum threshold of training would provide a solid basis from which to conduct the research.*

Within these criteria, three main training providers were considered in order to provide a broad perspective: Body Control Pilates (BCP), a UK-based training provider; Polestar Pilates, an American-based training provider with an emphasis on evidence-based practice; The Australian Physiotherapy and Pilates Institute (APPI), who primarily offer allied health professional training. The basic training courses provided by these organisations are summarised in Table 10.

Table 10. Summary of training providers

Summary of training providers			
	<b><i>Body Control Pilates</i></b>	<b><i>Polestar Pilates</i></b>	<b><i>Australian Physiotherapy and Pilates Institute</i></b>
<b><i>Country of Origin</i></b>	UK	America	Australia
<b><i>Training Ethos</i></b>	Pilates for everyone	Rehabilitation focus	Rehabilitation focus
<b><i>Basic Training</i></b>	Matwork	Matwork only or Comprehensive (matwork and equipment)	Matwork
<b><i>Equipment training</i></b>	Full range of Pilates equipment training offered as continuing professional development	Full range of Pilates equipment training included in basic training	Full range of Pilates equipment training offered as continuing professional development
<b><i>Qualification required for teacher training</i></b>	6 months regular Pilates classes	Fitness instructor / health professional or must attend Polestar Introduction course plus 40 hours pre-course learning	Health professional with degree plus 5 hours Pilates class attendance  From 2016 – non-health professional training. Pre-requisite – 10 hours Pilates class attendance
<b><i>Training period</i></b>	13 days course attendance 50 hours supervised teaching 5 hours observation	<b><i>Matwork:</i></b> 7 days course attendance 50 hours supervised teaching 75 hrs self-mastery and observation <b><i>Comprehensive:</i></b> 13 days course attendance 175 hours self-mastery & assignments 140 hours observation and supervised teaching	<b><i>Health professional:</i></b> 6 days course attendance <b><i>Non health-professional:</i></b> 13 days course attendance <b><i>Both:</i></b> 30 hours practice teaching 50 hours self-practice 5 hours observation 20 hours course reading
<b><i>Qualification attained</i></b>	Body Control Pilates certification, plus Register of Exercise Professionals Level 3 Pilates teacher	Polestar certification	APPI certification CPD points for health professionals

*Exclusion criteria*

The following exclusion criteria for Pilates teachers were used:

- Pilates teachers within the researcher's own practice
- Close personal friend of the researcher

These criteria were chosen to enhance trustworthiness within the research.

Sampling strategy for Pilates teachers

Purposive sampling provided a practical and achievable approach for this study, whereby the researcher selects a participant because they depict an element of interest for the research, such as participant knowledge or experience (Silverman 2006). Elements of interest for Pilates teachers were considered to be teaching practice and teaching environment, outlined in Table 11 below.

*Table 11. Elements of interest - Pilates teachers*

Elements of interest – Pilates teachers	
<b>Teaching practice</b> <ul style="list-style-type: none"> <li>• Teacher background &amp; training</li> <li>• Use of Pilates equipment or matwork only</li> <li>• Class (back pain specific or general) or one-to-one session</li> </ul>	<b>Teaching environment</b> <ul style="list-style-type: none"> <li>• Pilates studio</li> <li>• Village hall</li> <li>• Home (teacher / client)</li> </ul>

The elements of interest supplied the basis for a purposive sampling strategy to give a guide number of participants with a range of experiences and backgrounds. The Pilates teacher sampling strategy is outlined in Table 12, and proposed the selection of eight teachers.

*Table 12. Pilates teacher sampling strategy*

Pilates teacher sampling strategy					
		Teacher Background (each teacher to teach class and one-to-one)			
		APPI	BCP	Polestar	Other
Teaching	Studio (with equipment)	✓	✓	✓	✓
Environment	Village hall / home	✓	✓	✓	✓

Prospective sampling was achieved through the use of an online screening questionnaire (Appendix A), and considered on the basis of geographic location, teacher background and style, teaching environment and demographics of persistent low back pain clients attending, as presented in Table 13 below.

*Table 13. Data collected from Pilates teacher screening questionnaire*

<b>Data collected from Pilates teacher screening questionnaire</b>	
Teacher background	<ul style="list-style-type: none"> <li>• Training provider</li> <li>• Number of years teaching</li> </ul>
Teaching Style	<ul style="list-style-type: none"> <li>• Mat work and / or equipment</li> <li>• Class and / or one-to-one</li> </ul>
Persistent low back pain demographics	<ul style="list-style-type: none"> <li>• Number of clients taught per week</li> <li>• Percentage of clients with low back pain</li> <li>• Persistent low back pain clients taught in class and / or one-to-one</li> </ul>
Teaching Environment	<ul style="list-style-type: none"> <li>• Studio / village hall / home</li> <li>• Geographic area</li> </ul>
Interest in participation in research	<ul style="list-style-type: none"> <li>• If yes, name and contact details</li> </ul>

#### Recruitment of Pilates teachers

Recruitment of Pilates teachers followed the process given in Figure 15 below.

Figure 15. Flow chart of Pilates teacher recruitment process

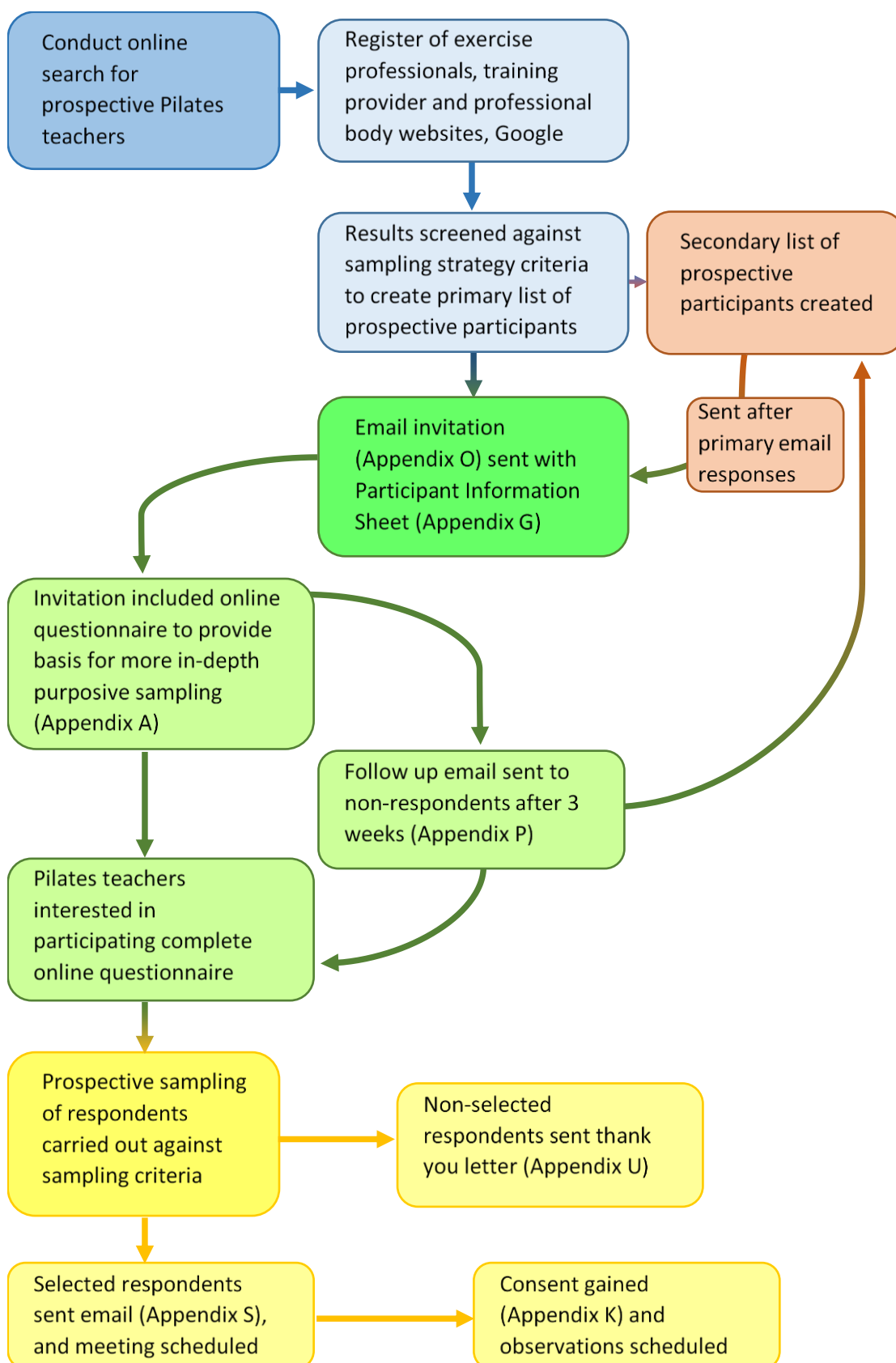


Figure 16. Decision trail for sampling teachers

**Decision trail – “Yes then No”**

*The recruitment process required adaptation when it was found that a number of Pilates teachers responded to the invitation to participate by completing the questionnaire and follow up email, then failed to respond to further phone and email follow ups. An Ethics Committee amendment (Ethics ID: 30479) was approved specifying the process for follow-ups:*

*Phone call follow up > if no response > email follow up > if no response > posted letter follow up > if no response > remove respondent from prospective list and re-select another participant.*

#### **4.5.2 Observation clients**

Observation clients were recruited through participating Pilates teachers, and eligibility, sampling strategy and recruitment process are detailed below.

##### Eligibility

Inclusion criteria comprised:

- Pilates classes should have at least one client with a history of low back pain
- One-to-one clients should have a history of low back pain

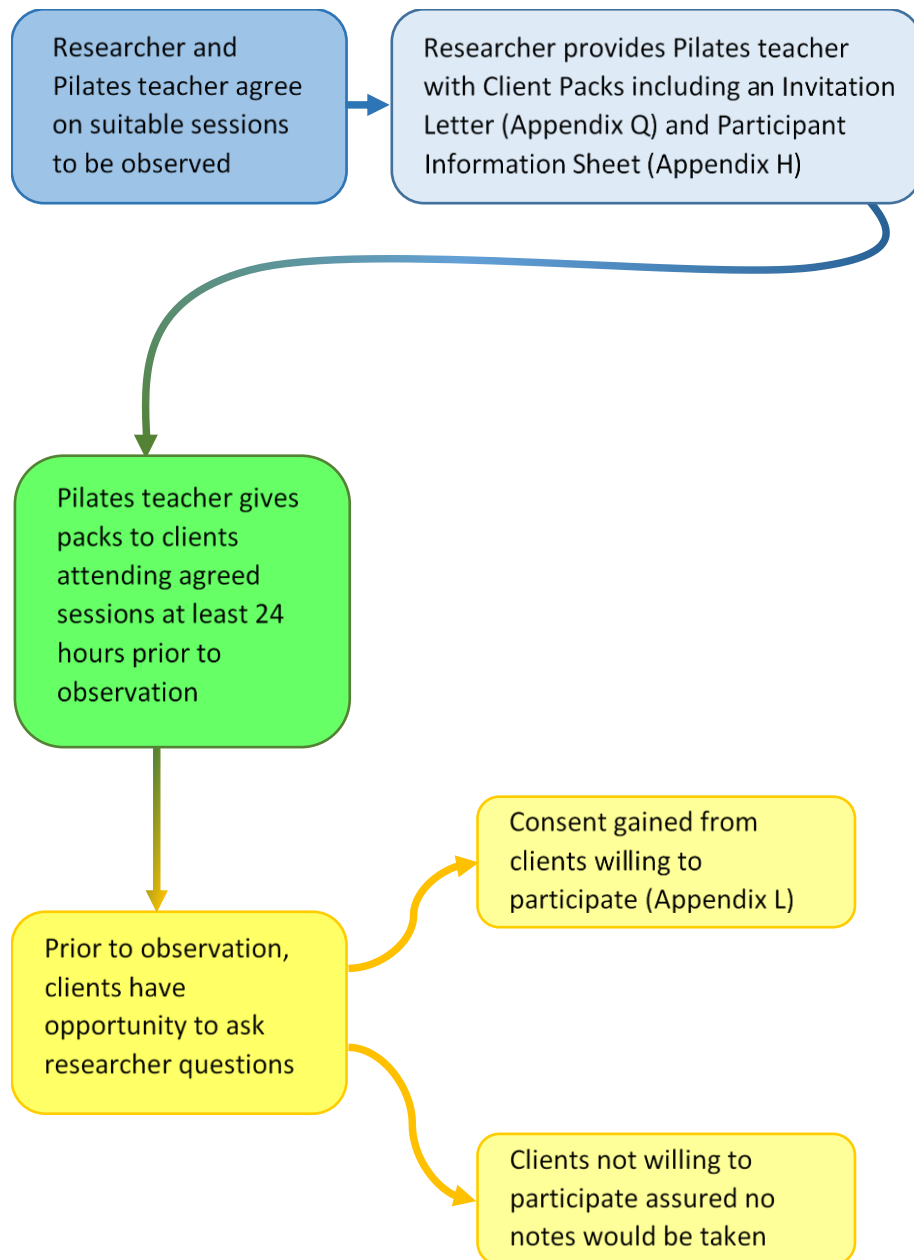
##### Sampling strategy

Convenience sampling of Pilates clients attending classes or one-to-one sessions with each participant teacher was used to recruit participants for observation.

##### Recruitment of observation clients

Once a Pilates teacher had been recruited, the process shown in Figure 17 was applied to recruit a convenience sample of clients working with the specific teacher, in either a class or one-to-one environment for the researcher to observe.



*Figure 17. Flow chart of observation participant recruitment process*

### 4.5.3 Interview clients

Interview clients were recruited through participating Pilates teachers, and eligibility, sampling strategy and recruitment process are detailed below.

#### Eligibility

##### *Inclusion criteria*

Inclusion criteria for interview clients comprised:

- Current client of Pilates teachers involved in study, and had attended Pilates sessions for at least three months. These criteria aimed to ensure participants were familiar with, and had current experience of the Pilates culture being studied in order to provide rich data (Spradley 1980).
- A history of persistent low back pain, with at least one active episode of low back pain for longer than 12 weeks within the last one year. Research findings on the accuracy of pain recall are inconsistent (Bäbel et al. 2015), however, specific research concerning low back pain recall by Haas et al. (2002) concludes that the accuracy of pain recall decreases over time and is influenced by current pain intensity, with this trend increasing over the measurement period of 12 months. A history of persistent low back pain within the last one year was therefore chosen for pragmatic reasons to decrease recall inaccuracies of longer-term pain episodes.
- Low back pain as primary reason for initially attending Pilates classes.
- Over 18 years of age (in accordance with ethical approval).

##### *Exclusion criteria*

The following exclusion criteria were chosen:

- People unable to communicate without assistance e.g. those requiring an interpreter to communicate in English, or use sign language, or people with cognitive impairments. This group were excluded because these criteria would add an additional dimension to the relationship between teacher and client, and this was considered beyond the scope of this thesis.
- People who are / have been clients or friends of the researcher. This group were excluded in order to enhance the trustworthiness of the research.

### Sampling strategy

A sampling strategy for interview clients was created by applying elements of interest related to the back pain history of the participants. A screening questionnaire (Appendix B) was used to facilitate purposive sampling, where possible, with sampling considered on the basis of low back pain being the primary reason for attending Pilates, and either a current episode of persistent low back pain (defined as pain for more than 12 weeks), or previous episodes of persistent low back pain within the last year. Details of data collected from the client questionnaire are provided in Table 14 below.

*Table 14. Data collected from client questionnaire*

<b>Data collected from Client Questionnaire</b>	
Client background	<ul style="list-style-type: none"> <li>• Age</li> <li>• How long has person been client with this teacher</li> </ul>
Client back pain history	<ul style="list-style-type: none"> <li>• Current back pain or previous episode of back pain in last year</li> <li>• Current or previous episode duration of longer than 3 months</li> </ul>
Inclusion criteria screening	<ul style="list-style-type: none"> <li>• Was low back pain primary reason for starting Pilates? Yes / No</li> </ul>
Exclusion criteria screening	<ul style="list-style-type: none"> <li>• Communication difficulties</li> </ul>
Teaching Environment	<ul style="list-style-type: none"> <li>• Class / one-to-one</li> <li>• Matwork / equipment</li> </ul>

### Recruitment of interview clients

Following observation, a purposive sampling strategy was utilised, where possible, to recruit Pilates clients with persistent low back pain for interview. This process is shown as a flow chart in Figure 18, with the decision trail noted in Figure 19.

Figure 18. Flow chart of client interview recruitment process

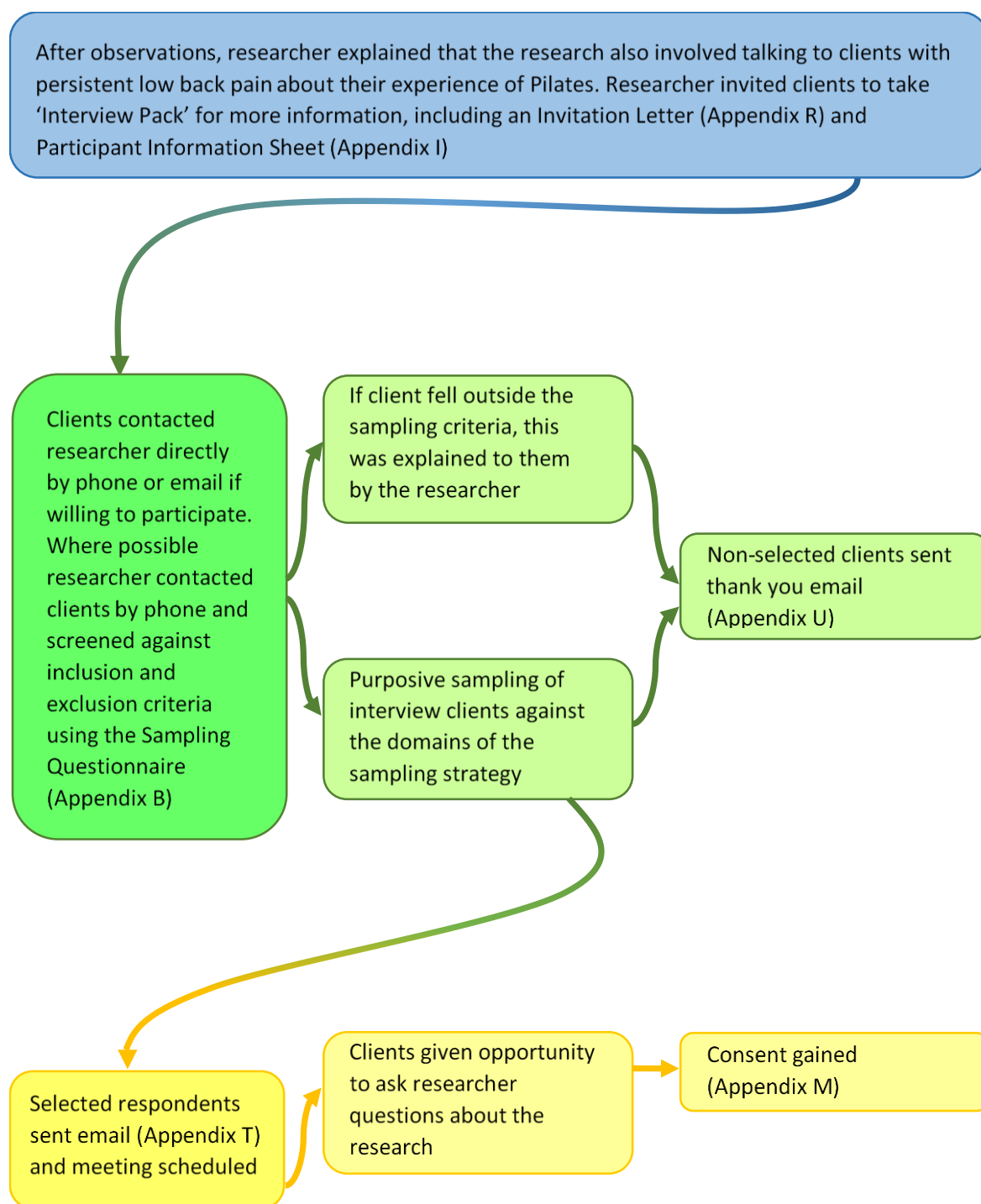


Figure 19. Decision trail for sampling interview clients

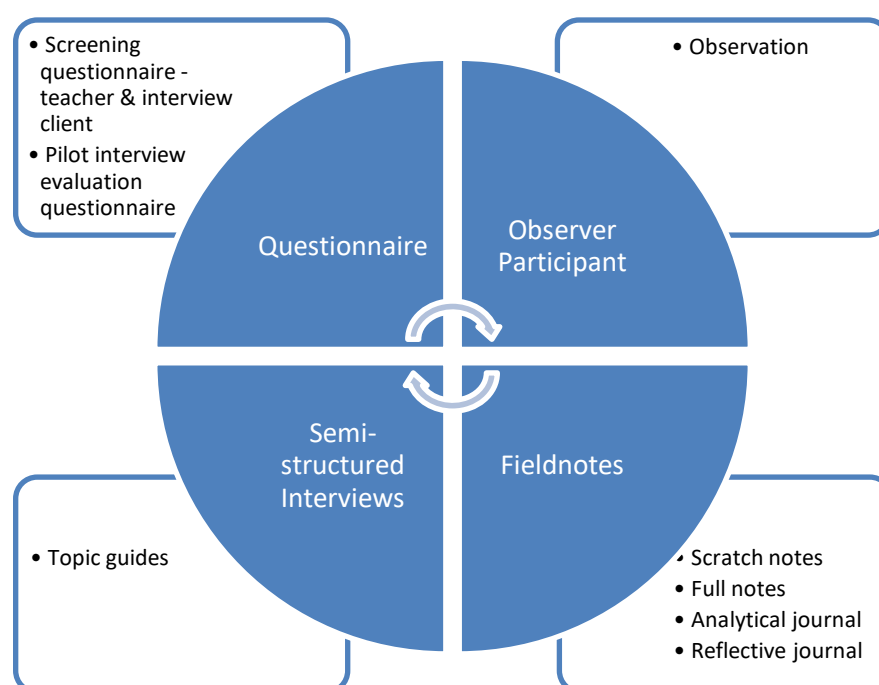
**Decision trail - purposive sampling of interview clients**

*The purposive sampling strategy outlined in Figure 18 was not possible at all sites, where either the number of clients responding was too low to purposively sample, or where clients requested to be interviewed directly after observations. A pragmatic decision was made to use a convenience sample where purposive sampling was not possible.*

## 4.6 Data collection methods

Brewer (2000, p59) states that “to access social meanings, observe behaviour and work closely with informants several methods of data collection are relevant”. The methods of data collection used in this study are detailed below and summarised in Figure 20.

Figure 20. Research tools



#### **4.6.1 Questionnaire**

A questionnaire forms a series of pre-determined written questions with closed or open questions (Brewer 2000). The use of questionnaires is not traditionally associated with ethnography, but given the geographic spread of Pilates teachers, it was considered appropriate to use online questionnaires to broaden a possible cohort (Murthy 2008). Thus, an online screening questionnaire was used to collect demographic data to aid purposive sampling. The questionnaire for Pilates teachers sought the data listed below in Table 13 and the questionnaire is appended in Appendix A. Data from this questionnaire are reported in Section [5.2.3](#).

To aid purposive sampling of clients with persistent low back pain for interview, a questionnaire was used to collect the demographic data listed below in Table 14, and appended in Appendix B. Data from this questionnaire are reported in Section [5.2.4](#). In addition, a questionnaire evaluating the interview topic guides was used to gain feedback from pilot group participants (Appendix C)

#### **4.6.2 Fieldwork**

Ethnographic studies typically entail long-term engagement in a field, where a time-frame of at least a year is considered necessary in order to fully experience the social world being investigated and reduce the effect of the presence of a researcher on behaviours and activities (O'Reilly 2009). According to Roper and Shapira (2000) there is no specific rule for the requisite length of time to conduct ethnographic fieldwork, suggesting instead three factors that may influence the decision: firstly, personal circumstance of the researcher may limit the time available; secondly, the setting for the fieldwork may provide limitations; thirdly, recognising that the research question has been answered and no new information is forthcoming. However, in a healthcare setting, ethnographies may focus on a distinct problem within a small group of people in a specific context, thus research can be accomplished in a shorter time-frame and with episodic participant observation (Roper and Shapira 2000; Higginbottom et al. 2013).

As discussed in Section [3.4.1](#), an approach informed by focused ethnography provided a pragmatic approach for this study, acknowledging the researcher was a part-time, self-funding PhD student with finite periods of time available for data collection alongside other educational and clinical roles, as well as potential limits to long-term engagement in small-scale private Pilates enterprises. Within this ethnographically-informed approach observations were conducted episodically.

### 4.6.3 Participant observation

Participant observation may be regarded as the main method in ethnographic research (Hammersley and Atkinson 1987; Fetterman 1998; Brewer 2000; Emerson et al. 2007; O'Reilly 2009; Denzin and Lincoln 2011). In planning research, it is necessary to give thought to whether observation should be covert, where research is conducted without the knowledge of the participants, or overt, where participants have provided consent to be observed. Classical ethnographies were often covert (Humphreys 1970; Rosenhan 1973) but ethical implications designate that covert research should not be used except in extreme circumstances (O'Reilly 2009). Furthermore, a key issue to consider is the extent of participation in the researcher's role, with four potential positions: the complete participant, participant as observer, observer as participant, and complete observer (Gold 1958). O'Reilly (2009) argues that all ethnographic field work takes place on a continuum wherein the complete participant becomes an observer the moment they choose to undertake research of the group they participate in, and where any observation entails some degree of participation. The level of participation is therefore often determined by practical considerations of preserving the details of the interaction (Silverman 2013). With regard to the current study, participation in a client's one-to-one Pilates session would not have been appropriate, and participation in a group class would not allow the researcher the opportunity to document in-depth observation of the interactions between teacher and clients. Therefore, the researcher adopted an overt, observer-participant role in the field.

The aim of ethnographic observation, through transcription in fieldnotes, is to provide "a *descriptive* account of people, scenes and dialogues" (Emerson et al. 2007, p353) in order to gain understanding of the social world of the group or culture under observation through their everyday interactions in a natural setting. From a social constructionist perspective, meaning is created through day-to-day interactions, creating multiple realities that are historically and culturally specific (Burr 2015), thus observations should strive to avoid ethnocentricity (Iphofen 2013).

Spradley (1980) identifies nine features of social situations: (1) space, the physical place; (2) actor, the people; (3) activity, a set of related actions by people; (4) object, the physical things in the space; (5) act, a single action; (6) event, a set of related activities; (7) time, the sequencing of features over time; (8) goal, the things people are trying to accomplish; and, (9) feeling, the emotions expressed by people. These features may be used to guide the observer in initial, broad descriptions of the setting and what is happening, followed by more focused observation

considering specific domains (Spradley 1980). In this regard, ethnographic observation does not prescribe what should be observed, instead Spradley (Spradley 1980, p81) considers, “in commencing fieldwork the ethnographer is like a map-maker who sets foot on an uncharted island... instead of setting out with preconceived ideas of what to find, the map-maker sets out to describe what can be seen”. With this in mind, observations (and hence fieldnotes) for this study were guided by Spradley’s (1980) descriptive question matrix, which provides a useful framework for considering the nine features of social situations (See Appendix V).

Furthermore, observations were informed from an ethical perspective, where judgement of observed activity was withheld unless observed actions were considered harmful by the researcher. Ethical considerations are discussed more fully on Section [4.9](#).

#### **4.6.4 Fieldnotes**

Fieldnotes are the traditional means for recording observational data in ethnographic studies (Emerson et al. 2007), consisting of written descriptions of social interactions and their contexts (Hammersley and Atkinson 1987). Brewer (2000) warns against confusing observation with interpretation, and in order to minimise this risk suggests keeping separate notes for substantive and analytic notes. Accordingly, the following strategies for capturing observational data were applied:

- Scratch notes – notes hand-written whilst in the field
- Full notes – detailed computerised notes written as soon as possible after leaving the field
- Analytical journal – detailing theoretical thoughts and reflections
- Reflective journal – detailing personal reflections, emotions and feelings

This strategy was chosen in order to reduce ambiguity, but also to increase the transparency of the interconnected nature of observation, data collection, theorising, analysis and personal thoughts and feelings (Hammersley and Atkinson 1987). In this way, fieldnotes may represent a “kind of audit trail” (O'Reilly 2009, p76) in order to demonstrate rigour, discussed in more detail in Section [4.8](#).

#### **4.6.5 In-depth interviews**

Interviews may be considered an important data collection method for an ethnographically-informed study, creating a larger context for understanding the researcher’s observations (Fetterman 1998; Heyl 2007; O'Reilly 2009). Some ethnographers suggest that ethnographic interviews should be unstructured to allow the interviewee to express their perspective in their



own way (O'Reilly 2009), conversely Hammersley & Atkinson (1987) assert that interviews, as with other social interactions, are always structured by the participants whether explicitly or implicitly. Fetterman (1998) concludes that structured, semi-structured and unstructured interviews all create valid opportunities for data collection and should be employed as appropriate in the field. This study utilised semi-structured interviews, with a guiding list of topics and open questions (Appendices D, E). The aim of using this approach was to enhance access to rich data by allowing freedom for respondents to answer in-depth (Brewer 2000), whilst the structure provided a more problem-focused context (Higginbottom et al. 2013).

Figure 21. Reflections on interview bias

**Reflection – open questions and the opportunity for bias**

*O'Reilly (2009) asserts that ethnographic interviewing can involve bringing a discussion around to your topic focus, but this can lead the researcher open to introducing bias. The use of a reflective journal may help the researcher be aware of their own biases, as noted in my journal entry of 01/08/2017,*

*"I felt my bias when asking him to compare yoga and Pilates as I said, 'after all, it's all just movement'. This phrasing produced an immediate reaction. He had been sitting forwards with open and 'sparkling' eyes but he leaned back and seemed more guarded. I hadn't meant to sound dismissive but I feel that's how it came across".*

*This reflection helped me be more aware of the influence of my own bias. I re-read Spradley's (2016) guidelines for ethnographic interviews to be more aware of suggested phrasing for questions and took time to prepare before subsequent interviews. Researcher bias is considered further in Section [7.3.6](#).*

Spradley (2016) asserts that a distinct process in ethnographic interviewing is the elicitation of information, and suggests that the use of 'ethnographic questions' may be used to discover culturally relevant information. These questions include: descriptive questions used to collect information on the context and setting in the participant's own language; structural questions that aim to uncover information about specific knowledge; and contrast questions that aim to discover how participants distinguish between objects or events in their world (Spradley 2016). The basic framework of these three ethnographic question types was used to provide category guidance in the interview topic guides (Appendices D, E), with development of the questions

through discussion with supervisors, and further refinement with an internal pilot study (detailed in Section [4.6.6](#), below). Examples of ethnographic interview questions used in the topic guides, plus prompts for facilitating discussion are presented in Table 15 below.

Table 15. Examples of ethnographic interview questions

Examples of ethnographic interview questions		
Type of question	Question	Prompts
Descriptive (client example)	“Can you tell me about your decision to start doing Pilates?”	<ul style="list-style-type: none"> <li>• Tell me about your back pain?</li> <li>• What influenced your decision to start Pilates?</li> <li>• Why did you choose this teacher?</li> </ul>
Experience (teacher example)	“Can you describe to me a recent experience of working with a client with persistent low back pain?”	<ul style="list-style-type: none"> <li>• Was there anything that influenced the experience?</li> <li>• What was your role?</li> <li>• Do you set goals?</li> </ul>
Structural questions (teacher example)	Can you tell me about your teacher’s role in your Pilates practice?	<ul style="list-style-type: none"> <li>• What is important to you about having a teacher teach you Pilates?</li> <li>• How does having a teacher add to your experience of Pilates?</li> <li>• How has your relationship changed over time?</li> <li>• What influences the relationship?</li> </ul>
Native language questions (teacher example)	Can you describe how you get across to your clients what you want them to do?	<ul style="list-style-type: none"> <li>• Describe the language you use</li> <li>• Explain the non-verbal communication you use (e.g. touch / demonstration)</li> </ul>
Contrast questions (client example)	If your back is hurting / not hurting when you come to Pilates, can you describe to me the difference in your usual class / session?	<ul style="list-style-type: none"> <li>• Does your teacher treat you differently?</li> <li>• How does that make you feel?</li> </ul>
Example questions (client example)	Is there anything particularly difficult or unhelpful in your Pilates class / session?	<ul style="list-style-type: none"> <li>• Negative influences on perception of back pain (movement / relationship / language / social connection)</li> </ul>

Interviews were carried out in venues convenient to the participant, and included the participants' homes, Pilates studios and coffee shops. This approach was beneficial as it allowed the researcher to develop rapport with the interviewee in a situation where the participant felt comfortable. Interviews were planned to be approximately 60 minutes duration, and they were audio-recorded with permission, in-line with the ethical approval granted for this study (Ethics ID: 24796).

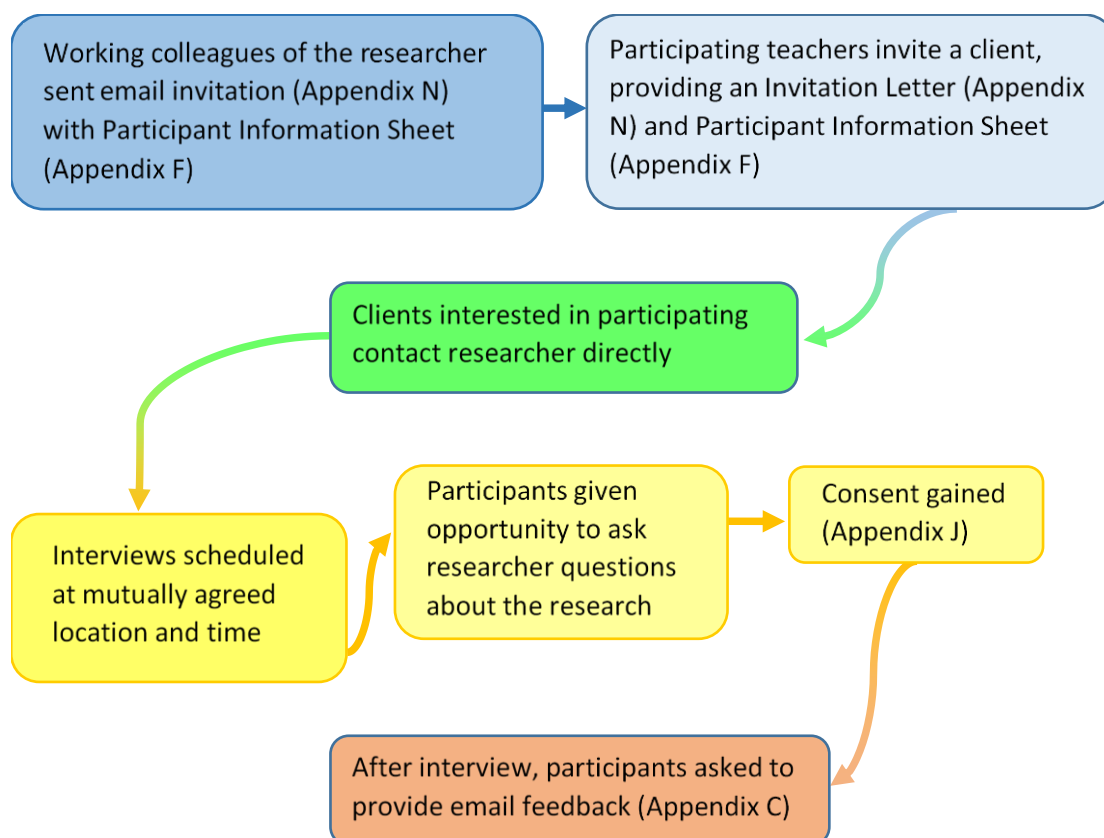
#### **4.6.6 Internal pilot**

Prior to main data collection, the topic guides for interviews with teachers and clients were piloted to refine the interview process by providing feedback on the interview questions. The interviews were trialled in two stages:

1. Small internal pilot of two Pilates teachers and one Pilates client to identify any details of the interview research guides (Appendices D, E) that required modification (Silverman 2006). A questionnaire was used for feedback (Appendix C) and results showed that the participants felt no changes were necessary. The Pilot followed the process outlined in Figure 22 below.
2. Training session with a supervisor, where an anonymised transcript from one of the pilot interviews was used to provide feedback and advice to the researcher in ways to enhance interviewing technique.

As no major changes to the topic guides were required, data from the internal pilot interviews have been included in the data analysis of the study.

Figure 22. Internal Pilot process



## 4.7 Data analysis

The analysis of data in ethnographically-informed research involves sorting and summarising data in a spiral iterative-inductive process to uncover patterns within the specific social world investigated and the cultural meanings therein (O'Reilly 2009). This analytical process comprises the coding of data, and a variety of approaches can be used (O'Reilly 2009). Thematic analysis was identified as an approach suitable for the data analysis of this research project, described as “a method for identifying, analysing and reporting patterns (themes) within data”, providing a flexible tool for creating a richly detailed account of the data (Braun and Clarke 2006, p79). In addition, Braun and Clarke (2006) propose that thematic analysis can be conducted within a constructionist paradigm, thus providing an analytical tool compatible with the research.

The data analysis process for thematic analysis is described below (Table 16), informed by the approaches of Braun and Clarke (2006) and Roper and Shapira (2000). The analytic process is described in a linear fashion; however, in practice it entails an iterative and reflexive approach (Vaismoradi et al. 2013). The use of an iterative data analysis process bears similarity with a

grounded theory approach, but thematic analysis is considered distinct in a number of ways. Firstly, there is a difference in the unit of text coded: grounded theory approaches may specify coding processes, such as line-by-line, focused or axial coding (Birks and Mills 2015); whereas thematic analysis does not specify coding technique or the particular length of text to be coded (Braun and Clarke 2012). Secondly, unlike grounded theory, the primary goal of thematic analysis is not the generation of theory (Guest et al. 2012). Whilst the method does not preclude theoretical development, “its primary goal is to describe, and understand how people feel, think and behave within a particular context relative to a specific research question” (Guest et al. 2012, p11), and was therefore considered more in line with the aims and objectives of this study.

*Table 16. Thematic analysis process*

<b>Thematic analysis process (adapted from Roper and Shapira 2000; Braun and Clarke 2006)</b>	
Familiarising with data	Transcription, reading / rereading, initial notes
Coding for Descriptive Labels	Organising data set into emerging ‘features’
Sorting for themes	Searching for patterns within codes
Identification of outliers	Exploration of negative cases
Review themes	Creation of thematic map to identify and review themes across data set
Generalising with constructs and theories	Connect findings to theories, link emic and etic perspectives
Memoing	Reflection gathered during data collection and analysis
Producing the report	Selection of extract examples and final analysis relating research to research question and literature

#### 4.7.1 Inductive data analysis process

This section illustrates the systematic steps of the data analysis process, thereby articulating the interpretation process to enhance transparency:

1. The researcher listened to each interview audio file to ensure it was complete and audible.
2. Audio data files from each interview were transferred to the University's secure servers, referenced by date.
3. Audio files were transcribed verbatim by an outsourced transcribing service (Figure 23 provides a reflection on this decision), with the files sent digitally via a secure server.
4. Raw data were anonymised, with pseudonyms provided for participants and potentially identifying data (e.g. place names, other people's names) replaced with asterisks.
5. A combination of manual and Computer Assisted Qualitative Data Analysis software was used for data analysis as it has been suggested that the use of coding software enhances rigour (Welsh 2002), enhancing data retrieval and management.
6. Text data from interview transcripts and fieldnotes were imported to QSR International's NVivo12 Pro Software for coding.
7. First cycle coding employed a 'middle order' approach, between holistic coding and line-by-line coding to allow for coding in 'chunks'. Descriptive, In Vivo and Process Coding methods were used as these are considered applicable for studies with a wide variety of data forms such as interviews and field notes (Saldaña 2015). Initial codes were organised by a grouping descriptor to help the novice researcher navigate the data and codes more easily.
8. First cycle coding was visualised by creating mind maps on A1 paper, showing the codes organised by descriptive groups (Figure 25).
9. Codes were analysed for patterns and deviations (client and teacher coding were analysed separately).
10. Codes and associated coded data extracts were exported from NVivo to Word and printed. Codes were separated, and data extracts read through for consistency with the applied code, or recoded where inconsistent.
11. Second cycle coding provided a more detailed coding process, employing primarily In Vivo coding but also Descriptive and Process coding methods.
12. Codes were grouped into potential patterns, and A1 sheets were used to coalesce patterns into formative themes. Different colours were used to highlight potential deviations (Figure 26).

13. Manual second cycle coding was used and codes were then applied to the data in NVivo.
14. In NVivo, codes were placed under the formative theme headings (Figure 27).
15. Themes and codes were visualised using A1 sheets, with colour coding allowing the researcher to trace the initial grouping of the code (examples shown in Figure 28).
16. In order to enhance the trustworthiness of the interpretation, data analysis steps were discussed with supervisors throughout the process. Figure 24 reflects on a potential limitation of this process.
17. For further transparency, visual examples demonstrating the methods of analysis are provided in Figures 25, 26, 27 and 28, with the specific content discussed in Chapter [5](#).

Figure 23. Decision trail for transcription

**Decision trail – outsourcing transcription**

*In order to ‘immerse’ in the data, Jootun et al. (2009) recommends that the researcher should transcribe interviews to augment familiarity. I began by following this recommendation, transcribing one audio file from the Pilot study. My reflective journal records,*

*“Having spent the last 8 hours transcribing a 1 hour interview, am I truly ‘immersed’ in the data? NO! My focus has been on listening to discrete chunks of words and desperately trying to type them, making mistakes and therefore having to stop, rewind and begin again. Words swim without context and it makes me realise quite how visual my processing is. If anything I feel removed from the data, exhausted and deflated, with sore hands.”*

*Following discussion with my supervisors, it was decided that using a professional transcribing service would allow me to utilise limited time to better effect listening to the recordings and repeated reading of the transcripts.*

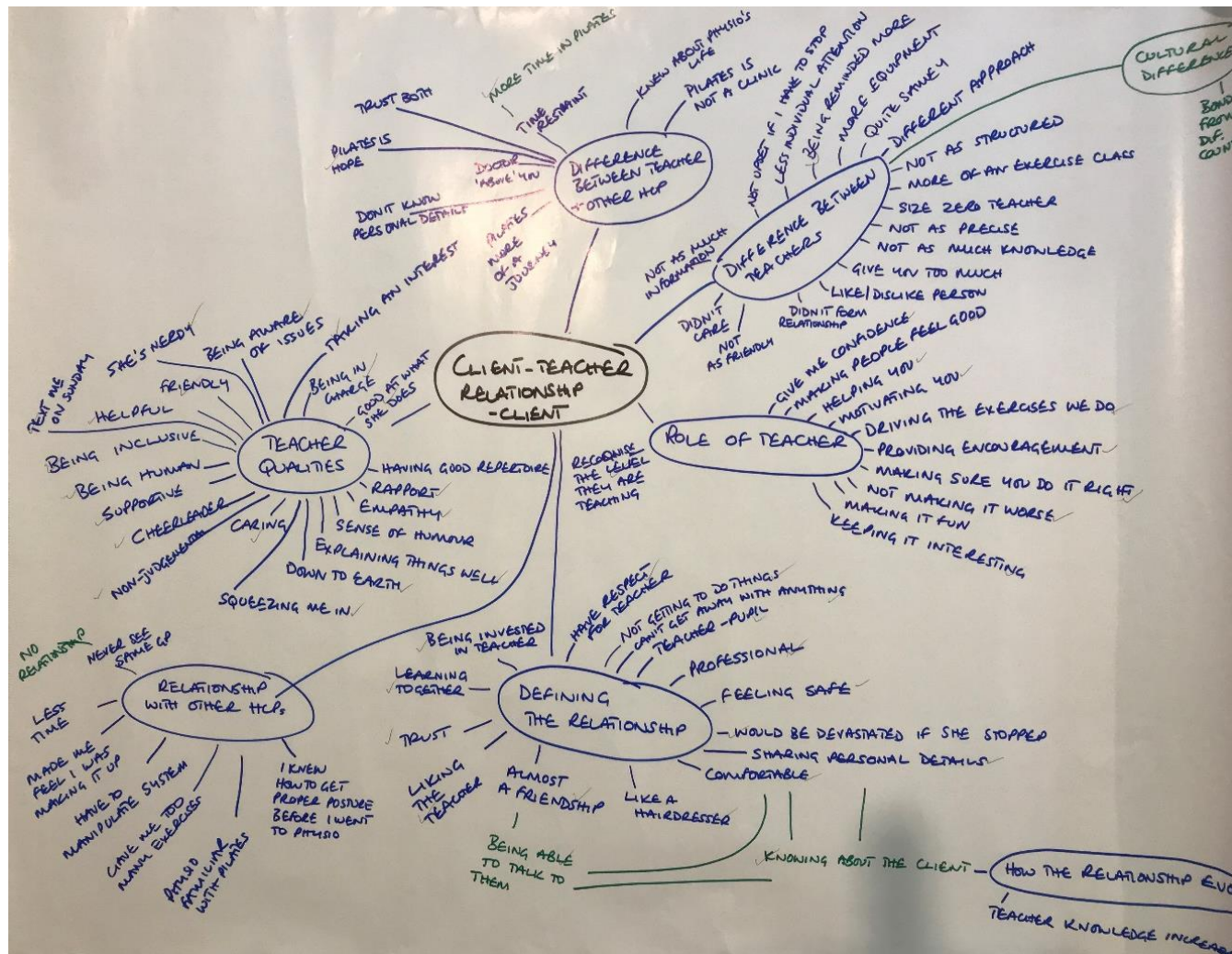
Figure 24. Reflection – limitation due to lack of resource

**Reflection – limitation due to lack of resource**

*The trustworthiness of qualitative data analysis can be enhanced with the independent assessment of transcripts (Mays and Pope 1995). However, as a part-time, unfunded PhD student I did not have the resources required to engage an independent researcher. This may therefore be considered a limitation of the research and has been considered in Strengths and Limitations, Section [7.3.4](#).*



Figure 25. First cycle coding mind map example



[illegible]

Figure 27. The use of computer software package QSRNVivo12 Pro

The screenshot shows the QSRNVivo12 Pro interface. The left sidebar contains a tree view with categories: Quick Access (Files, Memos, Nodes), Data (Files, File Classifications, Client, Fieldnotes, Teacher, Externals), Codes (Nodes, Being Known, Encouragement, Feeling Good, Health Perceptions, Mastery, Professional Identity, Service Perceptions, Social Influences, Teacher Expertise, Trust, Unthemed, Relationships, Relationship Types), Cases, and Notes. The 'Professional Identity' node is selected under the 'Mastery' category.

The main window displays a table of codes. The table has the following columns: Name, Files, References, Created On, Created By, Modified On, and Modified By. The table lists various codes related to professional identity, such as 'Almost a friendship', 'Being friendly', 'Being human', etc.

Name	Files	References	Created On	Created By	Modified On	Modified By
Almost a friendship		4	5 04/08/2018 13:43	NG	19/10/2018 11:46	NG
Being friendly		4	5 04/08/2018 14:42	NG	19/10/2018 13:08	NG
Being human		6	6 04/08/2018 14:15	NG	14/08/2018 19:01	NG
Clear boundaries		1	2 19/10/2018 11:36	NG	19/10/2018 11:38	NG
Close bond		1	2 04/08/2018 14:47	NG	04/08/2018 14:48	NG
Commonality		9	12 14/08/2018 16:28	NG	19/10/2018 13:34	NG
Companionship		1	1 07/06/2018 15:03	NG	19/06/2018 11:26	NG
Friendly not informal with physio PT's		1	1 19/10/2018 11:46	NG	19/10/2018 11:46	NG
Get mor familiar with time		1	1 19/10/2018 11:44	NG	19/10/2018 11:44	NG
Hard to keep it appropriate		2	3 19/10/2018 11:43	NG	19/10/2018 14:19	NG
I don't want to see people for the next 10 years		1	1 19/10/2018 13:23	NG	19/10/2018 13:23	NG
I'm going to get bored		1	1 19/10/2018 11:39	NG	19/10/2018 11:39	NG
I'm never going to give you my number		1	1 31/07/2018 13:54	NG	14/08/2018 13:15	NG
Informality		3	3 04/08/2018 14:28	NG	19/10/2018 14:32	NG
It's business not personal		1	1 19/10/2018 14:21	NG	19/10/2018 14:21	NG
Keeping it professional		4	6 07/06/2018 14:54	NG	21/09/2018 14:41	NG
Keeping them at arm's length		1	3 14/08/2018 11:46	NG	14/08/2018 11:47	NG
Like a friend		3	3 19/10/2018 10:13	NG	19/10/2018 10:27	NG
Like a hairdresser		2	3 14/08/2018 11:07	NG	03/03/2019 11:25	NG
Like family		1	1 19/10/2018 10:23	NG	19/10/2018 10:23	NG
Like therapists		1	1 04/08/2018 13:52	NG	16/08/2018 11:19	NG
Liking the teacher		1	1 19/10/2018 13:21	NG	19/10/2018 13:21	NG
Much closer than other exercise		1	1 19/10/2018 10:24	NG	19/10/2018 10:24	NG
Need a connection to be effective		1	1 19/10/2018 13:04	NG	19/10/2018 13:04	NG
Need to stay above that line		1	1 19/10/2018 11:34	NG	19/10/2018 11:34	NG
Never getting my number		1	1 19/10/2018 11:34	NG	19/10/2018 11:34	NG
Not chasing details would be a barrier		1	1 19/10/2018 11:54	NG	19/10/2018 11:54	NG



## COMPETENCE

PROPERLY QUALIFIED TEACHER  
BACKGROUND OF TEACHER  
GOOD AT WHAT SHE DOES  
RECOGNISES THE LEVEL OF TEACHING  
EXPLAINS THINGS WELL  
FIND SOMEONE WHO IS QUALIFIED  
KNEW TEACHER WAS WELL TRAINED

## KNOWLEDGE

SHE'S NEEDY  
TEACHER KNOWLEDGE  
HAVING A GOOD REPERTOIRE  
MORE EQUIPMENT  
YOU CAN'T LEARN PILATES FROM A BOOK  
EXPERIENCE OF TEACHER  
HAVING RESPECT FOR TEACHER  
PROFESSIONAL  
KEEPING IT INTERESTING?  
TEACHER KNOWLEDGE INCREASES  
SCIENCE-BASED  
NATIVE LANGUAGE  
PILATES TEACHERS HAVE MORE KNOWLEDGE  
PIRATES VS SCIENTISTS  
HOW NOT TO MOVE  
PIRATES ARE MORE WILDCARD THAN SCIENTISTS  
STUDY CASE  
121 VS STUDIO  
- MORE EXPLANATION OF THEORY  
DON'T GO TO ANY OLD PIRATES  
KNEW THEY WERE EXPERTS  
CRITICAL APPROACH AT NIGHT ASSESS

## LEARNING

LEARNING TOGETHER  
MAKING SURE YOU DO IT RIGHT  
DON'T DO IT PROPERLY AT HOME  
TEACHER - PUPIL  
EDUCATIONAL?  
GIVE HOMEWORK  
EQUIPMENT AS COMMUNICATION TOOL  
LEARNING THROUGHOUT  
WHY PIRATES? WHY NOT?  
PIRATES VS SCIENTISTS  
KNOWING PIRATES MOVES  
KNOWING HOW TO MOVE CORRECTLY  
LEARNING HOW TO MOVE CORRECTLY  
CANNOT MAKE THEM MOVE CORRECTLY  
PIRATES VS A TEAM?  
CORRECTING THEM TO MAKE THEM MOVE  
BEANS VS SCIENTISTS  
CANNOT OVERSTRESS HOW TO CORRECT  
CORRECTING THEM  
LEARNING TO WATCH AN ANATOMIST WITH  
EXPLAINING THEM TO PIRATES PIRATES VS  
PIRATES VS ALL THE TIME  
THE ANATOMIST PIRATES VS  
121 VS STUDIO  
- WORRY NOT GETTING IT RIGHT IN CLASS

## BEING DIRECTED (REGULATION)

DON'T DO IT PROPERLY AT HOME  
NOT GETTING TO DO THINGS  
CAN'T GET AWAY WITH ANYTHING  
BEING IN CHARGE  
MAKING SURE YOU DO IT RIGHT  
BEING REMINDED MORE  
DRIVING THE EXERCISES WE DO  
PRECISION  
TALK ME THROUGH STEP BY STEP  
GIVE ME HOMEWORK?  
GET THEM TO NOTICE  
PRIMING CLIENTS FOR WHAT THEY FEEL  
DEMONSTRATION  
REPETITION  
VISUALISATION  
VERBAL CORRECTION  
- GETTING SHOUTED AT  
- NO MANNING ALLOWED  
- POINTING OUT WHAT IS NOT RIGHT  
- RIGHT, EVERYONE STOP!  
- TEACHER SAYS NO  
- DO IT THIS WAY  
- JUST DO IT  
- KEEPS YOU ON THE RIGHT LINES  
TACTILE CUEING  
- HAVE A LOOK AND A POKE  
- MAKING SLIGHT ADJUSTMENTS  
- SHE WILL PROB ME  
- SHE KICKS ME BACK IN TO SHAPE  
HUG WATCHED LIKE A WHISK

## RIGHT / WRONG

MAKING SURE YOU DO IT RIGHT  
DON'T DO IT PROPERLY AT HOME  
DOING IT WRONG  
GETTING EVERYTHING WHERE IT SHOULD BE  
GETTING IT RIGHT  
WORRY NOT GETTING IT RIGHT IN CLASS  
POINTING OUT WHAT IS NOT RIGHT  
DO IT THIS WAY?  
KEEPS YOU ON THE RIGHT LINES  
MAKING SLIGHT ADJUSTMENTS  
SHE KICKS ME BACK IN TO SHAPE

#### 4.7.2 Situating the data

Ethnographic writing is considered to be characterised by two stylistic conventions: (1) 'thick description', where data are placed within a wider context; and (2) the use of extensive quotations from the original data, allowing the participants' 'voice' to be heard (Fetterman 1998). Therefore, for this ethnographically-informed study, data were placed within a contextual background, and verbatim participant quotations were used to enhance the depth of the findings.

It was initially considered that triangulation of data would be used to increase rigour. However, triangulation depends on the concept of an overarching reality, or fixed point, against which other data can be compared (Barbour 2001; Silverman 2006). From a constructionist perspective, where reality is constructed in different ways in different contexts, it may not be considered appropriate to use triangulation, as data gathered in different contexts cannot be compared (Silverman 2006). Mays and Pope (2000) suggest that the term 'comprehensiveness' may be a preferred term, where data from different sources provides scope for refining theories. Thus, fieldnotes were used within the findings to provide contextual richness.

In concluding the description of the research methods, Figure 29 considers the justification for describing the study design as 'ethnographically-informed'.

Figure 29. An ethnographically-informed study

**Decision trail – ethnographically-informed study design**

*Chapter 3 provided a justification for the use of an ethnographic methodology to answer the research questions presented in Section 2.6. The use of the term ‘ethnographically-informed’ acknowledges that the study design may not be considered to fit within the parameters of a ‘traditional’ ethnography e.g. used episodic observation. The study design was nonetheless considered to have an ethnographic approach for the following reasons:*

- Used observation of everyday interactions of a group in a naturalistic setting, to understand these interactions in the context of the culture of the group, with this considered a key feature of ethnographic research (Roper and Shapira 2000).*
- Used episodic observation and a multi-site design in-line with a focused ethnographic approach, considered appropriate in healthcare research, where time and resource may limit the applicability of long-term observations (Higginbottom et al. 2013).*
- Observations and interviews were guided by Spradley’s (1980, 2016) seminal ethnographic texts to provide a framework for data collection.*
- The report of study findings included contextual description, verbatim quotations and fieldnote extracts, considered characteristic of ethnographic writing (Fetterman 1998).*

## **4.8 Rigour**

The term rigour may be considered as the standard by which the quality of research is measured (Davies and Dodd 2002), with the conventional criteria of reliability and validity being used to evaluate quality. However, Jootun et al. (2009) argue that it is difficult to apply these positivist standards to qualitative research owing to the subjective nature of the data. Mays and Pope (1995 p109) purport that all research is selective and “depends on collecting particular sorts of evidence through the prism of particular methods” and can therefore never represent the literal truth. This is a compelling argument when viewed from a constructionist perspective, where

reality is regarded as multiple and constructed in nature (Rolfe 2006). Sandelowski (1993) argues for the use of 'trustworthiness' as a standard of rigour in qualitative research, where research practices are made visible and are therefore auditable. The creation of a 'decision trail' is recommended to explain how choices are made throughout the research process (Sandelowski 1986). This standpoint concurs with Mays and Pope's (1995) view that qualitative research should be systematic and self-conscious, elements that rely in part on the use of reflexive practice.

Reflexivity may be defined as "relating to the degree of influence that the researcher exerts, either intentionally or unintentionally, on the findings" (Jootun et al. 2009 p42). By embracing and making transparent the subjective nature of the research process it may be argued that this enhances the trustworthiness of the research (Jootun et al. 2009). Additionally, Jootun et al. (2009) provide a number of action points to promote reflexivity:

- Keep a reflective journal to record personal thoughts and influences
- Provide a detailed analysis of the research context
- Record and transcribe interviews personally
- Be prepared to reinterpret / re-gather data in areas outside initial assumptions
- Create a decision trail
- Clearly articulate the interpretation process

Table 17 demonstrates how these recommended action points were achieved in practice.

Table 17. Steps taken to promote reflexivity

Steps taken to promote reflexivity	
Action Point	How actioned
Keep reflective journal	The researcher has kept a reflective journal throughout the research, and breakout boxes are used in this document to demonstrate how researcher thoughts and feelings have influenced decision-making.
Provide detailed analysis of research context	Fieldnotes are used to provide contextual richness
Record and transcribe interviews personally	All interviews carried out by the researcher
Be prepared to reinterpret data	Recoding of data if not consistent
Create a decision trail	The decision trail comprised written notes documenting discussions and decisions that aided planning and implementation of the design of this study. Breakout boxes throughout this section illustrate notations
Clearly articulate the interpretation process	The data analysis process is given in detail with photographs providing visual examples of the process

Having shown how a consideration of research rigour has built within the research design, the following section details the ethical considerations for this study.



## 4.9 Ethical considerations

All research should be governed by ethical considerations (Richards and Schwartz 2002), and the University of Southampton's Policy on the Ethical Conduct of Studies Involving Human Participants (University of Southampton 2012) sets out principles of research which guided the proposed study:

### 1) Participants should be fully informed

The University of Southampton guidelines (2012, p1) state "participants must be informed fully about the purpose, methods, and intended possible uses of the findings", thus emphasising the importance of full disclosure. However, there can be difficulties in determining the extent to which researchers should inform participants about the nature of research (Hammersley and Atkinson 1987; Silverman 2006; Murphy and Dingwall 2007; O'Reilly 2009). Silverman (2006, p177) highlights that "revealing your true interests may influence what people say or do" and Hammersley and Atkinson (1987) warn that there is a danger of invalidating findings.

This was of particular ethical interest to this study, which aimed to investigate the relationship between Pilates teachers and clients with persistent low back pain, as it could be argued that fully disclosing the nature of the research might change how participants behaved with each other and the researcher. Whilst it would be unethical to use deception or untruths when presenting research to others, Brewer (2000) suggests the use of 'general' statements that avoid detail but are nonetheless true, and Silverman (2006) concurs, providing the well-being and privacy of participants is respected. It was therefore agreed that in order not to influence behaviour, Participant Information Sheets should use 'Understanding Pilates Approaches' as a title, with the research aims described as 'looking at a range of Pilates practices for people with back pain to understand what happens during a Pilates class or one-to-one' (approved under Ethics ID: 24796). This 'generalised' statement was also used in more informal discussions between participants and the researcher.

All participants were provided with Participant Information Sheets (Appendices F, G, H, I), and had the opportunity to ask questions about the research. Participants willing to take part were asked to sign a Consent Form (Appendices J, K, L, M), which detailed their right

to withdraw from the study at any time without this influencing their current or future Pilates practice.

## 2) Confidentiality and anonymity

The confidentiality of information provided to researchers by participants and their anonymity should be respected (Silverman 2006). This may raise difficulties in ethnographic research according to Murphy and Dingwall (2007), as studies take place in specific settings where it is difficult to ensure data are unattributable. Fieldnotes and interview transcripts necessarily contain detailed information that may make participants identifiable. With regards to this study, care was taken to ensure individuals and individual settings were not identified, by the use of pseudonyms to provide anonymity, and omitting specific details to ensure settings and individuals could not be identified.

With regard to data protection, the study was guided by the University of Southampton's Data Protection Policy (University of Southampton 2015a) and the University of Southampton Research Data Management Policy (University of Southampton 2015b), in addition to the Data Protection Act (Great Britain, *Data Protection Act 1998*)<sup>1</sup>.

## 3) Voluntary participation

Participation in the study was invited on a voluntary basis, avoiding inducement or coercion, and participants had the right to withdraw from the study at any time. This information was made clear in the Participant Information Sheet (Appendices F, G, H, I) and Consent Form (Appendices J, K, L, M).

## 4) Avoidance of harm

The principles of non-maleficence and beneficence are often combined to convey the importance of the benefit of research outweighing any potential for harm (Murphy and Dingwall 2007). Whilst it may be argued that observations and interviews represent lower risk of harm than a clinical trial, they are not risk-free (Bakan 1996). Participants may

---

<sup>1</sup> It should be noted that the research was designed and implemented prior to the instigation of the General Data Protection Regulations 2018. Subsequent changes to regulations have been adhered to.

experience anxiety, stress and guilt during observations and may feel embarrassed or distressed during interviews (Murphy and Dingwall 2007). This was pertinent to the proposed study where interviewees had persistent low back pain and may have found it distressing to talk about their pain and the impact it had on their life.

It was agreed that in the highly unlikely event that a Pilates client interview participant divulged symptoms indicative of serious pathology during an interview, the researcher was bound by a duty of care to explain any concerns to the participant, and recommend that they seek GP advice. The researcher would also seek permission from the participant to speak with their Pilates teacher to advise them of any concern. This was made explicit in the Participant Information Sheet (Appendix I).

Pilates is not a regulated profession and does not have a governing body such as the Health and Care Professions Council, and therefore the researcher's view on poor practice could be viewed as judgement, rather than reporting on non-adherence to practice guidelines. However, it was agreed that if observed practice was considered harmful by the researcher, or if the participating teacher disclosed illegal behaviour to the researcher, a course of action would be discussed with the researcher's supervisors, with appropriate recourse to the authorities if / where necessary.

It is also necessary to safeguard the researcher (Murphy and Dingwall 2007), particularly regarding lone working, but also to decrease risk from stress and fatigue. Accordingly a lone working policy was created including the use of a personal safety monitoring 'app' accessed from the researcher's mobile phone, and regular meetings with supervisors to discuss any issues. In order to minimise risk of harm to both participants and researcher, risk assessments were carried out adhering to University policies and safety precautions were taken.

#### 5) Independence of research

The researcher in this study was self-funding and therefore there were no financially driven conflicts of interest.

## **4.10 Chapter summary**

This chapter has detailed the ethnographically-informed methods used in this study. A justification has been provided for the use of a focused ethnography design, whereby a multi-site setting across the geographic area of the South of England, with episodic observations and semi-structured interviews employed with the aim of understanding and describing the social world and everyday interactions of Pilates teachers and their clients in a naturalistic setting. Clear reasoning was stated for the sampling strategies applied for recruitment of participants, each stage of recruitment has been described, and attention drawn to the decision trail of the iterative process. An explanation of research tools used provides the reader with an understanding of the rationale for data collection, including the use of ethnographically-informed observation and interview techniques. Detailed information has been provided for the inductive analysis process, in conjunction with an evaluation of rigour and ethical considerations. The next chapter describes the findings from the research outlined above.

## Chapter 5: Findings – Inductive Analysis

### 5.1 Introduction

In this chapter, the findings of the study are presented. The chapter begins by highlighting the geographical location of sites visited and the demographic data of participants. This aims to provide a more complete picture of how the research design was achieved. Breakout boxes are used to incorporate extracts from the researcher's reflective journal and decision trail to demonstrate influences on the research process. Thereafter, a contextual background is given, using assimilated fieldnotes to illustrate the general features of a Pilates session, creating a contextual foundation from which to elucidate findings. Subsequently, ten themes, with associated sub-themes, emerging from the data are presented. Quotes from participant interviews and fieldnotes have been used to illustrate the findings, with smaller data extracts incorporated within the text.

### 5.2 Participant demographics

#### 5.2.1 Participant location

This study comprised participant observation at eight sites, from April 2017 – April 2018 across the chosen geographic area. It should be noted that one participating teacher taught at two separate locations within the same vicinity and is represented by a single circle in Figure 30.

Figure 30. Area spread of participants



©MAPS IN MINUTES™ 2014. Contains Ordnance Survey data ©Crown Copyright and database right 2011

### 5.2.2 Observation and interview demographics

Observations of Pilates sessions were carried out at each of the eight sites. Five sites were visited twice, and three sites were visited once, constrained by teacher or participant availability. At each site, a variable number of sessions were observed, ranging from one to four sessions. The total sessions observed was determined by a number of factors:

- Timetable of teacher limiting the number of sessions available to observe
- Appropriateness of sessions to be observed (only sessions with at least one client with persistent low back pain attending were observed)
- Teacher preference

Following observations, semi-structured interviews were carried out with each of the teachers and clients with persistent low back pain, and a total of nine teachers and ten clients interviewed (including Pilot data). A more detailed breakdown of participant characteristics follows, but Table 18 presents an overview of observation and interview numbers.

Table 18. Observation and interview demographics

Observation and interview demographics		
Total site visits	13	
Observations	24	Mat class – 11 Studio equipment class – 7 One-to-one - 6
Total clients observed	70	Clients may have been observed on 1 or 2 occasions
Teacher Interviews	9	2 x pilot interviews 7 x teacher interviews
Client Interviews	10	1 x pilot interview 9 x client interviews

### 5.2.3 Teacher characteristics

Following the strategy detailed in Section [4.5.1](#), 40 teachers from a variety of training backgrounds and diverse teaching environments were approached. Of these, 15 teachers completed the screening questionnaire (Appendix A) and were purposively sampled on the basis of geographic location, teacher background and style, teaching environment and demographics of persistent low back pain clients attending

In total, nine teachers participated: two teachers as part of the internal pilot, and seven in the main phase of research. The reported characteristics of participant teachers are detailed in Table 19.

Table 19. Reported teacher characteristics

Reported teacher characteristics		
Teacher training background	Body Control Pilates	3
	Polestar	2
	Australian Physiotherapy and Pilates Institute	2
	Other (Stott)	2
Number of years teaching	1 – 5 years	3
	6 – 10 years	4
	Over 10 years	2
Teaching style	Mat only	4
	Equipment only	2
	Mix	3
Teaching environment	Studio (with equipment)	5
	Studio (no equipment)	3
	Village Hall	1
	Own Home	1
		*one teacher taught at two sites
% clients with low back pain	0 – 15%	0
	16 – 30%	1
	31 – 45%	3
	46 – 60%	4
	61 – 75%	1
	76 – 100%	0



### 5.2.4 Interview client characteristics

Ten clients were interviewed, eight female and two male participants, all with a history of persistent low back pain, and this was their main reason for taking up Pilates. The duration of reported Pilates practice ranged from 3 months to 10+ years (see Table 20).

Table 20. Reported interview client characteristics

Reported interview client characteristics		
Length of time with low back pain	>3 months <1 year	1
	1 – 5 years	1
	6 – 10 years	1
	10 years plus	7
Length of time practicing Pilates	<1 year	2
	1 – 5 years	6
	6 – 10 years	0
	Over 10 years	2
Type of Pilates session attended	Group class	6
	One-to-one	3
	Both	1
	Experience of both	4

Figure 31. Reflection on low response for interview participants

#### **Reflection – low response for interview participants**

*The research design for sampling interview clients (Section [4.5.3](#)) suggested a total of 16 interview clients, with two client interviews per teacher. Given the high percentage of clients with persistent low back pain attending Pilates at the visited sites, the number of client interviews was disappointing. Reasons for lack of response were unclear, but appeared to be limited to sites where the Pilates Teacher also had a clinical background. The teachers possibly acted as gatekeepers to clients, and this may have created a barrier to recruitment; however, further exploration of this issue was not possible within the ethical approval for this study.*

*This reflection is expanded upon in Section [7.3.4](#) as a limitation of the study.*

## **5.3 Contextual background**

### **5.3.1 Overview of observation context**

In order to orientate the reader, an overview of how observations were carried out is presented. Observations took place in varied situations, including teachers' home studios, village halls and dedicated studios, either with or without Pilates equipment. The teachers introduced the researcher to clients as a researcher interested in observing how different Pilates teachers worked with clients with back pain. At each location a pragmatic approach was taken in order to observe as naturalistic setting as possible, within the confines of the space and teacher preference. For group classes the researcher placed herself at the back of the room, facing the teacher and either sitting on the floor, a chair or Swiss ball. For individual sessions (all using large Pilates equipment), the size of the space dictated researcher placement: either staying to the side of the room if the space was small, or sitting near the piece of equipment being used for larger studios. In this situation the researcher moved around the studio as the client and teacher moved to different pieces of equipment.

At all sites, the following strategies were used to minimise the impact of the observer:

- Dressing in a style similar to participants
- Remaining still (except when moving around a larger studio space)
- Remaining quiet, unless spoken to
- Sitting on the floor or chair to minimise height differential between clients and observer
- Placement out of clients' direct eye-line

Figure 32. Reflections on the researcher's influence

**Reflection – being aware of the researcher's influence**

*My reflective journal of 15/5/17 demonstrates how a researcher's presence may change participant's behaviour, and that even an observer-focussed role necessarily entails some degree of participation.*

*"There were a few comments from the teacher to me which made me realise that no matter how small and quiet I am, my presence is still palpable and makes a change. I noticed a couple of people looked towards me too".*

*Whilst every effort was made to minimise the impact, it is acknowledged that the influence of the researcher's presence is not known. The role of the researcher is further discussed in Section [7.3.4](#).*

Fieldnotes were recorded during observations, hand-written into an A5 notebook. These scratch notes included an account of the setting, and general descriptions of the participants, such as what they were wearing. Notes encompassed pre and post-session 'chat', and how the teacher 'opened' and 'closed' the session, with descriptions of what exercises were performed. Additionally, observations of verbal instruction, comments and cueing by the teacher, plus feedback from the clients were recorded. Some extra-discursive features were noted including the use of touch by the teacher, participant laughter and other non-verbal utterances. It should be noted; however, that facial expressions were not routinely recorded, as researcher placement was purposely chosen to be out of the clients' eye-line. Furthermore, with a single researcher, observation of all facial expressions during a group class would not have been possible. These limitations are discussed in Section [7.3.4](#).

### 5.3.2 Overview of a Pilates session

To help illustrate the Pilates method, an overview of a generalised session is described, formed by assimilating fieldnotes taken from Pilates sessions observed during the research.

Observed Pilates sessions usually lasted one hour, regardless of type of session (class or one-to-one). Clients arrived already dressed in the clothing they would be exercising in, with attire mostly comprising leggings and t-shirts or vest tops for ladies, and shorts or jogging bottoms and t-shirts

for men. All teachers wore leggings and t-shirts or vest tops. Both teachers and clients were barefoot, wearing socks or specialist 'sticky' socks with plasticised beaded soles to help foot grip on the floor / equipment. Each Pilates session usually started with some general chat with other clients and the teacher, with the teacher commonly asking how the client was. The session formally started when the teacher instructed the client to assume a specific position either on a mat or on a piece of equipment.

Usually, each session began with exercises to mobilise the spine and peripheral joints, plus exercises to challenge ability to control trunk stability against the movements of the limbs in a closed-chain or low-load, open-chain way. Most often, these initial exercises were performed in a supine position. This was followed by progressively more challenging exercises, using an increase in load to challenge core control, or more complex choreography to challenge co-ordination. Different positions, such as side-lying, sitting, four-point kneeling and prone were used in all sessions. Balance exercises were commonly included towards the end of the session, usually in a standing position (in both mat and equipment sessions), and the session might end with more joint mobilisation or relaxation exercises. The majority of exercises had a specific breathing pattern associated with them, with the pattern instructed by the teacher. Postural alignment was a key element in all exercises and Pilates teachers universally used verbal and tactile cues to assist the client in performing the exercises to the desired outcome.

In order to instruct the clients to carry out the exercise as required, the Pilates teacher might demonstrate the exercise initially. For all exercises, the teacher gave initial verbal instruction for the exercise movement. As the client moved, the Pilates teacher gave verbal cues to provide additional feedback to the client on achieving the goal of the exercise. These cues might include direct movement instruction, or the use of imagery 'feel like' phrases. The teachers also provided tactile feedback by placing their hands on the client to guide movement or reinforce a verbal instruction. Examples of teacher demonstration and tactile cueing are shown in Figure 33 (Moore 2021c, d).

The session was closed by the Pilates teacher telling the client the session was finished, and the client might spend a few minutes talking to other clients or the teacher before leaving.

Figure 33. Examples of teacher demonstration and tactile feedback by J.A. Moore, 2021

**Teacher demonstration**



**Teacher tactile cueing**



Photographs by Julie Ann Moore ©2021

## 5.4 Inductive analysis

Following the thematic data analysis process described in the preceding chapter, the findings from this inductive analysis will now be illustrated. Ten themes emerged from the data (Figure 34), and encompass data from both Pilates teachers and clients. Each theme comprises sub-themes, summarised in Figure 35, which organise the data into patterns of information designed to expand aspects of the overarching theme.

A detailed description of each theme is provided below. The themes are presented with quotes from participant interviews and fieldnotes used to support and illustrate the findings, with smaller data extracts incorporated within the text to identify specific language or key phrases. Whilst findings are presented in a linear fashion, this is not intended to denote separation of the elements, instead a linear representation is used as an initial framework for the reader to navigate the findings, and thereafter the dynamic and interconnected nature of the relationship will be portrayed.

*Figure 34. Emergent themes*

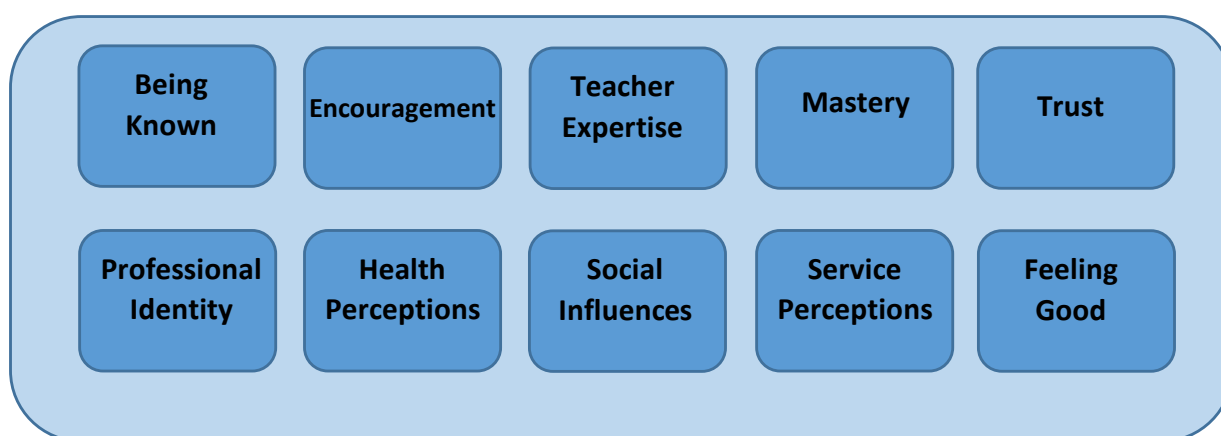
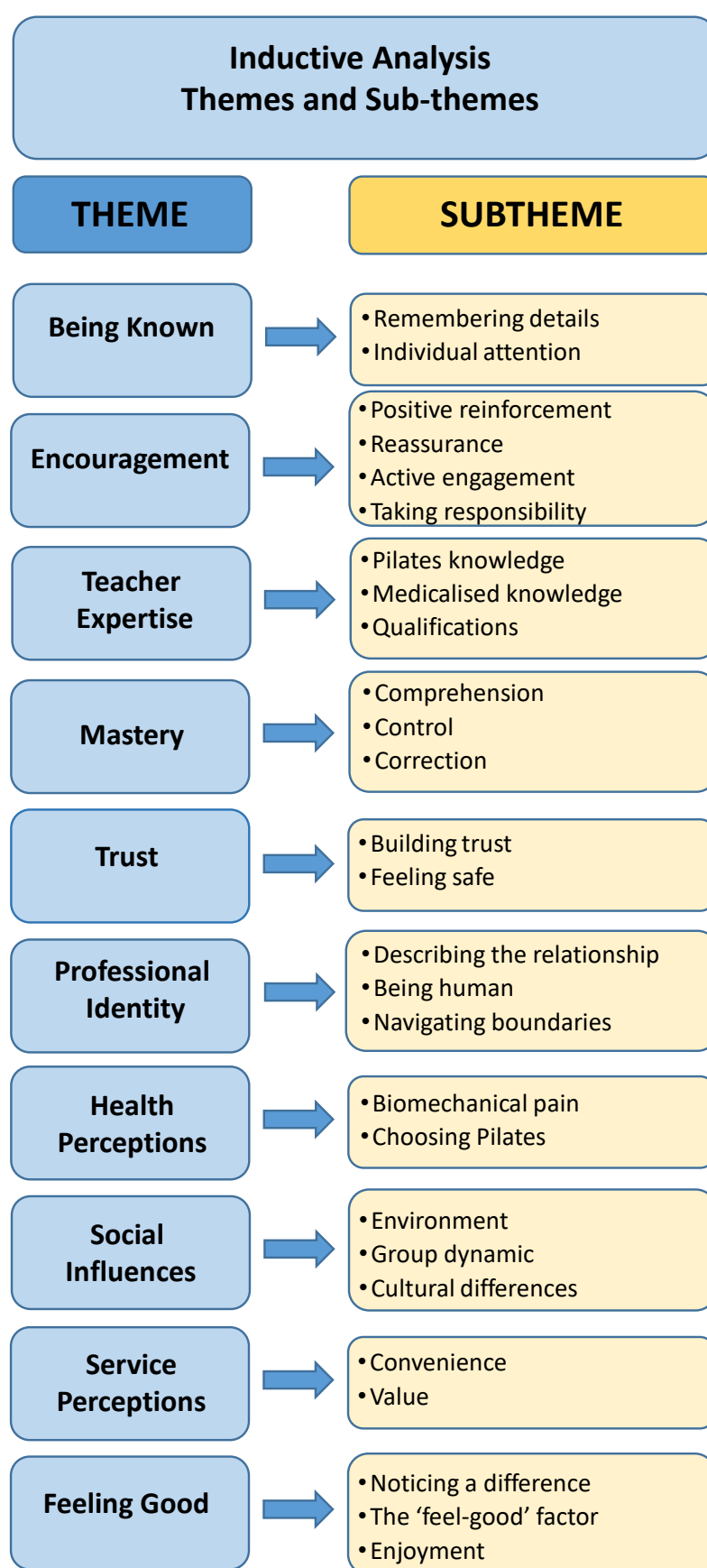


Figure 35. Themes and sub-themes



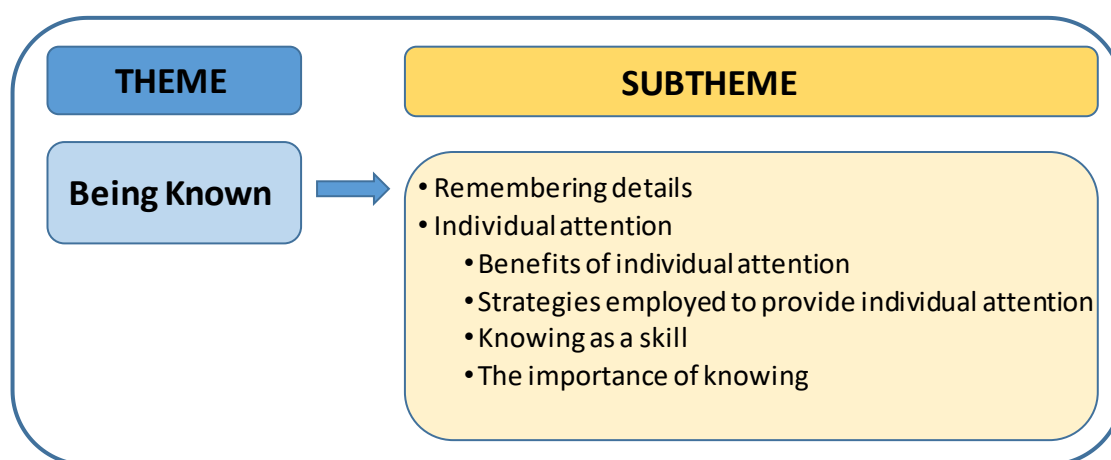
## 5.5 Theme 1 - Being Known

The theme 'being known' encompasses participants' perceptions and experiences of the interaction of the teacher with the client in ways that acknowledged the client as an individual. Clients felt the teachers understood their specific problem and could provide an individualised session with alternatives and adaptations to the exercises. This relied on the client feeling they could talk to the teacher, and that the teacher would remember what had been said. For the teacher, 'being known' related to awareness of client issues, even within a class situation, and being able to provide an individualised session for each client,

*"I know a lot about my clients. I know a lot about their lives and they feel comfortable to talk to me and I personally find that really helps me guide what's going on." [Tania, teacher. 389-390]*

'Being known' comprises: (1) remembering details, and (2) individual attention. Figure 36 illustrates the theme and sub-theme construction, and these will be described below.

Figure 36. Theme 1 - Being Known



### 5.5.1 Remembering details

Participants discussed how the ability of the teacher to remember details about the client formed a fundamental step in 'knowing', with both clients and teachers discussing the importance,

*"You feel that if you did ask her something out of the group, she would give you a bit of extra information about it and she would remember next time... I think it's a teacher's job"*  
[Gwen, client. 373-377]



Teachers described how recalling details about a client was integral to their work, *“You remember what they said the last time, you track patterns they don’t, and nobody else does.”* [Tessa, teacher, 455-456]. Maintaining this *“picture of them in your mind”* [Tessa, teacher. 450] allowed teachers to *“pick up on things, tension that maybe they haven’t mentioned”* [Janey, teacher. 590-592], with clients also describing how a teacher *“can feel the stress in my body”* [Grace, client. 733-734]. Teachers related these changes to factors experienced by the client such as stress or emotion rather than musculoskeletal factors, describing how a client may *“come up afterwards and tell you about the awful week they’ve just had emotionally”* [Janey, teacher. 595-596]. However, this level of understanding took time to develop.

#### Time to get to ‘know’ a client

Teachers discussed the centrality of time as a prerequisite for being able to ‘know’ a client. Time was described as spanning two aspects of temporality: a specific point of time at the beginning of the relationship; and continuity of time spent with the client through regular Pilates sessions, sometimes spanning many years. During initial sessions, time might be devoted to ‘getting to know’ the client,

*“You meet them for a private lesson and you haven’t even got to Pilates because you have spent forty-five minutes talking through everything else in their life.”*

*[Tessa, teacher. 858-860]*

Time was needed to foster the ‘knowing’ relationship, and both teachers and clients described how the continuity of regular contact created an environment where the client felt comfortable to share intimate details. Teacher, Coretta explained how *“if they come and see you every single week”* the teacher will *“find out... more sometimes than their other halves do”* [Coretta, teacher. 391-392]. Grace concurred from a client perspective, *“She knows if I’ve had a really bad fight with my husband... I can tell her what’s going on”* [Grace, client. 732-733].

#### **5.5.2 Individual attention**

The teacher’s awareness of the individuality of the client translated into practice through the provision of an individualised session, whether in a private or class environment. Individual attention related to aspects of tailoring a session dependant on how a client felt that day, and providing suitable alternatives,

*"I always plan the class and what exercises we do beforehand and more often than not I will go in different directions as I go through the class depending on a) who's turned up that day, b) how they're feeling, c) have they had any issues."*

*[Kimberley, teacher. 201-204]*

The practical application of individual attention was portrayed as the teacher providing alternatives to exercises that they considered may aggravate a client's pain. In a class environment, clients described how the teacher provided *"two or three different levels of pretty much every exercise"* [Jennifer, client. 404-405] or that *"If you felt that something was a problem and you stopped"* the teacher would say, *"let's try and do something different"* [Gwen, client. 312-314].

In a private session, the provision of alternatives was described in a similar manner, as exemplified by client, Virginia,

*"So the one-on-ones... we have a few minutes at the beginning, to understand how I am that day... so the rest of the session can be tailored to how I feel on that particular day.*

*And that's really important to me."* [Virginia, client. 124-125]

### Benefits of individual attention

The majority of clients described the benefit of individual attention as providing reassurance. Clients perceived reassurance as feeling that they would not be asked to do any movements that may hurt them. One client typified this perception, explaining that his sessions were, *"very much tailored to not doing things that might aggravate"* [Neil, client. 239-240]. Moreover, clients discussed how individual attention did not make them feel they were being singled out, but instead allowed them to feel reassured that they could still participate,

*"I think it's really nice to have that one-to-one attention... I don't feel I can't do it like everybody else can. I just think, oh thanks Coretta, that's really helped me out because I know that she's got my best interests at heart."* [Jennifer, client. 422-424]

Teachers echoed this feeling of inclusivity, suggesting that *"no matter what, they are not precluded from doing exercise"* [Christine, teacher. 526-527]. However, both clients and teachers acknowledged that in a class environment, a teacher *"can't give them as much attention as they probably need"* [Coretta, teacher. 667]. Yet all clients who attended a class spoke of how the teacher provided *"little comments and little bits of one to one time, even within the sessions with other people"* [Neil, client. 251-252]. However, Neil, who had experienced both group and private

classes noted that there was a discernible difference in individual attention, commenting that with the one-to-one session there was, *“more corrections and analysis of what you do”* [Neil, client. 213].

A number of teachers highlighted the difficulty of ensuring that individual attention was not to the detriment of the rest of the clients attending a class. Coretta described the teacher’s dilemma when someone required more attention and *“you spend your whole time kind of talking to almost just them, and you can feel the rest of the class is peed off”* [Coretta, teacher. 703-704]. When a client felt they were not being given enough individualised attention, this could lead to strong feelings. Grace described a situation where she felt a previous teacher was not listening to her,

*“I said I feel like this is actually causing me more harm than good. I’ve asked you to pull back and to help me and I didn’t get that, so I’m looking elsewhere.”*  
[Grace, client. 812-814]

From the descriptions above, ‘being known’ was perceived as an important component of the relationship between the client and the Pilates teacher. This included feeling that the teacher understood and accepted the client as an individual and provided exercises accordingly, tailoring the client’s Pilates session to minimise aggravation of pain levels. In turn, this required the Pilates teacher to employ various strategies.

#### Strategies employed by teachers to provide individual attention

Teachers described how they used observation, seeking client feedback and tailoring verbal communication to provide individual attention to clients.

Observation was described as the ability of the teacher to ‘see’ what was happening in the client’s body. Descriptions point to a process of observing slight differences in clients’ movements or facial expressions to provide information to the teacher of when a client may need individual attention. Teacher, Cindy, pointed to the centrality of observation,

*“I can see. After years and years of looking... closely looking, monitoring... I think it’s instinctive sometimes.”* [Cindy, teacher. 189-190]

A number of clients also emphasised the frequency and level of importance of the teacher ‘seeing’, *“I’m sure she can see either when she’s got her back to you or in peripheral vision, she can see you all the time, wherever you are”* [Lindsey, client.475-477].

Seeking verbal feedback from the client was a strategy employed by teachers to confirm what had been ‘seen’, with Coretta describing how she might ask, *“Is that okay, are you feeling anything in your back at all?”* [Coretta, teacher. 274] which might then lead to the provision of an alternative. The use of phrases seeking client feedback was noted in fieldnotes for all teachers multiple times during a session, with the most common terminology being ‘how does that feel?’ and ‘is that OK?’, and extracts are provided for illustration below.

#### **Fieldnote Extracts**

*“Jasmine has her hands in to her hip line and Pippa holds her heels and cues turnout asking ‘How does that feel?’”* [Site 7, Observation 1. 268-269]

*“She then instructed them to lie prone and asks ‘Is everyone OK on tummies? Anyone need a rolled towel?’ A couple of people put towels under their tummies.”*

*[Site 1, Observation 1. 396-397]*

*“Janey asks ‘Has your back opened up Lindsey?’, as she stands beside him. Lindsey says, ‘Yes it’s just my shoulders now’. Janey says, ‘We’ll do that now. It’s not on the lesson plan but let’s do it.’”* [Site 2, Observation 1. 71-74]

All teachers discussed the importance of using a client-centred strategy to tailor verbal communication to the client, acknowledging, *“there’s different types of learners”* [Tania, teacher. 272]. Coretta expanded on the efficacy of this strategy,

*“I think you can pick up pretty quickly if they’re a “visual” person or if they’re a “close their eyes and feel it” person or if they’re an “all big description” person or actually they just want you to be really quiet – tell them what to do and then let them figure it out. Once you get that personally and you understand what they need, it makes it so much easier.”*  
*[Coretta, teacher. 287-291]*

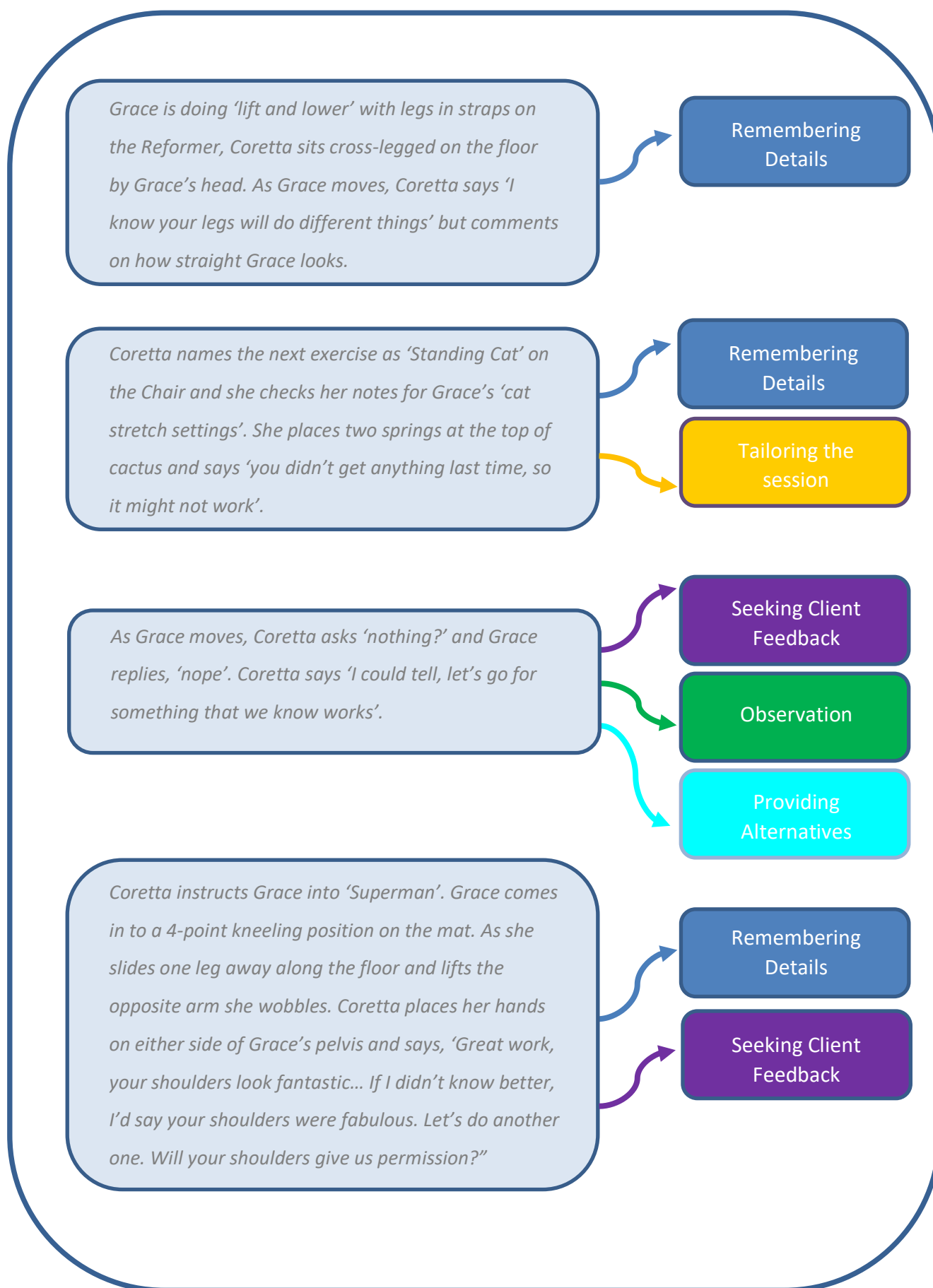
Discussing the use of imagery engendered detailed examples from a number of teachers to illustrate how they used this strategy with very specific client-centred language,

*“He thinks of a flexed spine as cat sick (making sound of vomiting) and once we had that – weird! – he could do it! It’s the most ridiculous thing but, you know, it’s amazing how a phrase works for them.” [Coretta, teacher. 304-307]*

Whilst all teachers discussed the use of multiple verbal communication strategies, one teacher conceded that her background created a bias commenting that, *“having come from a therapy background as a physiotherapist I’m more comfortable talking about joints but I do try and keep on their level”* [Kimberley, teacher. 107-109].

The sections above have described the theme of ‘being known’, utilising participant quotes and fieldnote extracts. In order to provide supplementary context to illustrate the theme, fieldnotes have been used to create a vignette demonstrating the sub-themes of ‘remembering details’ and ‘individual attention’ in Figure 37 below. These extracts depict a one-to-one Pilates session, with fieldnote quotations used to exemplify the activities taking place (for example Pilates exercises such as ‘Cat’), the use of Pilates equipment (such as the Chair) and interactions between teacher and client demonstrating the theme and sub-theme in the context of one Pilates session. Section [1.4.1](#) provides further details of Pilates exercises and equipment for the unfamiliar reader.

Figure 37. Being Known - a vignette from observations with Grace and Coretta



'Knowing' as a skill

In order to 'know' the client, examples have been given above that show the multiple layers that a teacher needed to access. Firstly, the teacher had to be receptive to the details of the client's life, recalling these without prompt. They strove to know the client's body, not just as discrete areas of pain or movement limitations, but as a whole. In addition, the teacher 'knew' how to provide individual attention to the client, tailoring the session to the client's needs. This required the ability to use multiple strategies: observing the client, seeking client feedback, and employing individualised communication strategies.

Two teachers talked of the skill required to provide this level of 'knowing', describing how it *"takes practice"* [Tania, teacher. 518] and that with *"the hours you put in watching people, you develop an eye for things"* [Tessa, teacher. 108-109]. Tania related the time required to develop skill to the student teachers she mentored, describing how, *"when they come and practice to teach they sort of do everything they know about the exercise. It's definitely a skill to learn to just say what you see"* [Tania, teacher. 350-352]. Tessa explained that with time, a teacher could *"spot" [faults] really quickly... and change it with the cues that you use whether that's a touch or a verbal cue"* [Tessa, teacher. 109-112].

Teachers revealed how integral 'knowing' a client was to their work when describing the challenge of having *"a client you just can't connect with"* [Tessa, Teacher. 254-255]. Teacher, Coretta described this situation with one client, saying, *"I'm not entirely sure what it is that he wants, so I find him quite challenging"* [Coretta, teacher. 581-582].

Whilst all clients and teachers discussed the elements of 'being known' as important, two teachers voiced concern over becoming too involved. Christine described how, as teachers, *"we try and cater for everybody and I think that's wearing on you as a person"* [Christine, teacher. 1031-1032]. Teacher, Pippa concurred, expressing how Pilates teachers often *"get very, very involved and then they take it upon themselves to take those emotions in and I think that's really unproductive"* [Pippa, teacher. 703-705]. Christine asserted that for a teacher to minimise any negative affect *"you have to walk away at the end of a day and go 'it's just a Pilates class, get a grip'"* [Christine, teacher. 1034-1035].

## The importance of knowing

All participants discussed the importance of 'being known' within the relationship, moreover, some participants described this as a component essential to the continuation of the client's attendance. Clients described how the teacher *"know[s] you and you know them, and they know your body because they have looked at it long enough, and I think that's a lot of it, which is why I don't want to leave Cindy"* [Joanne, client. 462-465]. This was reiterated from a teacher perspective,

*"Our clients get stuck to you and they don't want to see anybody else because they like you. Part of that might be your style but part of it, I'm sure, is the fact that you know them so well, you've watched them for so long, you can really quickly assess and identify things that need refining and you can help them to find that."* [Tessa, teacher. 146-150]

Client, Jennifer, emphasised the importance of being seen as an individual when comparing a former teacher with her current teacher, *"whereas the other instructor was good and nice but ... I feel more of an individual in Coretta's classes"* [Jennifer, client. 469-471].

Tessa voiced a perception held by both teachers and clients that 'being known' set Pilates apart from traditional health-professional interaction, depicting how, *"when you go to a medical professional, you go from pillar to post, don't you? You see somebody and you explain it all over again, you see somebody else, you start all over again"* [Tessa, teacher. 457-459]. Tessa asserted the difference of a Pilates interaction was that, *"if you put Pilates in a healthcare zone, that gives you a totally joined up, genuine one-person caring service"* [Tessa, teacher. 460-462].

### **5.5.3 Summary of 'Being Known'**

The importance of the client being acknowledged as an individual emerged from the data as the theme 'being known' and comprised the elements of 'remembering details' and 'individual attention'. The ability of teachers to recall diverse details about the client was considered a fundamental step in 'knowing' a client; not only noticing differences in the client's body from week to week, but encompassing a much broader remit of personal details. Teachers in particular felt that time was an essential ingredient in creating an environment that supported 'knowing', both with regards to becoming familiar with the client's movements and for client disclosure.

The sub-theme of 'individual attention' involved the teacher supplying a tailored session for the client dependant on how the client felt on a given day, enfolded within the context of remembered details. Practically, this entailed offering alternative exercises in order to minimise



aggravation of a client's pain. Participants saw the benefit of individual attention as providing reassurance that movements would not exacerbate pain, in addition fostering a sense of inclusivity where even if a client was not able to accomplish all the exercises, they could still actively participate in exercise. Whilst all clients discussed the individual attention they received, teachers acknowledged the difficulty in providing personalised care within a class environment and described the employment of multiple strategies in order to provide individual attention. These strategies included observing the clients and developing skill in noticing differences, often seeking verbal feedback from the client to corroborate observational findings. Teachers also described tailoring verbal communication to offer client-specific language. The frequency that both clients and teachers discussed the elements of 'being known' pointed to its importance, being cited as one reason the client chose to stay with a particular teacher.

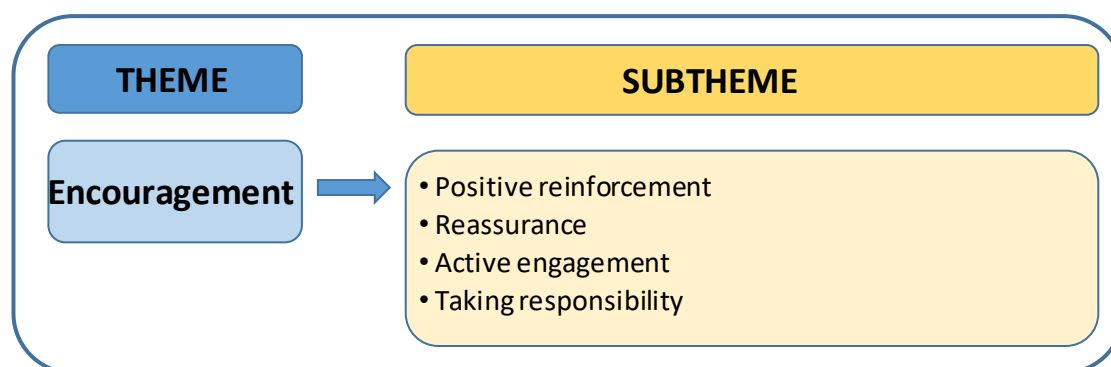
## 5.6 Theme 2 - Encouragement

The theme of ‘encouragement’ illustrates the teachers’ use of communication strategies to provide support to the client. Clients used different analogies to describe the role of the teacher in providing support and encouragement. A number of clients used a sporting analogy, as Virginia explained, *“it’s like having someone on your team”* [Virginia, client. 251]. Grace concurred stating, *“sometimes people just need to be cheer-leaded [sic]”* [Grace, client. 581]. Gwen, on the other hand, looked to the traditional role of a teacher in a school,

*“It’s like children in a classroom, if you see a child not performing to their best, you wouldn’t say, oh, you’re not doing that right. You would find a way to encourage them, so there is a huge amount of encouragement from [the teacher].”* [Gwen, client. 379-383]

Encouragement comprises the following sub-themes: (1) positive reinforcement, (2) reassurance, (3) active engagement, and (4) taking responsibility. Figure 38 illustrates the theme construction.

Figure 38. Theme 2 - Encouragement



### 5.6.1 Positive reinforcement

Six teachers highlighted the importance of choosing positive language as a communication strategy to deliver encouragement,

*“I think positive reinforcement is really important... not making people walk out of the room feeling that there’s anything else wrong with them than they came in with.”*  
[Tania, teacher. 521-523]

Teachers described differing ways of delivering positive reinforcement. Tessa (teacher) explained how *“rather than focussing on the pain, I would focus on...what’s been quite good about what you’ve been able to do”* [Tessa, teacher. 767-768]. Cindy (teacher), on the other hand, described how positive reinforcement was *“like a sandwich”, with “constructive criticism in the middle, and then reinforce”* [Cindy, teacher. 934-935]. Pippa (teacher) described an alternative strategy of withholding praise, *“if they’re doing something badly I won’t tell them that they’re terrible, but I won’t tell them that they’re great”* [Pippa, teacher. 588-590]. She explained how this strategy led to more meaningful encouragement,

*“When I’m suddenly like yes that’s amazing, that looks great, they know a hundred percent that they are, like [sic] doing the right thing”* [Pippa, teacher. 596-599]

Fieldnotes indicated the wide use of positive language by all teachers to encourage clients. This ranged from general praise given to the whole class, to individual encouragement. The frequency of positive reinforcement was substantial within every observed session. The most common encouraging words used were: good, lovely, nice, brilliant, better, fabulous, well done and perfect. Examples from fieldnotes are expanded below.

### Fieldnote Extracts

Whole class encouragement ranged from very general statements to more task-specific praise:

- *“She gives verbal praise ‘nicely done’, and walks around the room.”*  
*[Site 2, Observation 1. 83]*
- *“She cues everyone’s pelvises and says ‘fantastic, 10/10’.”*  
*[Site 6, Observation 1. 398-399]*

Individual encouragement ranged from using a single word, to encouragement to try more through to a comparison of how a client has progressed:

- *“Tania says ‘yesssss’ as the client does the movement.” [Site 3, Observation 1. 152]*
- *“Jasmine says, ‘Yes, but I can’t do it on my own’ and Pippa says, ‘Yes you can, I’m not doing anything’.” [Site 7, Observation 1. 403-405]*
- *“She says to the client ‘that was amazing, you couldn’t get your head down before’. The client says ‘it’s taken a while but I’m getting there. That’s 4 years of Pilates’.”*  
*[Site 1, Observation 1. 491-493]*

Teachers discussed how they used non-verbal strategies to complement positive language. These strategies included tactile feedback, with the teacher using physical touch to strengthen the positive language. Cindy (teacher) elucidated, *“I might just be hands-on and just say, ‘What you just did was fantastic’” [Cindy, teacher. 926-927].*

The use of tactile feedback as reinforcement to positive language was also noted in fieldnotes:

**Fieldnote Extracts**

*"She places one finger on the glute of one lady and says 'good' only."*

*[Site 6, Observation 1. 175-176]*

*"Jackie has her hands on the client's feet as she tells her to come in to 'lateral rotation' of the leg and as she moves says 'good, perfect'." [Site 5, Observation 1. 22-23]*

The prevalence of observations and discussions relating to positive reinforcement implies the importance given to it by the teacher. However, two teachers expressed concern about the potential effect of the language used by the teacher, particularly for clients with back pain.

When describing the use of a numeric pain rating scale with clients with low back pain, Tessa (teacher) *"noticed that by homing in on the pain ....giving it a number, it reinforces the pain"* [Tessa, teacher. 752-754]. Teacher, Kimberley, showed concern about how back pain was talked about, commenting, *"There's a lot of bad messages that are given about things to do with back pain"* [Kimberley, teacher. 877-879]. For both teachers, the awareness of the power of language led them to consider ways to evolve their teaching practice. Tessa had changed her communication strategy, remarking, *"I don't any longer say, OK, mark it out of ten"* [Tessa, teacher. 757]. Kimberley, on the other hand, commented on how a more reflexive practice might be helpful,

*"I think sometimes it's probably good to actually be recorded doing a class because you might not actually realise exactly how you sound in terms of how you're putting it across."*  
[Kimberley, teacher. 501-504]

Additionally, one client described how feeling discouraged by lack of positive reinforcement was an impediment to the relationship with the teacher, suggesting the potential importance of this element for clients,

*"Sometimes I think if you're in chronic pain and you personally feel like you're doing everything you can do but the other person, you sense the other person doesn't. That can be a barrier at times."* [Grace, client. 563-566]

## 5.6.2 Reassurance

Clients and teachers described the impact of encouragement as providing reassurance and building confidence. Kimberley (teacher) typified teachers' views, saying, *"I think there's much more a place for reassurance, with any part of the body in pain"* [Kimberley, teacher. 891-894]. Correspondingly, clients with recurrent pain discussed how encouragement afforded them reassurance through periods of discomfort,

*"And you need those little cues to help you remember it doesn't go on forever, and people cheer-leading you ... things like, well last week you were brilliant, so don't worry."* [Grace, client. 621-624]

Participants also discussed how encouragement, and the reassurance this stimulated, built confidence and motivated the client to move more. Client, Neil, describes how his teachers, *"encourage me that it's actually safe and... to try and trust my body a little bit more"* and this encouragement gave him confidence *"to go a little bit further"* [Neil, client. 267-272]. Grace (client), also felt that having a 'cheerleader', *"makes you want to do more actually... because they're telling you how well you're doing"* [Grace, client. 592-594]. These examples detail how the confidence precipitated from teacher encouragement led to a more active engagement in movement. Further discussion surrounding the client's confidence to move is described in Section 5.9.2. in relation to the theme of 'Trust'.

Teachers talked about Pilates providing an active tool for people to use in their everyday lives, discussing their role as *"a facilitator"* [Tessa, teacher 958] who can *"give people a confidence in themselves that they can do something about it themselves."* [Christine, teacher. 183-184].

A number of teachers discussed how they felt the clients' active participation in Pilates was the key for change. As Pippa explained, *"I honestly think it's because they do it themselves, it's not somebody doing it for them"* [Pippa, teacher. 61-62]. Three teachers expressed their perception of the effect of passive treatments compared to Pilates. Christine (teacher) felt that *"too many people just go and lie down on a couch"* and that this led to the client feeling they *"need somebody else to do this for me"* [Christine, teacher. 178-181]. In contrast, she believed that Pilates gave clients, *"a sense of ownership... it doesn't make them feel helpless and in somebody else's hands"* [Christine, teacher. 167-170].

Pippa, a teacher with a healthcare professional background, perceived that whilst manual therapy *"creates all this lovely change... your body doesn't know how to make it feel like that again"*

[Pippa, teacher. 64-66]. Conversely, she described how a client's active engagement in movement could instigate change,

*"So, all of a sudden you make somebody find hip association and they understand what it feels like, so they carry over into things like walking, stairs, squatting"*

[Pippa, teacher. 67-70]

Christine (teacher) expanded, proposing that clients could *"build this into their lives, so actually the need for physical therapy or manual therapy lessens, hopefully, which is what it's supposed to do ultimately"* [Christine, teacher. 176-178]. However, this was predicated on the client 'taking responsibility', as illustrated below.

### 5.6.3 Taking responsibility

Associated with the perceived value of Pilates in helping foster a sense of active engagement in clients, teachers also perceived that clients needed to take responsibility for their health to *"realise that their back pain is their problem"* and that they *"need to take responsibility for that"* [Cindy, teacher. 274-276], describing their role as providing guidance to cultivate the client's sense of responsibility,

*"Ultimately they've made the decision to come in here for an hour, so they have taken some accountability ...but they might need that guidance."*

[Pippa, teacher. 565-570]

This guidance was described in relation to client's expectations *"to try and keep pain at bay"* [Jennifer, client. 332-333] by *"keeping the core strong to protect my back but also keeping the rest of me flexible"* [Lindsey, client. 495-497]. Whilst teachers agreed that these were common goals, a number of teachers expressed that clients didn't *"really understand what they're saying... someone's told them that"* [Christine, teacher. 844-845], instead suggesting *"the goals you set them along the way are so much better"* [Christine, teacher. 863-864]. Only one teacher, a healthcare professional, discussed using a more formalised process to encourage client responsibility, where clients *"mark on a scale of nought to ten of how important that goal is to them"* [Cindy, teacher. 326-327].

Teacher frustration appeared to be engendered when clients failed to take responsibility, describing how *"sometimes they come to expect you to put it right"* [Cindy, teacher. 278-279] as well as the limited time in which to affect a change, *"they only see me once a week and there's*

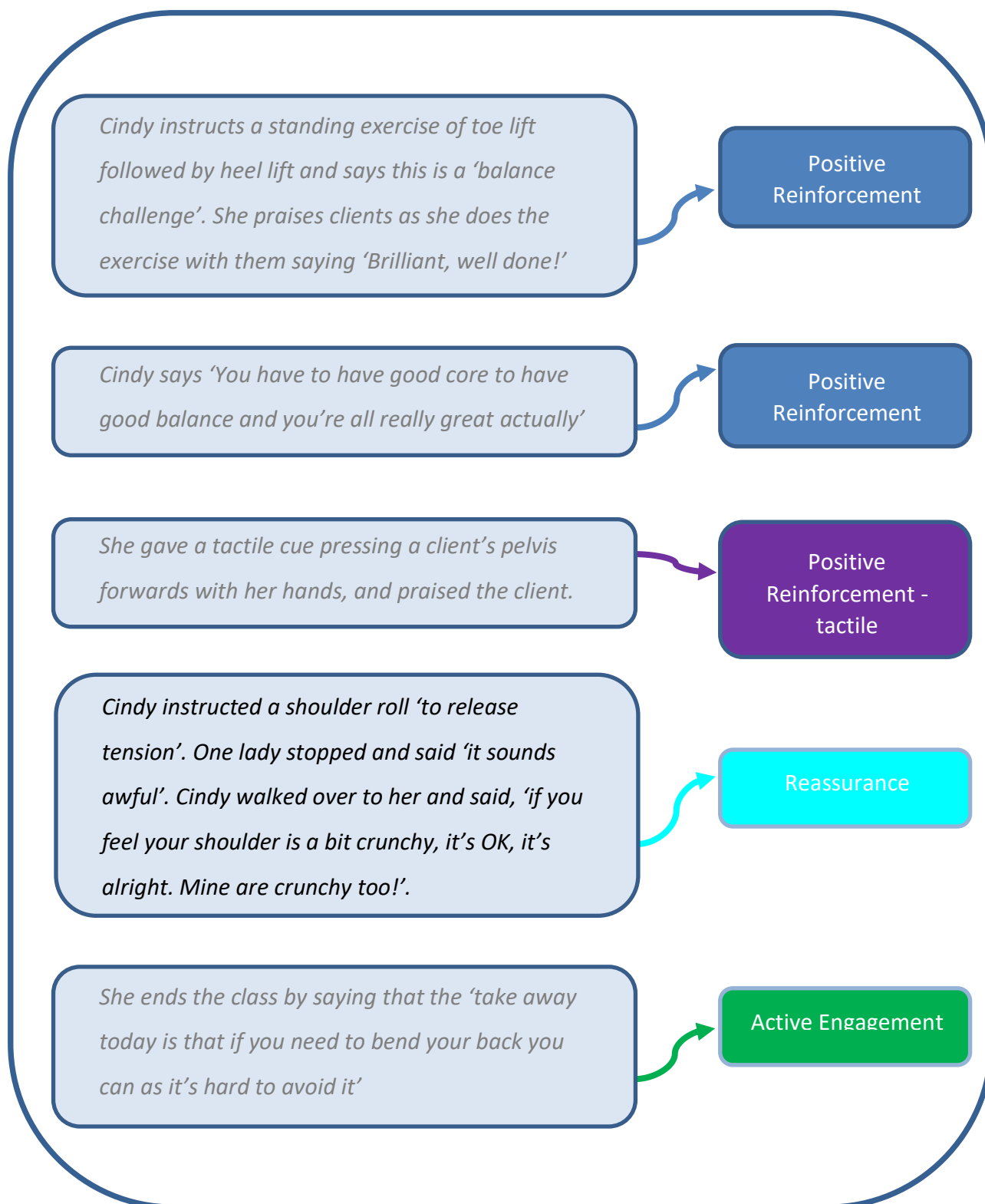
*only so much you can do” [Coretta, teacher. 914-915]. Ultimately, teachers sometimes felt they were unable to help,*

*“Sometimes you just have to give up. I’ve told them a million times, you know, as long as you explain what might happen if they’re continuing to do what they’re doing, it’s their responsibility in [sic] the end of the day.” [Cindy, teacher. 882-885]*

The sections above have described the theme of ‘encouragement’ and fieldnotes are now used to summarise the sub-themes of ‘positive reinforcement’, ‘reassurance’ and ‘active engagement’ in Figure 39.



Figure 39. Encouragement - a vignette from observations with Cindy's classes



#### **5.6.4 Summary of Encouragement**

The theme of 'encouragement' depicts communication strategies used by teachers to support and motivate their clients. The majority of participants discussed encouragement as a fundamental component of the client-teacher relationship. The sub-theme of 'positive reinforcement' detailed the main strategy used by teachers to provide encouragement, incorporating verbal and non-verbal aspects, such as tactile feedback. 'Reassurance' followed from positive reinforcement, with participants describing the impact of encouragement as providing reassurance to help clients through episodes of pain, and to build their confidence to move more. Teachers described their role as facilitating clients' 'active engagement' in Pilates, which was seen as a key to change. The final element of 'taking responsibility' related to teachers' perceptions that in order to instigate change, the client needed to take responsibility for their health. Teachers expressed frustration when clients failed to show accountability.

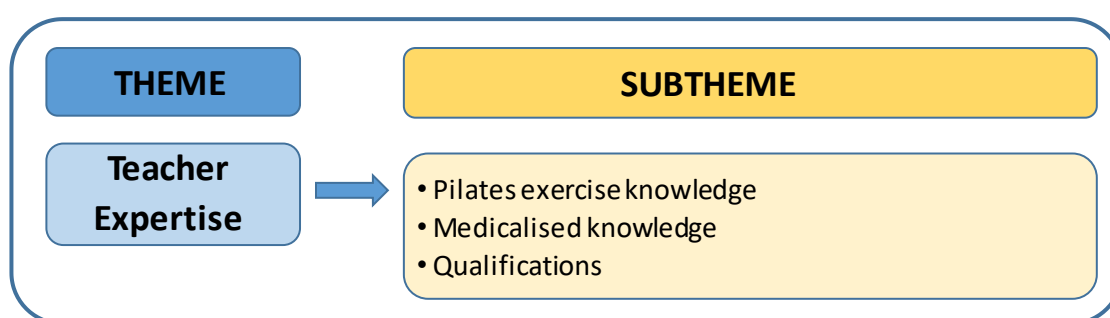
## 5.7 Theme 3 - Teacher Expertise

The theme of teacher expertise relates to how clients described the importance of teachers' qualifications, perceived knowledge and experience. This was discussed by all but one client, with value being placed on the benefit of teacher expertise in comparison with other sources of knowledge,

*"If you think you can learn this out of a book, or off the internet, I think you're sadly mistaken. Because you don't know... it's about having the professional there."* [Virginia, client. 255-258]

Teacher expertise is composed of three elements: (1) Pilates exercise knowledge, (2) medicalised knowledge, and (3) qualifications, illustrated in Figure 40.

Figure 40. Theme 3 - Teacher Expertise



### 5.7.1 Pilates exercise knowledge

Clients described the importance of the perceived level of teacher knowledge of Pilates exercises, suggesting *"what makes good Pilates teachers, is that there's a whole repertoire of exercises that people can give"* [Virginia, client. 235-236]. The teacher's knowledge of a repertoire of exercises translated to client experience, with client, Jackson discussing how his teacher *"keeps everything fresh"* so clients *"never know what she's going to do next"* [Jackson, client. 624-626]. Gwen described how instead of a *"set, stock exercise routine"* she felt the teacher's knowledge of Pilates allowed her to feel as if the exercises *"developed and extended, it almost seems endless the things you can do"* [Gwen, client. 475-477].

The ability of a teacher to provide a variety of exercises was described by Jennifer (client) as being an important factor in choosing a teacher, *“the first Pilates session I went to, the instructor was really nice but it was quite samey”* [Jennifer, client. 442-443]. Teachers also commented on the importance of repertoire,

*“I’ve had people come to me and you know, they’ve done footwork for half an hour with another instructor and they’re just like [sic], “It’s really boring.”*  
[Coretta, teacher. 368-369]

### 5.7.2 Medicalised knowledge

Clients described the importance of having a teacher who had *“the knowledge that you feel confident with”* [Joanne, client. 500 -501]. Client, Neil, described how the teacher’s perceived knowledge allowed him to feel that the teacher would *“understand my body and my injury”* [Neil, client. 400]. This, in turn, led to confidence that Pilates was *“going to help and not hinder”* [Neil, client. 602].

The ‘knowledge’ that clients’ sought was discussed in terms of ‘medicalised’ knowledge. Neil (client) typified clients’ perceptions, *“I had an expectation that it would have this medical, scientific connection and it definitely did”* [Neil, client. 135-136]. Clients explained how they associated the teacher’s use of medical terminology with perceived level of knowledge. Musculoskeletal references were common descriptors of teacher knowledge, even if the client did not fully understand, *“She’ll give you chapter and verse in a language that you don’t understand about all your fascia”* [Lindsey, client. 469-470]. The use of language relating to musculoskeletal structures was not restricted to simply naming structures, but also to the perception that the teacher understood the biomechanical aspects, *“She has this knowledge of how the muscles are working and if it doesn’t appear to be working”* [Jackson, client. 194-195]. Clients perceived the teacher’s use of *“really good technical knowledge”* [Jennifer, client. 462] as a positive attribute, suggesting *“you would never know if you read a book”* [Jackson, client. 197].

Examples of fieldnotes showing evidence of the use of medicalised language, especially musculoskeletal and biomechanical terminology, are illustrated below:

### Fieldnote Extracts

*“Janey cues one client verbally, saying ‘Keep ribs down and find your centre so you don’t go into extension’.” [Site 2, Observation 1. 157-158]*

*“Tania talks about how previously they talked about ‘walking from T12’ and she puts her fingers on his back and 1 finger on his tummy and tells him that as he flexes his hip forward to ‘move from T12’.” [Site 3, Observation 2. 106-109]*

*“The teacher instructs ‘shoulder extension – keep your shoulders extended and come in to flexion with the elbows’.” [Site 5, Observation 1. 81-82]*

A number of clients described how a teacher’s use of medicalised language helped them differentiate between teachers. When describing the differences between teachers, Grace (client), said, *“She was really good because she was very interested in the whole biomechanics of everything.”* [Grace, client. 96-97]. Neil (client) considered the distinguishing factor of a Pilates-specific teacher was *“the level of expertise that they have”* which was *“clearly in contrast to someone that does Pilates along with a lot of other health and fitness type stuff”* [Neil 404-407].

This ‘expertise’ in the body was portrayed as important by a number of clients, epitomised by Grace (client) when describing her teacher, *“She’s kind of like nerdy...she’s educated herself well”* [Grace, client. 140]. Teachers described being *“encouraged to attend CPD [Continuing Professional Development] courses”* [Janey, teacher. 122-123], suggesting that *“there’s a huge amount more to learn”* [Tessa, teacher. 105-106]. The element of education also relates to how clients perceived a teacher’s knowledge through qualifications.

### 5.7.3 Qualifications

Perceptions of a teacher’s level of training and qualification were expressed by the majority of clients as important when choosing a teacher,

*“I’ve always known that you need to be with somebody who is properly trained, not just someone who says they’re going to go through the motions.”*  
[Jackson, client. 93-96]

Clients described a correlation between the qualifications a teacher held and the perceived level of medicalised knowledge. As Grace (client) illustrates when describing one teacher, *“I mean she had the qualifications just to do a group Pilates class... but she didn’t have the qualifications to be dealing with somebody with the back issues”* [Grace, client. 266-267].

The majority of clients whose teachers were also qualified as healthcare practitioners, expressed the importance they attached to the perceived level of knowledge this bestowed in helping them with their low back pain,

*“She is a professional who actually has worked with people in pain and pain control as well, and so I have a huge amount of confidence that she really knows what she is doing as opposed to somebody that hasn’t got that background experience.”* [Joanne, client. 486-488]

Two teachers who held healthcare qualifications also discussed the perceived importance of level of qualification. Pippa (teacher), described how *“the title does quite a lot”* and *“brings this level of immediate respect”* [Pippa, teacher. 872, 877-878]. Cindy, another healthcare practitioner, felt that her background facilitated a *“general trust if they know that you’ve gone through a qualification”* [Cindy, teacher. 517-518]. Cindy considered that her qualification set her apart as a teacher because *“lots of Pilates teachers don’t have that background”* [Cindy, teacher. 520-521], and she made active use of this in her online business marketing, *“I’ve got my little profile on the website and they’re like, ‘I think she’ll be alright, she won’t hurt me!’”* [Cindy, teacher. 516-517]. Pippa (teacher), also used her healthcare professional background as a marketing tool to promote a safe space to exercise,

*“We market ourselves as physiotherapy-led Pilates ... you are not going to come to us and get smashed in a room with twenty people.”* [Pippa, teacher. 911-913]

The promotion of qualifications and levels of knowledge in online marketing was discussed as a decisive factor in choosing a Pilates teacher. Neil (client) *“did a google search on everyone”* [Neil, client. 55] but when considering other teachers, he describes how he, *“got the impression it was something like an add-on”* [Neil, client. 63-64]. In contrast, for the Pilates studio he chose, Pilates *“was all they did...they were experts in this”* [Neil, client. 66-67].

Whilst the majority of clients described the importance of perceived teacher knowledge and training, Jasmine (client) expressed more concern with a teacher’s potential lack of knowledge, saying, *“there are a lot of teachers out there who probably don’t know as much as I do”* [Jasmine, client. 35-37]. Perceived knowledge was also linked to experience. Client, Lindsey described his experience with his teacher, when she was newly qualified, *“I found it quite hard to start with*

*when she first started, obviously she was learning*” [Lindsey, client. 423-424], and then noticed a difference on returning to class after a break, *“I can see how much bigger and more comprehensive her knowledge, her experience and everything is”* [Lindsey, client. 427-429]. Jasmine (client) concurred,

*“I think it's so knowledge based, some Pilates teachers when they're first starting out they really don't know much to be honest. I mean you can read about the basics and take a course, you can be qualified but it's really how much you really know when it comes to skeletal stuff, the neuro stuff and muscular stuff.”* [Jasmine, client. 54-59]

All but one client discussed some aspect of teacher expertise as a key component of having a teacher to guide their Pilates practice. The only client who did not mention any aspect of expertise was Robyn, who consistently described her teacher as *“very helpful, friendly”* [Robyn, client. 435] and it was these elements that encouraged her to *“join up and pay for the...next session”* [Robyn, client. 438-439]. Robyn did not allude to any aspect of the teacher's qualifications or knowledge, instead, the components of ‘being known’ and ‘encouragement’ appeared to be more important for her. Robyn also remarked how she felt her teacher was *“a caring person”* [Robyn, client. 436] and frequently mentioned social support in terms of the friendliness of other class clients, as well as friends and family support.

Robyn was one of two participant clients who had a more limited (3 months) experience of Pilates. It is interesting to contrast Neil's comments from above, which show that teacher expertise was important to him. Both participants had started Pilates on the recommendation of their healthcare practitioners, with Neil stating that his physiotherapist *“does Pilates, and that's pretty good as recommendations go”* [Neil, client. 33-34]. Robyn described multiple recommendations, *“the chiropractor has said it would be good, and even the back specialist, and the hip chap said, keep moving, try Pilates”* [Robyn, client. 503-505]. In considering differences between the two cases, whilst Neil also had three month's experience of Pilates, he had started with one-to-one sessions, in contrast to Robyn who attended a class. Neil illustrated the difference when attending a one-to-one session,

*“I noticed there was a difference to going to the class. [In the one-to-one] there was more understanding, talking and explaining things.”* [Neil, client. 125-127]

A potential difference between these two cases could therefore be considered in terms of the focused time the client had spent with their teacher. Neil described how he had *“a real sense of their expertise”* [Neil, client. 67], whereas Robyn queried the name of her teacher, *“it’s Cindy isn’t it, who takes our class?”* [Robyn, client. 21-22]. Time may therefore be a variable influencing a client’s perspective on the importance of teacher expertise.

#### **5.7.4 Summary of ‘Teacher Expertise’**

The theme of ‘teacher expertise’ describes the importance of perceived levels of teacher knowledge, qualifications and experience. The sub-theme of ‘Pilates exercise knowledge’ depicted how an extensive knowledge of Pilates exercises could provide a basis for clients to discriminate a ‘good’ teacher, whilst for others, having a teacher with a broad repertoire enhanced their enjoyment of a class. The majority of discussion surrounding teacher expertise; however, developed around the sub-theme of ‘medicalised knowledge’, portraying how clients associated the teacher’s use of medical terminology with a concomitant understanding of back pain. The sub-theme ‘qualifications’ described how clients additionally used perceptions of the teacher’s level of training to discriminate those teachers they felt confident would be able to help with their back pain.



## 5.8 Theme 4 – Mastery

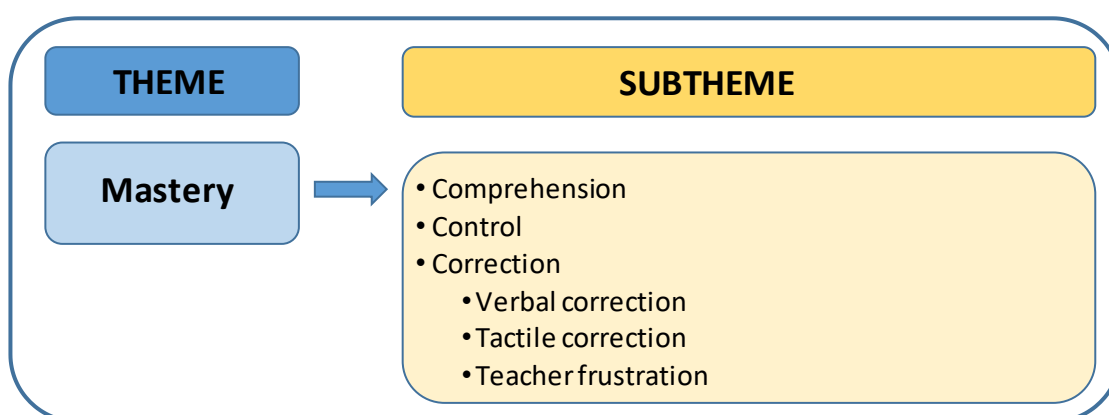
The theme of ‘mastery’ emerged from data describing how teachers facilitated the accomplished performance of an exercise by a client, encompassing elements of postural alignment and movement control stipulated by the teacher. When discussing the execution of an exercise, clients expressed their desire to ‘get it right’ and were concerned that they may be ‘getting it wrong’, and value was placed on the teacher’s ability to facilitate a learning environment, providing feedback and correction to clients. Participants thus viewed Pilates as more than just ‘doing an exercise’, requiring comprehension of why an exercise was being performed,

*“She explains things... Whatever exercise we’re about to do, she’ll tell you what it’s aiming to work on, and what you should be feeling... It’s not just sort of doing the exercise.”*

*[Robyn, client. 443 – 447]*

Mastery comprises three elements: (1) comprehension, (2) control, and (3) correction. Figure 41 illustrates the theme and sub-theme construction, and these will be described below.

Figure 41. Theme 4 - Mastery



### 5.8.1 Comprehension

Clients and teachers commented on the importance of client comprehension, where the understanding engendered by teacher explanation was perceived to benefit the client’s ability to master an exercise correctly. Pippa (teacher), situated the teacher’s role using pedagogical terminology, *“I try and educate them an awful lot”* [Pippa, teacher. 144-145], whilst teacher Christine emphasised the centrality of explanation to the role, *“it’s ALL about the person understanding”* [Christine, teacher. 199].

This was supported from a client perspective when Jackson iterated his teacher's favourite phrases, *"Now you've got it, it's one of her favourites... 'Now you understand'"* [Jackson, client. 193-194]. Teachers described how understanding an exercise was key to helping the client relate the movement to their back pain,

*"You do try and say, like, you know, 'If you hold neutral better, you're probably going to find, you know, that your back pain will naturally decrease because you're putting yourself in a better position'."* [Coretta, teacher. 254-256]

Fieldnotes showed examples of the use of explanatory language by every teacher. This ranged from explaining the benefit of a movement, suggesting how and why the client might need to make a change to what they were doing, to a more discernible 'teaching' scenario:

#### **Fieldnote Extracts**

*"As they move her voice is softer as she says 'you're lubricating the hip joint'."*  
[Site 4, Observation 1. 196]

*"Jackie does the exercise with them for a few repetitions and then sits on the foam roller telling them to 'perhaps engage your bottom if you feel tension. It's your tummy and bottom's job to let the leg lower down'."* [Site 6, Observation 1. 213-217]

*"Tania walks to the desk and the clients follow. On the desk is a small anatomical skeleton model. Tania asks what 'planes of movement' the spine has. The client looks blankly and Tania says 'what movements?', the client replies 'forwards' as she bends forward. Tania corrects 'we call that flexion' and they talk through extension, lateral flexion and rotation. Tania talks about 'big, chunky' lumbar spine and says about the thoracic spine 'these dudes are strong' and the cervical spine saying they are 'not as strong but very mobile'."*  
[Site 3, Observation 1. 207-215]

From a client perspective, Jasmine emphasised the value she placed on learning, *“It’s education for me so yes, it’s really important otherwise I wouldn’t be spending so much money coming here”* [Jasmine, client. 209-211]. Clients described the significance of learning within their Pilates experience as being aware of when they are ‘getting it right’ or ‘doing it wrong’,

*“What I have learned from the last set of Pilates that I’ve done is that where I thought I was doing a lot of things properly, I was actually not.”* [Lindsey, client. 78-80]

From the teacher’s perspective, ‘doing it wrong’ created an opportunity for learning, suggesting that time was required for clients to comprehend and master the exercises,

*“But it’s okay if it’s kind of wrong (in inverted commas) and you’re giving them time to grow and learn as opposed to just expecting it to be there.”* [Tania, teacher. 384-386]

In addition to verbal explanation given by the teachers to facilitate comprehension, participants described demonstration as a common strategy to help clients understand and therefore perform an exercise correctly, with the teacher *“in the front of the class”* in order to *“show you how your legs or arms have to be”* [Robyn, client. 259-262]. Teachers discussed how they used demonstration to show clients how to *“do it wrong, in order to show them what not to do”* [Tessa, teacher. 539-540]. Demonstration was thus considered a useful strategy for comprehending how to perform an exercise correctly, as client Robyn emphasised, *“[demonstration] helps me to try and get into the right position”* [Robyn, client. 259-265].

The sub-theme of ‘comprehension’ portrays the importance of client understanding in achieving mastery of an exercise. However, comprehension was perceived as simply the first step towards mastery, with the ability to ‘control’ movement also considered as a prerequisite. This sub-theme is discussed below.

### **5.8.2 Control**

The second element in the mastery theme is ‘control’. This pertains to the client’s ability to move in a precise and controlled way, as prescribed by the teacher, in order to master ‘correct’ alignment. Participants described attaining ‘correct’ alignment as a pivotal tenet associated with the Pilates method,

*“The difference between doing this with as opposed to, you know, the average personal trainer – probably not the good ones you get – is, you know you’re going to be very much put in the correct position, your alignment.” [Coretta, teacher. 163-165]*

Pilates was described by clients as being *“very precise”* [Virginia. 246] with emphasis placed on *“the little movements, rather than throwing yourself at it”* [Lindsey. 260]. Thus, as Jackson described, clients saw Pilates as being associated with ‘controlled’ movement as *“you gradually progress through moving different parts of your body but all in controlled measures”* [Jackson. 140-142]. Jasmine illustrated how this precise control translated into her movement experience,

*“It’s all about the positioning of your body. It could just be ten degrees of curvature or literally your back is flat and not curved and make sure your pelvis is in neutral, or make sure it’s tilted south or north so it’s all about that position, it could be just a few degrees.” [Jasmine, client. 153-157]*

Whilst the term ‘control’ was used by a number of clients, only one teacher directly discussed the concept of ‘control’, saying, *“I believe that controlled movement can make you feel better both mentally and physically”* [Tessa. 944-945]. However, fieldnotes showed common use of the term by teachers:

#### **Fieldnote Extracts**

*“She said they should have ‘complete control over their body at all times’.”*

*[Site 1, Observation 1. 145-146]*

*“Coretta says to the client ‘circles, not big happy circles but small controlled circles’.”*

*[Site 4, Observation 1. 106-107]*

*“She then instructs a leg slide ‘controlling the back’.”*

*[Site 6, Observation 1. 218]*

One teacher expressed concern over the potential for preoccupation with this aspect of Pilates practice to inhibit a client’s movement,

*"I think sometimes there is a temptation to get too slightly fixated on someone's alignment because you want them to be relaxed and at the end of the day I think the most important thing is that we get them moving with control and not make them possibly too self-conscious about their alignment." [Kimberley, teacher. 458-464]*

Conversely, some clients expressed how they felt the controlled movement associated with Pilates provided a feeling of safety, where mastery of 'control' was correlated with a reduced level of pain. Jackson (client) illustrated common client perceptions that ensuring *"pretty much everything is as aligned as I can get it"* was directly related to *"all the things I probably didn't do before which caused all the back problems"* [Jackson, client. 512-516]. One client, Jasmine, expressed how *"Pilates is very controlled"*, making an explicit connection with the teacher's role saying, *"if you go to the right instructor there is no way you can hurt yourself"* [Jasmine, client. 230-233]. The centrality of the teacher within the 'mastery' theme is further expanded below.

### 5.8.3 Correction

The third element of 'mastery' is 'correction'. Whilst the element of control within the Pilates approach appeared to provide reassurance to some, clients revealed anxiety over their ability to master a movement. Frequently used terms related to 'getting it right' or 'doing it wrong', and the value of the teacher as integral in ensuring a client 'gets it right' was shown with every client mentioning this aspect,

*"I definitely wouldn't want to practice stuff on my own for fear of, I am terrified of doing it wrong. If I do this it has got to be perfect." [Neil, client. 448-450]*

Participants universally discussed how teachers provided corrective feedback to assist the client in achieving an exercise with the specified precision and control, describing how the teacher would *"walk around everybody and make sure that the alignment is right, the back is flat and not bent and that your leg out is level and not too high and too low and all the rest of it"* [Joanne, client. 378-381].

Both teachers and clients described the strategies used by the teachers to provide correction: namely verbal feedback and the use of touch as tactile correction. Both strategies involved telling the client what they were doing 'wrong' and clients in particular felt this enhanced their Pilates experience. Jackson summarised the importance of this element of the teacher's role,

*“Anybody that’s [sic] doing something that’s not quite right, she’ll point it out and quite rightly so, that’s what you’re there for and that’s what she’s there for.”*  
*[Jackson, client. 386-388]*

### Verbal correction

Clients discussed how teachers used verbal correction to help them position their body, which in turn helped them feel as if they could understand and repeat the exercise. In this way, verbal correction provided positive reinforcement. Client, Jackson, illustrated how his teacher, *“will come and say, move it there... now you’ve got it”*, highlighting the importance of the correction even though *“it might be a tiny little movement but it makes all the difference”* [Jackson, client. 159-164].

In contrast, fieldnotes provided descriptive details of verbal correction that suggested a more negative reinforcement, using words such as ‘no’ or ‘don’t’, as shown below.

#### **Fieldnote Extracts**

*“Tania says ‘feel the movement from your ribcage’ and then ‘NO, come back’ and says she wants the head to follow and the ribs to initiate.”* [Site 3, Observation 1. 233-234]

*“Coretta instructs lunge but as the client starts to move she says ‘no, no’ and corrects the movement.”* [Site 4, Observation 2. 368]

*“She instructs ‘front / back’ and cues ‘rib to top hip connecting’, saying ‘don’t let your back arch’.”* [Site 6, Observation 1. 399-401]

In addition, some clients used language reminiscent of military discipline when discussing the corrections given by the teachers. Neil (client) discussed how his teacher had *“drilled into me... that form is all important* [Neil, client. 514], whilst client Lindsey described how his teacher would *“kick me back into shape.”* [Lindsey, client. 160-161]. However, this discipline was associated positively with teacher skill,

*“You get one high-class teacher who will watch you like a hawk, if you do anything silly, you’ll get shouted at.”* [Jackson, client. 136-138]

Whilst verbal correction was universally discussed in a positive light, the data illuminates how this strategy included language that may be considered directive.

### Tactile correction

Tactile correction involved the teacher placing their hands on to the client's body to provide physical feedback. Clients perceived this feedback as important in helping the master an exercise, with the corrections providing them with a deeper understanding of how the movement felt,

*"She just sort of walks around while we're doing the exercise and so she would just hold the bottom of your foot and move it back and she would say, 'That's your line'... and it's amazing just that little touch would enable you to feel 'ah, yes', it's opened up the whole of your hip joint." [Gwen, 246-252]*

Teachers' views were more divergent, with some asserting that tactile correction provided an extra teaching strategy designed to assist the client towards the mastery of an exercise by utilising kinaesthetic learning, reasoning that *"sometimes people need the feedback of touch as well"* [Jackie, teacher. 281]. For others, the use of touch provided the teacher with verification of whether a client was 'getting it right' so as not to *"assume that just because they look fabulous, they're actually doing it right"*. Instead, the use of touch could be used to *"go and have a look and poke and make sure they're all doing it right"* [Coretta, teacher. 850-851].

Fieldnotes provided evidence of the widespread use of tactile feedback by all teachers, with notations of multiple instances within each session:

### Fieldnote Extracts

*"Then she walks around and tactile cues a few clients by placing her hands on their hips and pulling gently backwards and asking them to stick their bottoms out more."*

*[Site 1, Observation 1. 92-95]*

*"Tania places her hands over the client's pelvis in a smoothing motion outwards, and then places two fingers on her sternum as she talks of 'softening'."* [Site 3, Observation 1. 75-76]

*"She uses her hand on Jasmine's back and the other in a spreading motion on Jasmine's tummy saying 'spread and widen'."* [Site 7, Observation 1. 301-303]

The use of touch, as described above, shows the teacher placing their hands on what might be considered more intimate areas of an individual's body, such as pelvis and chest. Client Grace raised the potential difficulty of such intimacy saying, *"I mean... I don't know that everybody would be comfortable with... I mean she probably half the time feels me more than my husband does"* [Grace, client. 431-432]. Whilst for all the clients participating, correction was discussed in a positive light, Coretta commented that not every client responded well to this aspect of mastery when describing a client, *"If you corrected him, that would be the end of him. He would just stop breathing and that will be the end of it!"* [531-532].

In addition, one client and one teacher also expressed how bodily awareness was important in the mastery of an exercise. This appeared at variance with the depth of discussion regarding comprehension, control and correction being directed by the teacher, with the client being 'told' what to do. Instead, the teacher was described as facilitating a more embodied process where the client came to an awareness of what felt more at ease for their body. Client, Neil, suggested that *"it's less of a direct instruction to move this piece of my body here, that piece of my body there"*, instead describing how teacher feedback was aimed at developing *"more of an awareness of what is going on with my body rather than trying to force something"* [Neil, client. 357 – 361].

Interestingly, the teacher who discussed using a more embodied approach was Neil's teacher. Tania (teacher) described how she felt her training encouraged the use of an embodied approach



to “let people notice things themselves” [Tania, teacher. 277]. In addition, the use of the word ‘notice’ was recorded multiple times in observations with this teacher. Whilst other teachers did not discuss this directly, fieldnotes provide evidence of other teachers’ use of language encouraging body awareness, with examples provided below.

#### **Fieldnote Extracts**

*“She instructs them to close their eyes saying ‘become more aware of your body’ as she takes them through a body scan.” [Site 1, Observation 2. 34-36]*

*“The clients have the Overball under their heads doing neck rolls and Kimberley says ‘see if one side is tighter than the other, but don’t be concerned if it is.’” [Site 6, Observation 1. 313-316]*

#### **Teacher frustration**

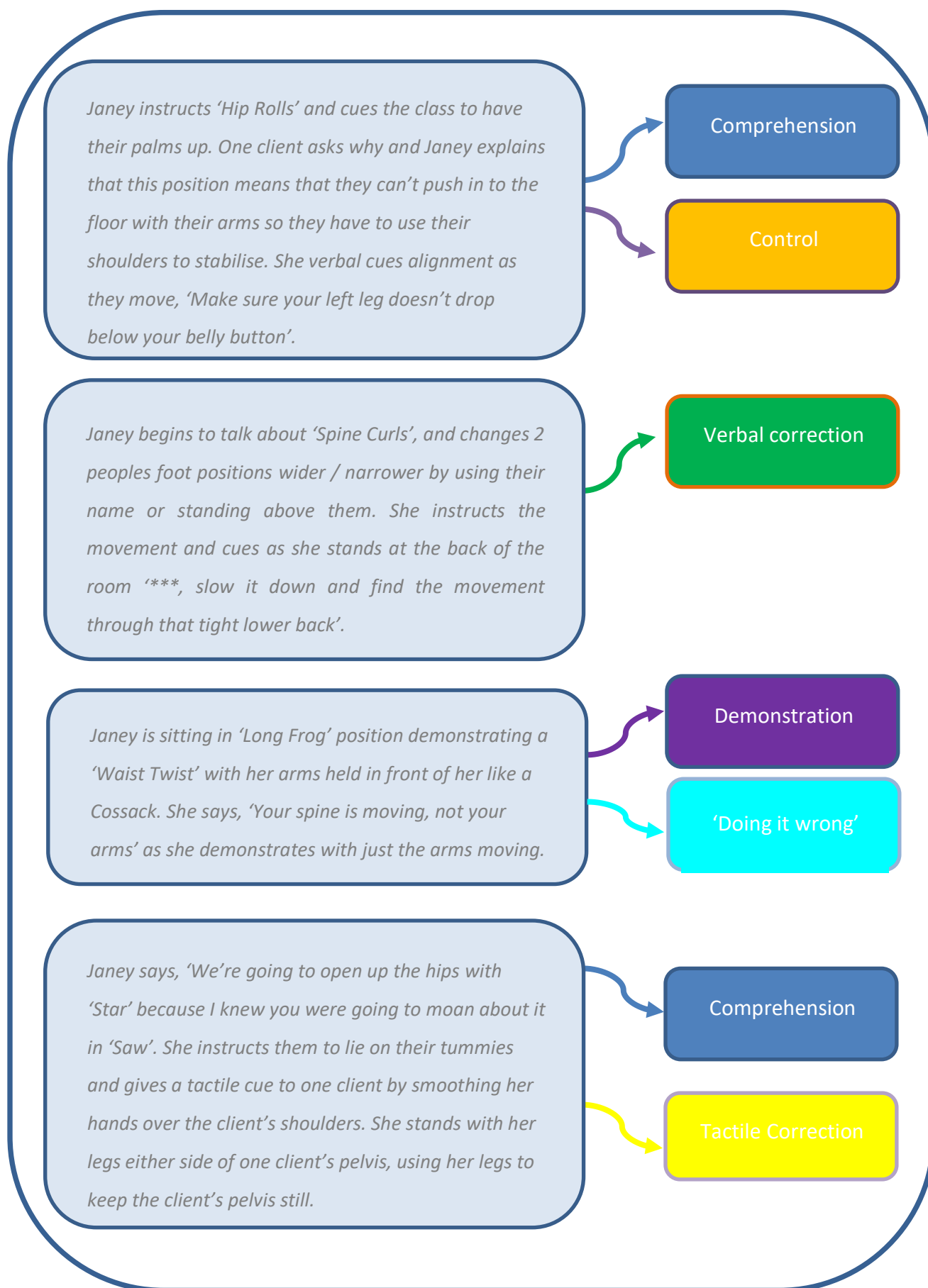
For teachers, facilitating clients’ mastery of an exercise emerged as having dual aspects, the teacher providing instruction and the client listening and acting on that instruction. As Christine states, *“I think it's got a lot to do with teaching people how to move... and how to listen to you telling them to move”* [616-618]. Teachers described occasions where they felt the clients were not listening or not doing as the teacher had told them, expressing a degree of frustration,

*“I have weeks where I get really... I put like, you know, my angel face on when I get really mad and “Right, everyone stop!” [Coretta, teacher. 518-519]*

In addition to this frustration, some teachers also commented on how they felt the client’s inability to follow directions could directly influence the level of their back pain. Christine (teacher) described a specific client where *“it was the movements that she was doing herself were causing her pain... she wasn't doing what I was actually telling her to do”* [Christine, teacher. 651-655].

In order to provide supplementary context to illustrate the theme, a vignette using fieldnotes demonstrates the sub-themes of ‘comprehension’, ‘control’ and ‘correction’ in Figure 42.

Figure 42. Mastery - a vignette from observations with Janey



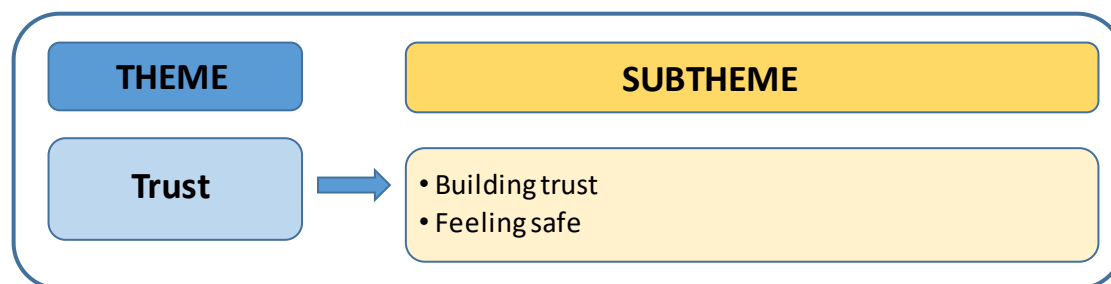
#### 5.8.4 Summary of 'Mastery'

The examples presented above illustrate the theme of 'mastery', whereby the teacher facilitated the client's competent performance of a Pilates exercise through 'comprehension', 'control' and 'correction'. The sub-theme of 'comprehension' incorporated two aspects: the teacher providing explanation for why a client was doing an exercise, and subsequent client understanding. 'Control' followed from 'comprehension', with clients actively striving to perform an exercise with the precision and control specified by the teacher. This aspect described the clients' concerns with 'getting it right' and 'doing it wrong' and the centrality of the teacher's role in ensuring correct performance. 'Correction' involved the teacher pointing out where a client was not performing an exercise with the required control, and providing verbal and tactile feedback to assist the client in achieving better 'alignment'. Participants saw the result of achieving mastery as an ability to hold themselves and move with 'correct' alignment, which clients related to an impact of pain reduction. Whilst this theme represents data describing a directive approach to the clients' mastery of an exercise, there was divergence with some clients and teachers also discussing how a more embodied approach of body awareness contributed to their feeling of mastery.

## 5.9 Theme 5 - Trust

The theme of ‘trust’ emerged from data relating to the level of trust developed between teacher and client, with the majority of participants discussing this as an integral part of the relationship. ‘Trust’ has two elements: (1) building trust, and (2) feeling safe, which are depicted in Figure 43, and expanded below.

Figure 43. Theme 5 – Trust



### 5.9.1 Building trust

Trust was commonly discussed as being predicated on the teacher’s ability to provide a movement experience that would not aggravate a client’s pain level. Clients described the teacher’s role as pivotal, *“with the right instructor it doesn’t make it worse”* [Grace, client. 338], with teachers creating *“an environment where people who have problems with their bodies can be comfortable knowing that they’re not going to do any damage”* [Gwen, client. 353-356]. Teacher, Christine, illustrated the significance of the teacher’s role,

*“They put their body in your hands and they know that you are not going to do anything which is going to... cause any serious damage to them or their condition, because they trust you.”* [Christine, teacher. 604-610]

Clients elucidated how a teacher might ensure movements were not painful. Joanne (client) described how her teacher would tell her to, *“listen to your body and don’t go to pain”* [Joanne, client. 277-278]. Client, Jackson, described a more collaborative trust,

*“I trust her judgement and she trusts mine as well. I think that’s useful because if I say it’s hurting, it’s hurting and she would never push it.”* [Jackson, client. 279-281]

Teacher, Coretta, provided an example of how a teacher could explore movement without pain,

*“You might spend most of your time lying on your back, moving your... knee two inches but we’re going to get you to do that with no pain.” [Coretta, teacher. 184-186]*

Field notes also provided examples of how teachers used verbal instructions aimed at limiting a client’s experience of pain:

#### **Fieldnote Extracts**

*“They did the hip stretch and Cindy said ‘never push beyond what is right for your body’.” [Site 1, Observation 1. 189-191]*

*“Cindy instructs a ½ roll down saying clients should limit how far they roll ‘how far you can go without pain’.” [Site 1, Observation 2. 73-74]*

*“She cues them to move with the breath and to make sure they are ‘not moving into any discomfort’.” [Site 6, Observation 1. 82-82]*

Teachers acknowledged that building trust “doesn’t happen immediately” [Pippa, teacher. 422] but was instead a “gradual process of them relaxing into things and being able to trust and have confidence in what you’re doing” [Christine, teacher. 601-602]. Coretta (teacher) pointed out how trust was built from the very first encounter, “that first session is so important, that you’re not going to make them feel worse” [Coretta, teacher. 365-366]. One teacher, Tessa, described how word-of-mouth recommendation could act as a facilitator, explaining, “You almost start the process off with that trust” [Tessa, teacher. 163]. In contrast, Coretta (teacher) provided an example of a barrier to trust-building, describing that “it takes such a long time to build that trust in a mat class” [Coretta, teacher. 700-701].

Three participants described how levels of ‘teacher expertise’ influenced the building of trust. Client, Virginia specified that, “What makes me trust them is that they have a strong understanding of body mechanics” [Virginia, client. 62-63]. Teacher, Cindy described a clear link between trust and knowledge describing how clients “can trust that you’re not going to hurt them any more, and you know what you’re doing” [Cindy, teacher. 466-467]. Janey (teacher), expanded on how teacher knowledge could facilitate trust,

*"It is the knowledge of knowing what they can safely do, so they put their confidence in you, so you can then take away some of their fear, because when you've got pain, you live in fear of doing something that's going to aggravate it."* [Janey, teacher. 309-312]

When discussing his confidence in carrying out exercises, Jackson (client) explained that *"unless you've got that relationship of trust, it's going to be difficult"* [Jackson, client. 291-292]. The centrality of trust in maintaining a continued relationship was addressed by Pippa (teacher) who stated, *"They have to trust you, otherwise you're probably not the right person for them"* [Pippa, teacher. 867-868]. This view was also echoed by client, Virginia,

*"If you don't have that trust, of course you're not gonna [sic] come back."*  
[Virginia, client. 442]

### 5.9.2 Feeling safe

The sub-theme 'feeling safe' relates to participant perceptions of the impact of trust. A number of teachers described how the Pilates environment created *"a place where people feel safe"* [Tania, teacher. 214], where clients *"feel secure, like you're looking after them"* [Tessa, teacher. 175], creating *"a little bit of a safety and security blanket to people"* [Christine, teacher. 535-536].

Field notes provided examples of teacher language relating to safety, and these are illustrated below.

#### Field-note Extracts

*"As the clients pushed up in to 'cat' Cindy stood up and said 'this is a safe place to stretch your back'."* [Site 1, Observation 1. 196-197]

*"As he continues 'side to side' she supports the weight of his legs on the left rotation and says 'I feel that's safer for you right now'."* [Site 3, Observation 2 146-148]

*"She seems to relax somewhat and makes emphatic comments about Pilates making her feel safe and reassured."* [Site 7, Observation 1. 430-431]

The feeling of safety was perceived as decreasing a client's fear of movement. As Tania (teacher) explained, *"If someone feels safe, they will do anything"* [Tania, teacher. 221-222]. Two teachers provided examples of how confidence to move was born from incremental changes. Christine (teacher) described how *"their confidence slowly begins to increase because they lie down...then move just a little bit...and it's sort of feeling OK, I'll give it a little bit more"* [Christine, teacher. 593-599]. Teacher, Janey, concurred,

*"You encourage them to find the movement and then when they find that hasn't hurt, the following week they're happier doing it... And they suddenly realise they're doing what everyone else is doing and it's not hurting them."* [Janey, client. 318-322]

### 5.9.3 Summary of 'Trust'

The theme 'trust' illustrates participants' views relating to the element of trust in the relationship between teachers and clients with persistent low back pain. The sub-theme 'building trust' is portrayed as a pivotal role for the teacher, centred on the teacher not aggravating the client's pain. Teachers acknowledged that this process took time, but was initiated from the very first session and was associated by participants with the ability of the teacher to 'know' a client, providing 'individual attention' underwritten by expert knowledge. This is suggestive of a link to elements from the themes 'being known' and 'teacher expertise'.

'Feeling safe' followed from the building of trust between teacher and client, and illustrates in particular, teachers' views relating to how a trusting relationship may facilitate a decrease a client's fear of movement. This in turn was perceived to increase the client's confidence to move, suggesting a link between the theme of 'trust' and the theme of 'encouragement', where positive reinforcement and reassurance were described as building a client's confidence to move.

Whilst trust was considered an essential element in the relationship between Pilates teachers and clients with persistent low back pain, teacher Tessa, pointed out that trust was key to all client relationships,

*"It's more about the person, male or female, it doesn't matter, where the pain is, it doesn't matter... It's just whether I've got that person within my trust."*  
[Tessa, teacher. 836-843]

## 5.10 Theme 6 – Professional Identity

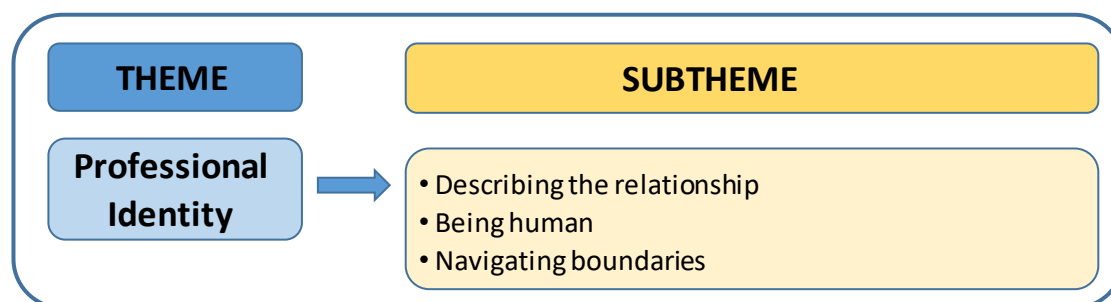
The theme ‘professional identity’ emerged from participant descriptions of the nature of the relationship between teachers and clients, and how much the teacher shared personal details with the client. The theme demonstrates divergent perspectives, and elucidates uncertainty amongst the teachers when describing the relationship boundaries, as Janey summarised,

*“I try very hard to keep it professional, but there are lines that get crossed.”*

*[Janey, teacher. 619-620]*

The theme is comprised of three elements: (1) describing the relationship, (2) being human, and (3) navigating boundaries. The theme construction is illustrated in Figure 44.

Figure 44. Theme 6 – Professional Identity



### 5.10.1 Describing the relationship

When describing the nature of the interaction between teachers and clients, participants drew on other relationships to describe their Pilates interaction. Participants expressed how they felt the relationship was quite distinct from a clinical relationship. Client Grace encapsulated this perspective, saying, *“I don’t think a Pilates instructor needs to act like a GP”* [Grace, client. 1009]. Clients and teachers identified the Pilates relationship as being ‘closer’ than that experienced with a clinician, describing how clinicians *“have to maintain their distance”* [Grace, client. 1007]. Coretta described the difference in terms of the social aspect of the relationship she has with her clients, *“with a clinician they’ve always got that distance, whereas ... I’ve been invited to people’s birthday parties”* [Coretta, teacher. 387].



This social interaction alluded to a more informal social relationship, which a number of participants described 'like a friendship'. Grace (client) defined her relationship with her teacher as *"definitely much more of a friend support type thing"* [Grace, client. 728] and Cindy (teacher) asserted, *"it almost turns into a friendship really"* [Cindy, teacher. 721]. Whereas Tessa (teacher) felt the relationship was more familial, *"It feels to me like they're my Pilates family and I really care about them"* [Tessa, teacher. 188-189].

Expressing the Pilates relationship in these terms suggests a close relationship, and Tessa (teacher) voiced how she feels this intimacy sets Pilates apart from other forms of exercise,

*"If I was teaching aerobics it's superficial exercise in a way... just to hone in on the Pilates type thing, it's so much more intimate ... and that builds that bond between you and your client."* [Tessa, teacher. 233-239]

Whilst participants more commonly portrayed the relationship 'like a friendship', two participants described the relationship akin to professions associated with physical aesthetics. Joanne (client) described the relationship as, *"like a hairdresser... I think you build up a relationship with someone and they know you and you know them"* [Joanne, client. 460 – 463]. Whereas Coretta (teacher) described a similarity to beauty therapy,

*"We're more like therapists, kind of like [sic], a beauty therapist... like the person who gives you your facial. It's all about me for an hour and enjoying and having that time"* [Coretta, teacher. 418-420].

These depictions suggest that the element of time is important, in terms of the ongoing regularity of contact as found in a relationship with a hairdresser. Coretta (teacher) made the connection explicit saying, *"you're part of their life... It's like a hairdresser, isn't it? It only takes about two good cuts and you're like, 'Okay, I'm in now!'"* (Coretta, teacher. 376-377). Teachers, in particular discussed temporality in relation to the formation of a more informal relationship,

*"I think, because if you're going to have the person coming for a long time – for years – how can you not become friendly."* [Cindy, teacher. 744 – 745]

Clients also discussed the importance of time within the Pilates relationship, echoing the views above that Pilates became *"part of my life"* [Lindsey, client. 587]. Grace reiterated the difference between a Pilates environment and a clinical one in relation to time, *"there was the restraint on*

*time and expectation in ... the more clinic type environment. Pilates is not a clinic" [Grace, client. 1036].*

Whilst the majority of participants described the relationship in terms relating to more informal social relations, one teacher, Jackie, expressed a different perspective when describing a Pilates encounter, *"it's all very different from catching up with a friend" [Jackie, teacher. 204]*, ascribing a more 'professional' approach. However, Jackie also acknowledged that the relationship with clients changed over time, describing how she became *"friendlier" [Jackie, teacher. 207]*. Only one participant specified the relationship in terms of a *"teacher-pupil relationship" [Gwen, client. 366]*.

The data presented above provides a description of how participants felt the relationship between teacher and client was distinct from a clinical relationship. Participants used similes to describe the relationship and these varied from professional, but more informal relationships such as a hairdresser or beauty therapist, to closer informal relations such as friendship or family. The variation of descriptors points to an uncertainty of how to classify the relationship. Teacher, Coretta's statement of her own confusion, encapsulated this,

*"I remember when I was the client with my Pilates instructor. I'd been talking to her a lot and thinking, is she my friend or not, I don't really know." [Coretta, teacher. 389-391]*

Participants described an association between the more informal nature of the Pilates relationship with the teacher sharing details about themselves with the client. This is expanded below in the sub-theme 'being human'.

### **5.10.2 Being human**

The majority of teachers discussed how sharing personal details about themselves was an important part of building a relationship, associating this with building trust with the client,

*"By giving them something about me, that then earns their trust, because they feel I've trusted them with something about me." [Janey, teacher. 638 – 640]*

Grace (client) underlined the importance of the client knowing the teacher, when discussing a teacher she did not get on with, *"she was one of those people who, you kind of just never knew what she was thinking anyways. She didn't form a relationship with her clients" [Grace, client. 538-539]*.

Teachers and clients discussed how sharing personal details made the teacher more 'human', as Grace stated, *"they're the ones looking at me with my faults and things...one thing I like about*

*Coretta, she shares back her own weaknesses” [Grace, client. 994-997]. The importance of the teacher showing ‘weakness’ was a common thread in discussions with both teacher and client. Jennifer (client) talked about the importance of the teacher being “on her level” when she described how the teacher might demonstrate an exercise and comment, “I’ve been practising this at home so that I don’t look like an idiot... just because I’m showing you, it doesn’t mean to say that it comes easy” [Jennifer, client. 409-411]. Teachers described how showing they were “just the same as everyone else” [Pippa, teacher. 824] helped build a good relationship. Cindy summarised this feeling,*

*“I’m a human being like they are. I’m not something up there. I’m just an ordinary person like they are and I think it helps them identify with you.” [Cindy, teacher. 570 – 572]*

Fieldnotes showed frequent examples of teachers showing their ‘weaknesses’ in carrying out exercises. Observations showed that examples where the teacher expressed a movement as challenging were generally followed by laughter from the clients, indicating that sharing these details may provide a basis for rapport building.

#### **Fieldnote Extracts**

*“The teacher instructs leg circles using the theraband around the foot, and she says ‘I’m quite clonky on this side but with the band I’m not, which is quite satisfying’. As she continues the movement, she says ‘I shouldn’t have made that claim as it’s now clonking’ and laughs.” [Site 4, Observation 1. 203-205]*

*“As Janey does the exercise with the class she says ‘as you can see this is my bad side’ and there is some gentle laughter.” [Site 2, Observation 1. 283-287]*

Participants expressed the importance of the teacher being ‘human’ in relation to building a relationship. This was characterised by the teachers sharing their own difficulties in carrying out exercises. However, divergence emerged when teachers discussed sharing details that were more personal with clients. This tension is illustrated in the sub-theme ‘navigating boundaries’.

### 5.10.3 Navigating boundaries

Teachers universally discussed how sharing personal details were important in building the relationship as clients 'inevitably' asked them about their lives and that they couldn't *"brush them off"* [Pippa, teacher. 827] as that would *"put up a barrier"* [Cindy, teacher. 771]. However, the level of disclosure teachers felt comfortable giving showed considerable variability.

Some teachers talked about how they were comfortable sharing details about their lives, *"they get to know me well and I get to know them really well"* [Cindy, teacher. 720 -721]. Cindy goes on to describe how clients *"knew about my family and about things going on"* [Cindy, teacher. 751]. For other teachers, there was more of a boundary. Pippa described how she navigated the boundary, *"My client knows enough about me that they feel like they can know you as a person and trust you as a person"* [Pippa, teacher. 691-693]. She continued, explaining that she does not tell them about the issues in her own personal life because, *"I don't want to have those conversations, there needs to be a boundary of what's going on"* [Pippa, teacher. 699-700]. For Pippa the boundary clearly demarcated the relationship as one dedicated to the client's needs,

*"If I sit there in front of a client and I'm like life is terrible, my Mum's this and this and that, there's stuff going on in everyone's life, do I need them to know that? No because this is their time, you know, what's going on in my life is irrelevant."*

[Pippa, teacher. 769 – 773]

Jackie also felt there was a clear boundary, *"I think there's always that line that you stay above, they never really know the real you"* [Jackie, teacher. 199-200]. Jackie relates this boundary to *"professionalism"*, suggesting that a teacher should ask, *"Is this best practise at the forefront to make sure that you are letting them have the exercise they need to do rather than filling them in on how your weekend was?"* [Jackie, teacher. 201-202].

For other teachers, though, maintaining the boundary whilst sharing personal information was less clear. As Janey explained, *"sharing details changes the relationship"* [Janey, teacher 650], *"it makes it more of a two way thing and that's when things become more of the friendship line, than a working relationship"* [Janey, teacher. 653 – 654]. Cindy concurred that sharing details blurred the boundary,

*"It's hard to keep that client teacher relationship going... to keep it appropriate, isn't it? That sort of friendship that creeps in, which is good, you know? I've no problem with being friends with my clients, whatsoever! It's just trying to maintain the boundary, for their benefit, really, so that it doesn't become just a chat between us."* [Cindy, teacher. 723 – 728]

Fieldnotes provide examples of teachers sharing personal details, with the teacher initiating informal conversation with clients.

### Fieldnote Extracts

*“Tania chats about why is it that when you have building work all the neighbours need to talk about it. [Name] asks whether this is the kitchen work and she says no that’s all finished and it’s now the garden.” [Site 3, Observation 2. 54-57]*

*“Coretta initiates a conversation about her phone, which had to be sent away to be mended, and her car, which also broke and was sold.” [Site 4, Observation 2. 19-20]*

The relationship boundary extended beyond the working environment. Some teachers regularly socialised with clients, whilst other teachers felt quite differently,

*“I talk to them literally for 5 / 10 minutes and then they're gone. I don't socialise with many of my clients which I think some teachers do a lot more. I don't.”*  
*[Cindy, teacher. 1039 – 1042]*

Pippa was even more vehement in her statement, *“I mean for me I would not go out for a coffee with a client, I would not go for dinner with a client, I would not call a client up, I don’t want them to have my personal number” [Pippa, teacher. 726 – 729]*. Janey discussed the challenge of maintaining boundaries within a more technological arena. When discussing whether she should add clients as ‘friends’ to her social media, she noted,

*“There's a part of me that says we have a business transaction. You pay me money to see me and that's kind of – I don't know how I feel about you being able to see what I get up to at the weekend and I find that very, very strange.” [Janey, teacher. 660 – 665]*

The data provided describe tension surrounding the professional boundary of the Pilates relationship, with teachers describing divergence in their views. Some teachers felt comfortable ‘blurring’ the boundary between professional relationship and informal relationship, whilst others felt that the boundary should not be crossed. Other teachers expressed uncertainty in knowing where to ‘draw the line’. In considering this divergence, it is interesting to note that teachers who

described a clearly demarcated boundary all had clinical backgrounds and were therefore subject to professional codes of practice.

#### **5.10.4 Summary of 'Professional Identity'**

The theme of 'professional identity' describes participant views relating to the nature of the relationship between Pilates teachers and clients with persistent low back pain. The sub-theme 'describing the relationship' illustrates the varied nature of descriptors used by participants to define the relationship between teacher and client. Participants used the term 'like' to portray similarity with other relationships, generally depicting the relationship as an informal one; either 'like' an informal profession such as hairdressing or similar to a close social relation, 'like' a friendship or family. Developing from the informal nature of the relationship, the sub-theme of 'being human' demonstrates the importance placed by participants on the teacher sharing personal details with the client. Although the sharing of some personal information was regarded as necessary in order to build a relationship, there was divergence amongst teachers about how much to share with clients, with the sub-theme of 'navigating boundaries' illustrating divergent teacher perspectives of the difficulties in navigating the boundary between professional and friend.

The theme of professional identity appears to be infused with juxtaposition. On the one hand, participants detailed informality and closeness in the relationship, inferring a social network relationship. In contrast teachers also felt the need to 'keep it professional', suggesting a more formal relationship. This dichotomy may be related to uncertainty of the professional status of the Pilates teacher, as summed up by teacher Janey, *"I see professional with a sort of little 'p'"* [Janey, teacher. 641].

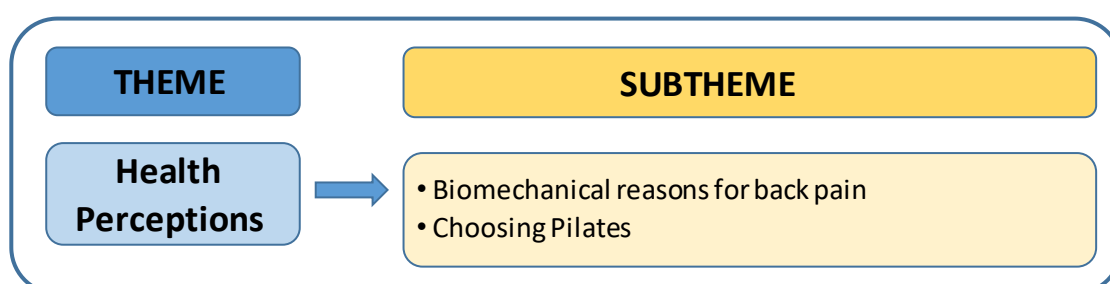
## 5.11 Theme 7 - Health Perceptions

The theme 'health perceptions' relates to participants' views about the nature of their back pain, and the reasons they chose Pilates as a management tool for their persistent low back pain. Clients described past trauma as a common precipitating event for the start of their back pain experience, relating this to ongoing biomechanical issues. Concern was expressed by clients in relation to 'putting your back out' and that exercise should be carried out correctly to avoid 'doing damage'. Pilates was commonly recommended by healthcare professionals; however, teachers demonstrated frustration when healthcare professionals set movement parameters. In addition, teachers described how the influence of the media could impact clients' perceptions about movement,

*"If you've got a strong back, you'll stand tall." [Cindy, teacher. 659]*

This theme comprises two elements: (1) biomechanical reasons for back pain, and (2) choosing Pilates, illustrated in Figure 45.

Figure 45. Theme 7 - Health Perceptions



### 5.11.1 Biomechanical reasons for back pain

The majority of clients related their back pain to the long-lasting effect of a past incident. For some clients, the catalyst for their back pain was a traumatic accident. Robyn (client) described how, *"30 odd years ago, I had a bad fall down the stairs"* [Robyn, client. 49-50], adding, *"a few months after, I started to get a lot of back pain"* [Robyn, client. 91-92]. Client, Joanne, relayed a similar traumatic experience, *"I had a car crash about 30 years ago"* [Joanne, client. 78]. She described how she *"didn't go and have any x-rays... just thought a few cuts and bruises"* but related this event to the fact she had *"a twisted spine"* [Joanne, client. 84-86].

For three clients, the past incident was a sports injury. Lindsey (client), provides an example of how clients described a sport-related precipitating event,

*"I did gymnastics at school and I was doing a handstand over a box with a trampette ... and my arm gave way and I landed on the base of my spine. Obviously, it did do some damage and later on in life I would put my back out."*

*[Lindsey, client. 50-54]*

Whilst the majority of clients attributed a past incident to the start of their low back pain, some clients also discussed a perceived link between certain activities with present-day episodes of pain. Robyn (client) associated episodes of back pain with *"when I overdo it"* [Robyn, client. 42]. In contrast, for Joanne (client), inactivity was perceived as a trigger, *"the worst thing for us is actually sitting"* [Joanne, client. 118-119]. Client, Lindsey, agreed but also attributed repetitive activities to flare ups in pain levels,

*"I had been gardening and I knew I shouldn't have been. I had been carrying heavy pots and I had also done five hours in the car. So, I knew that was why I was having problems."*

*[Lindsey, client. 136-139]*

Two teachers also discussed how certain activities were perceived as related to back pain. Coretta described how her clients came to her to offset the fact they, *"just sit"* or *"do stuff that is repetitive"* [Coretta, teacher. 471], and Kimberley described how *"there's articles out there saying things like sitting is the new smoking and the negative effects of being in a desk based job"* [Kimberley, teacher. 587-590].

Client perceptions of the causes of their back pain were often discussed in relation to ongoing biomechanical issues. Lindsey (client) associated her back pain with *"the fact it's going the wrong way"* [Lindsey, client. 109], whilst Joanne (client) relayed how her *"chiropractor used to say it as well, I'm bent"* [Joanne, client. 159]. One client, Jennifer, expressed how a biomechanical diagnosis from her healthcare practitioner provided an explanation for her pain, *"he said your pelvis is misaligned...then everything managed to sort of fit into place in my head that there's been a weakness"* [Jennifer, client. 174-176].



Clients commonly expressed anxiety about recurrent flare-ups, relating pain to the concept of 'putting your back out'. As Jackson (client), typified, *"it does worry me when it goes out... I know I can get it back again but there's always that worry that it's not going to"* [Jackson, client. 338-340]. Jennifer revealed that she had *"a weak back"* [Jennifer, client. 27] and that *"coughing, just actually put my back out"* [Jennifer, client. 134]. Teacher, Kimberley, discussed why she felt back pain caused clients increased anxiety,

*"I think people worry much more about spinal issues because it's your spine because that's where your spinal cord is."* [Kimberley, teacher. 966-968]

For client, Virginia, this concern manifested in to avoidance of certain movements, saying, *"One of my greatest fears was bending down, because that's how I slipped the disc"* [Virginia, client. 26-27]. One client described how his healthcare practitioner was *"concerned"* about certain movements, explaining that *"he said I don't want you bending in particular directions, it's not going to do you any favours"* [Jackson, client. 71-73]. Jackson's description of the influence of his healthcare practitioner in providing parameters for movement was discussed as an area of frustration by a number of teachers. Janey (teacher) discussed how she felt, *"it's more chiropractors than osteopaths or physios"* that could be *"very set"* in stipulating *"you're not meant to do this movement"* [Janey, teacher. 434-436]. Jackie (teacher) expanded on what a healthcare professional might say to a client,

*"Don't ever twist round because your back is going to go then you know, and your discs are going to pop if you try to bend forward so none of this bending business"*  
[Jackie, teacher. 251-253].

Tessa (teacher), explained how this created frustration for her as a movement teacher, relating an experience with a client where *"medical professionals are not helping"* because *"they are reinforcing don't do's and I'm trying to reinforce do do's"* [Tessa, teacher. 1028-1030]. Janey described tackling this perceived disparity assertively when highlighting a *"battle with a client"* over movement parameters given by a consultant, saying, *"I don't care, you're in my class"* [Janey, teacher. 934-937]. Jackie, in contrast, suggested that, *"you have to win them round...with education"* [Jackie, teacher. 256]. However, Tessa, a teacher with no previous healthcare training, highlighted a perceived knowledge gap when navigating the divergence of opinion,

*"I'm nowhere near as qualified as these people...I'm not medically trained, I'm a Pilates teacher."* [Tessa, teacher. 1030-1032]

### 5.11.2 Choosing Pilates

Clients discussed influences on their choice to go to a Pilates teacher. Clients discussed how *“perceived wisdom now is you get up and move”* [Jackson, client. 248-249], describing how this knowledge had changed over time,

*“Years ago, if you had a back-problem people would say rest. Well, resting is the worst thing you can do really. Yes, rest for maybe a day or so but, get moving and stretching, move as much as possible.”* [Gwen, client. 75-77]

Jennifer (client) described how she *“knew in my heart I needed exercises to help me get better”* [Jennifer, client. 544-545] and Jackson (client) concurred adding that it *“might be a painful option, but it’s a better one”* [Jackson, client. 250]. Teacher, Janey, provided further explanation, stating, *“The latest guidelines are that any movement is good”* [Janey, teacher. 949].

However, in addition to the perception that exercise provided a way forward for the management of back pain, the majority of clients also expressed concern that *“you can exercise...and not do it correctly”*, which *“can lead to real problems”* [Gwen, client. 5-7]. Client, Jennifer, provided an illustration of this apprehension, noting that *“if you over stretch it you’re not actually benefiting yourself. You’re more likely to do yourself some damage”* [Jennifer, client. 781-783]. Neil (client) also conveyed concern about ‘damage’, describing his previous practice of exercise as, *“doing God knows what damage”* [Neil, client. 593]. For Gwen (client), the solution to this concern placed the role of the teacher at its heart,

*“To go an experienced exercise with a good teacher is the best method.”* [Gwen, client. 4]

When discussing the reason they chose Pilates as the specific exercise of choice for managing their low back pain, clients ascribed several factors that influenced their decision. Two clients discussed how they already knew their Pilates teacher through other associations, and this led them to choose the teacher. Furthermore, recommendation by a healthcare practitioner was commonly described. This recommendation ranged from general practitioners, *“it was my GP... she just kept saying you need to try Pilates”* [Grace, client. 29-31], to allied health professionals, *“I had gone to a chiropractor...and he said, try Pilates”* [Gwen, client. 13-15]. For other clients, media representation of Pilates was an influencing factor, as Joanne (client) stated, *“I had read a lot about Pilates”* [Joanne, client. 7]. Media influence was related to Pilates being *“good for the core”* [Jennifer, client. 29], and for client, Robyn, this coalesced with health professional opinion,

*"The main thing, when you read about Pilates, is strengthening your core muscles, isn't it, and that's what I've been told by all the specialists." [Robyn, client. 228-230]*

For teacher, Cindy, the *"media attention...on core work"* [Cindy, teacher. 682] was perceived as a negative influence, describing how clients wanted her *"to make their tummies ache the next day"* [Cindy, teacher. 663-664]. Conversely, she described how when clients *"feel their backs"* that could be perceived as *"really bad"* by the client, who might then tell her, *"You hurt my back!"* [Cindy, teacher. 698-700]. Cindy puzzled over the discrepancy, saying,

*"It's just a general perception that anything, any feeling in your lower back at all is bad, isn't it? No one ever says, 'I've got a really bad stomach from that class last week!'"* [Cindy, teacher. 692-696]

Cindy described how she managed her clients' perceptions, *"I prime them if I know we're doing a lot of back work"* by saying, *"it's muscle conditioning, and that's a good thing!"* [Cindy, teacher. 705-708].

### **5.11.3 Summary of 'Health Perceptions'**

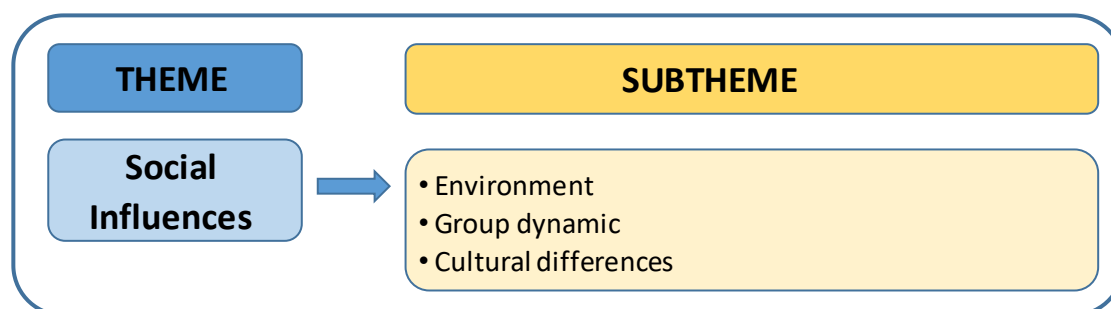
'Health perceptions' describes participants' views relating to the nature of their back pain, and reasons why they chose Pilates as a management tool. The sub-theme 'biomechanical reasons for back pain' illustrated clients' depictions of their back pain experience. The majority of clients described the catalyst for their back pain as a past event, including traumatic incidents and sports injuries, mostly without any specific diagnosis. Persistent low back pain was associated with ongoing biomechanical issues, and clients expressed concern about 'putting their back out', with perceived aggravating activities including sitting for too long, or repetitive activities such as gardening or driving. Clients and teachers described how healthcare practitioners might provide movement parameters, and teachers expressed frustration at these perceived limitations.

The sub-theme of 'Choosing Pilates' portrayed influences on the clients' choice to use Pilates as a management tool for their back pain, with movement perceived as good for back pain; however, concern was expressed that exercise should be done 'correctly' in order to prevent further 'damage'. Clients discussed influences in their choice of Pilates teacher ranging from already knowing the teacher, healthcare practitioner recommendation and the influence of media attention on Pilates.

## 5.12 Theme 8 - Social Influences

The theme 'social influences' relates to data illustrating participants' perceptions of how social aspects impacted on the Pilates experience and comprises three elements: (1) environment, (2) group dynamic, and (3) cultural differences. The theme construction is shown in Figure 46, and expanded below.

Figure 46. Theme 8 - Social Influences



### 5.12.1 Environment

The majority of participants discussed the environment for practicing Pilates, with teachers discussing how they aimed to provide a 'tranquil' space, and clients describing how the setting could influence their Pilates experience,

*"I think environment always helps. It's like first impressions when you meet someone."*

*[Joanne, client. 402-403]*

Teachers discussed how they strove to *"make everything clean, nice, tranquil, organised"* [Tessa, teacher. 477-478], putting music on, having *"oils burning"* [Coretta, teacher. 446] and *"gentle lights"* [Tessa, teacher. 476], in order to provide an environment that was *"warm, comfortable and safe"* [Jackie, teacher. 383]. Clients also described a spa-type ambience as being the preferred environment for Pilates, with *"a little bit of background music... the lights are down low"* [Robyn, client. 205-206]. The muted environment was associated with a sense of being relaxed,

*"In an ideal world you would go to a nice warm, cosy room that has subdued lighting, possibly some nice fragrance because you want to be relaxed."* [Joanne, client. 144-146]

Two teachers who taught in different Pilates settings discussed how they felt the different settings affected their interaction with clients. Cindy (teacher) described her home setting as *“just totally relaxed”*, ascribing the relaxed atmosphere to the fact *“there’s no one else to bother us here”* [Cindy, teacher. 552-553]. Cindy felt the relaxed home environment was beneficial as a client *“might come in and just be really upset about something so I’ll go make a cup of tea and we’ll just chat”* [Cindy, teacher. 753-755]. In contrast, Janey (teacher) discussed that when teaching in a client’s own home she found it *“harder to get the session started”* [Janey, teacher. 545] as clients *“invite me in, they say I’ve boiled the kettle, they sit me down in the living room”* [Janey, teacher. 548-549] and *“start telling me everything else that’s gone on”* [Janey, teacher. 556]. Conversely, Janey explained how *“when they come to me, they’re in my space, they know they’re meant to be here for a set amount of time”* [Janey, client. 565-569]. These examples highlight the complexity of how the environment can influence the teacher-client relationship.

One client, Grace, described how she preferred a studio to feel *“like a home when you walk into it”* [Grace, client. 1039] relating this to a sense of order, where she felt comfortable with *“where things are”* and *“what you’re supposed to do”* [Grace, client. 1040]. One other client, Gwen, also discussed how she felt, *“it’s better to have things more ordered”* [Gwen, client. 612] when describing the difference between two classes she had attended,

*“When we go into Tessa’s group all the mats are all laid out, in a straight way so, that you can get the alignment with the wall. In this [other] group, they were all higgledy-piggledy”* [Gwen, client. 603-605]

This sense of ordered space was also discussed in relation to how clients located themselves within the class environment week after week. Jackson (client) describes how *“we all seem to sit in the same places anyway, we all gravitate to the same mat each time”* [Jackson, client. 457-458]. Tessa (teacher) concurs that *“everyone has their own mat”* describing how this ‘ownership’ makes the setting feel *“very personal...they have their little area that is all set up for them”* [Tessa, teacher. 485-486]. However, for some clients, this was described as a negative aspect relating to the environment. Grace (client) remarked how *“people get very territorial”* [Grace, client. 1064-1065] and would prefer that teachers *“made people move around”* [Grace, client. 1064].

Another negative aspect of the environment was described by client, Joanne, when she described the setting for her Pilates class. Here, the space was shared by a massage therapist, whose clients rang a bell for access. Joanne described the interruption,

*“It is disruptive because it’s quite a hard jangly bell and then obviously [the therapist] scoots out there to go and get them and then you get whoever it is, coming through... and the ladies have got their legs up in the air.” [Joanne, client. 433-436]*

Whilst the majority of clients who discussed the Pilates environment spoke about aspects that made the Pilates experience better or worse, two clients discussed how they did not feel the environment made any difference. Gwen (client) commented that, *“I don’t think the environment would be problematic” “as long as you had your mat and equipment” [Gwen, client. 696, 700-701]*. Jackson also commented that environment did not influence his Pilates experience. He attended a class in a village hall, next to a nursery, and whilst conceding that *“the cooking smells are interesting sometimes and kids screaming”*, he felt that *“you’re not trying to meditate or relax...so it doesn’t really matter” [Jackson, client. 461-464]*. This perspective is in contrast to other clients who placed emphasis on the setting, as Joanne (client) emphasised,

*“I just think that ambience helps you then to focus on you and the body, rather than, god, this place is smelly.” [Joanne, client. 424-426]*

In addition to the environment being described as a factor influencing the Pilates experience, participants also discussed the group dynamic, as discussed below.

### **5.12.2 Group dynamic**

The majority of clients attending a group class described the friendliness of the class environment. Gwen epitomised clients’ descriptions of their class, saying, *“I think it’s rather nice, our group. People get on well together” [Gwen, client. 344-345]*. The group dynamic was often associated with the length of time clients had been attending. As Jackson (client) remarked, *“we’ve all been together for a long time now” [Jackson, client. 424-425]*. However, length of time attending was not seen to preclude inclusion within the group. Robyn (client), a relative newcomer to the class remarked, *“The other ladies, really, are very friendly, everyone seems to sort of say hello, and chat” [Robyn, client. 24-25]*.

Teachers also discussed how time influenced the group dynamic, describing how *“the same people have been coming year after year”* [Coretta, teacher. 720-721]. In addition, teachers recognised that regularity of attendance at the same class also fostered the dynamic,

*“People don’t just come to any old class and mix in. They come to THE same class every week.”* [Christine, teacher. 235-237]

This regular contact was described by clients as building a sense of *“camaraderie”* [Virginia, client. 660]. Jackson (client) describes his class as *“a tight group. We all go the same time, everybody is the same”* [Jackson, client. 181-182] and the feeling of ‘commonality’ was summed up by client, Virginia,

*“You’re not alone in your canoe, you know, paddling against the tide. And that’s very important”* [Virginia, client. 584]

Clients and teachers described the perceived importance of the element of social support within the Pilates experience. Cindy (teacher) remarked, *“Part of it is the social support and comradeship in the group”* [Cindy, teacher. 478-479]. Teacher, Tessa, expanded on this view, *“it’s a really positive experience just walking into the group environment on a psychological level”* [Tessa, teacher. 382-384]. Participants generally discussed the positive aspect of social support in relation to specific experiences. Gwen (client) described an occasion when her husband was very ill, saying that the group *“were very supportive, they knew what had happened”* [Gwen, client. 559-560]. Tessa (teacher), provided endorsement of the social support in her classes, remarking that *“they’re all very caring for one another.”* [Tessa, teacher. 421-427].

The examples above show how the group dynamic can provide a positive influence for a client’s Pilates experience, with particular emphasis on social support. Interestingly, when participants discussed social interaction outside of Pilates there was divergence of opinion. Participants described some socialising before class, *“they meet and walk to the class together”* [Christine, teacher. 340-341], or after class, *“then they go to the pub”* [Tessa, teacher. 528], whilst other participants described much less social activity outside of the Pilates environment. Gwen (client) mentions that she may go for *“coffee occasionally”* [Gwen, client. 554-555] and this is reiterated by client, Jackson,

*“We don’t go out socially or anything, apart from Christmas, we go and have a cup of coffee or things over in the pub at Christmas time.”* [Jackson, client. 419-421]

Instead, most of the social interaction was described taking place within the class environment. Christine (teacher) commented how *“people always have a chat at the end, hang around for 5-10 minutes”* [Christine, teacher. 254-255], a view comparable to client, Lindsey, who described how, *“It’s much more about the group at that particular moment when you’re doing the class, it’s that dynamic”* [Lindsey, client. 384-385]. Lindsey’s perception of social support being provided primarily within a limited time frame within the Pilates environment was reiterated by a number of clients. Virginia (client) explained that, *“even if it’s like five minutes’ chat before class, that’s enough”* [Virginia, client. 612-613] and Jennifer (client) summarised this perception, saying, *“although you’re not particularly sociable, but it is still social excursion”* [Jennifer, client. 804-805].

In contrast, two teachers described how social interaction in the Pilates environment could lead to a wider social interaction,

*“They go for coffee together and they’re friends and they care about one another. They text one another, how are you doing? So many lovely friendships develop.”*  
[Tessa, teacher. 386-388]

Fieldnotes provided plentiful instances of social interaction in the form of informal ‘chat’ within the Pilates environment; however, only one example portrays a participant overtly discussing social interaction:

#### **Fieldnote Extracts**

*“As clients enter the room there is lots more chatting amongst them, and there is ‘banter’ with one person who has been away on a cruise.”* [Site 1, Observation 2. 276-277]

*“One lady brings back a DVD she had borrowed from another client, ‘Eddie the Eagle’ and thanks her and says they enjoyed it.”* [Site 2, Observation 1. 24-26]

*“[One client] says she is looking forward to September when they have the reformer classes as she likes the ‘social element’ and ‘couldn’t care less about the exercise’”.*  
[Site 4, Observation 2. 622-624]



For some participants, however, social interaction was described in more negative terms. Gwen (client) described how *“if you say hello to people and they’re all talking to each other, it can make you feel a little more detached”* [Gwen, client. 571-573]. Client, Grace, portrayed how she felt the group dynamic could be ‘cliquey’,

*“It’s almost like, oh we get through the class and then ... three or four of us ...are going to have coffee. I’ve been to high school, done it!”* [Grace, client. 1015-1112]

Other clients did not perceive the group dynamic as being of importance in their Pilates experience. Neil (client) commented, *“I don’t go along to chat to people”* [Neil, client. 428-429] and Gwen suggested that Pilates was not an ideal environment for socialising,

*“If I wanted more of social interaction, I would join something different, it would more of something where you would sit and just chat.”* [Gwen, client. 578-581]

Furthermore, some participants described the negative impact that members of a group could have on the dynamic of the class. Cindy (teacher) described a client who *“questions everything in front of everybody else”* and how she felt *“it does change the dynamics of the group”* [Cindy, teacher. 822-825]. Indeed, Cindy expressed how she felt the impact of this one client was *“a little bit destructive”* [Cindy, teacher. 830-831]. Clients also conveyed frustration with the garrulity of other class attendees. When describing how she felt when a fellow client would ask questions in the middle of a class, Virginia (client) voiced her irritation,

*“Oh for God’s sake... I’m here to do my class, and don’t intrude on my class.”*  
[Virginia, client. 651-652]

Another client, Joanne, expressed similar frustration at feeling *“constrained”* [Joanne, client. 312] to exercising at a lower level because her teacher kept *“bringing in beginners”* [Joanne, client. 318]. She understood that the teacher had to teach *“at the level of the main collection of the class”* [Joanne, client. 358-359] but remarked,

*“You can’t, you know, teach a class of dumb children what you would teach a class of very high performers.”* [Joanne, client. 356-357]

Client, Grace, also discussed her sense of frustration at having to work at a lower level than she expected. She described a class of *“mostly older ladies”* where the class was *“very gentle...it bored me to death”* [Grace, client. 50-51].

The examples above show the divergence interwoven within the element of group dynamic. For some participants, the group dynamic provided a supportive environment with commonality among members of the group. The group dynamic was described as being based on regularity of contact over a long period of time, and was often described in terms that were almost affectionate. Interestingly, the perceived social support the group provided was maintained almost entirely from social interaction in a limited time-span surrounding the Pilates class, with few examples of interaction developing beyond this environment. For others, however, the group dynamic could be a negative influence on their Pilates experience, a view often expressed vehemently. A possible explanation for this divergence of views is the diverse nature of the clients' participation in classes of one-to-ones. As teacher, Janey, summarised,

*"The sorts of people who want to be in a group environment, they're there to be in the group."*

*[Janey, teacher. 512-513]*

### **5.12.3 Cultural differences**

In addition to the widely discussed topics of environment and group dynamic, two clients described how cultural differences impacted their experience of Pilates. Client, Virginia, who had taken Pilates classes in different countries, felt the *"cultural aspect"* [Virginia, client. 561] related to differences in the group dynamic. In a multi-cultural group she described *"cultural common ground"* where people were *"less reticent about getting to know each other"* [Virginia, client. 558]. Moreover, she described how the Pilates offering in other countries differed to the UK in that *"Pilates is generally with physios"* and was *"marketed and branded ... as much more clinical"* [Virginia, client. 308-309]. Virginia preferred this type of Pilates, commenting that it was *"targeted, so it's not fluffy"* [Virginia, client. 300] echoing her requirements when finding a Pilates teacher in the UK who *"clinically assessed her before starting"* [Virginia, client. 320].

Client, Grace, who was originally from another country, discussed cultural difference in relation to how well she got on with a teacher. Describing one teacher, she stated, *"We bonded in some respects"* because the teacher was also from a different country, which meant *"that you have a bit of a connection"* [Grace, client. 550,554]. However, the cultural connection alone was not enough for Grace to stay with this teacher. Instead, her preferred teacher, whilst British, had spent some years living in a country with *"sunshine, that warmth and the outdoor lifestyle and the things like that that create a friendliness"* [Grace, client. 935]. For Grace, this led to a sense of openness, in contrast to the *"British reserve"* [Grace, client. 939].

Both these clients had experienced Pilates in other countries and appeared to use this as a one comparator to judge the quality of their Pilates experience in the UK. Interestingly, both clients had experienced group class and private sessions, but only associated the cultural influence as directly pertaining to the relationship with their teachers. This may relate to the differences in Pilates service provision in the different countries in which they experienced Pilates; however, further analysis was not possible due to insufficient data.

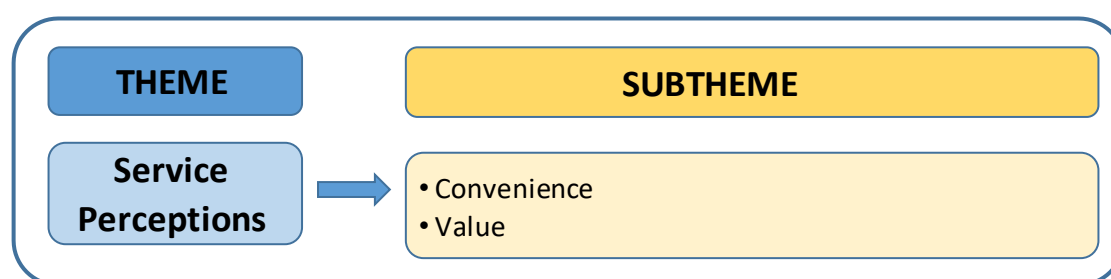
#### **5.12.4 Summary of ‘Social Influences’**

The theme of ‘social influences’ portrays participants’ views concerning the perceived impact of the setting of the Pilates session, relating to the venue itself and interaction with people at the venue. The sub-theme of ‘environment’ illustrated the perceived impact of the physical setting for Pilates sessions, and was discussed by the majority of participants. An ideal environment was described as tranquil, comfortable and ordered, with these components relating to a sense of relaxation. The sub-theme ‘group dynamic’ related to how participants’ perceived interaction with other class members. The majority of clients attending a group class described the friendliness of the group, and consistent attendance to the same class was associated with a sense of ‘commonality’ with other group members, engendering positive feelings of social support. This sense of support was described despite social interaction being described generally as limited to a short interval before and after class. Some participants discussed negative aspects of the group dynamic, pinpointing cliquey behaviour, disruptive class clients and feeling constrained by the limitations of other members’ abilities. Additionally, the sub-theme ‘cultural differences’ details international clients’ experiences of Pilates in other countries as providing a more social environment, but with a stronger clinical foundation.

## 5.13 Theme 9 - Service Perceptions

The theme of 'service perceptions' illustrates clients' perceptions of the service provided by Pilates teachers, with participants describing how a local location and convenient timing for sessions were important factors in their choice of teacher. In addition, both clients and teachers discussed the value of Pilates in terms of the monetary cost associated with it. The theme of service perceptions is comprised of two elements: (1) convenience, and (2) value, illustrated in Figure 47.

Figure 47. Theme 9 - Service Perceptions



### 5.13.1 Convenience

The majority of clients discussed how a convenient location was a factor in choosing where to do Pilates. Clients described locality to their home, *"I live down the road, two minutes' walk, and it makes such a big difference"* [Jasmine, client. 31-32] or because, *"it's close to my work"* [Neil, client. 57]. One client, Jackson, commented on how a convenient location was key in his choice of teacher, *"Janey was the local one"* [Jackson, client. 29-30].

Furthermore, clients ascribed importance to the convenience of having Pilates sessions available at times that suited their individual needs. For most clients discussing the convenience of timings, this was related to fitting Pilates around work commitments. Joanne (client) described how, *"the difficulty of working is that most Pilates and yoga classes are during the day"* [Joanne, client. 41-43], whereas for Neil (client), day-time availability was a benefit, *"they do these lunchtime classes that nobody else seems to do"* [Neil, client. 58]. Joanne also found that timings could be problematic for finding time to eat at a sensible hour saying,

*"You can't do the Pilates on a stomach of food, and this is a huge problem with the timing." [Joanne, client. 54-55].*

Only one teacher alluded to the element of convenience. When describing barriers to Pilates practice, she commented that, *"time barriers are there for a lot of people"*, and emphasised that *"lifestyle factors are really important in terms of managing symptoms like back pain"* [Kimberley, teacher. 535-540]

The difficulty of fitting a Pilates session into a working life was illustrated by client, Jennifer, who described how she had to stop going to a particular teacher *"because of my work change"* [Jennifer, client. 871-872]. She expressed concern at having to find another teacher, *"I'm hoping that it will still work"* [Jennifer, client. 884].

Whilst for most clients who discussed the element of convenient timing, this related to finding a Pilates session at a suitable time, for one client, Grace, convenience related more to the ability of the teacher to accommodate her requirements for regular sessions. When Grace's teacher was on maternity leave, and *"wasn't really back"* [Grace, client. 820], she would still bring the baby to Grace's home and *"we'd just do some mat stuff...and take turns holding the baby"* [Grace, client. 821]. Grace gave a further example of how her teacher accommodated her requirements, relating this to the value of her teacher in her life, described below.

### 5.13.2 Value

Connected to the sub-theme of convenience, client, Grace, described how her teacher was *"taking a bit of time off in August, but we're still squeezing in days"* [Grace, client. 674-675]. Grace's requirement for her teacher to be able to *"fit me in"* and *"to do another day"* [Grace, client. 678-679] seemed predicated on a foundation of value. Firstly, her strong relationship with her teacher: *"I'd be devastated if she stopped doing it"* [Grace, client. 672]; and secondly, the value she placed on the impact of Pilates, *"just one time in those three weeks will make a difference"* [Grace, client. 681].

Participants also discussed value being associated with Pilates in monetary terms, as Jennifer (client) explained, *"there's maybe some people who can pick things up completely from DVDs but, for me to have that direct teaching, it's so valuable"* [Jennifer, client. 437-439]. Clients valued the teacher's expertise and associated this with monetary worth, *"because it's not cheap"* [Grace, client. 297]. However, clients discussed how paying more was an *"investment"* [Grace, client. 295] to have a 'good' teacher,

*"I don't mind paying. I would rather pay an extra £3 per session...and go to someone who is really going to teach me things properly." [Neil, client. 75-77]*

Teachers also discussed how they felt that the cost of a Pilates session reflected their expertise. Cindy (teacher) described, *"there's that expectation that they're paying customers and they expect you to know exactly what we're going to do next"* [Cindy, teacher. 152-154].

For some participants, the impact of Pilates was described in monetary terms. Jennifer (client) found that the long term benefit of Pilates meant she did not *"have to keep spending forty-five pounds to go and see a chiropractor for half an hour and feel amazing for a few days"* [Jennifer, client. 683-684]. When discussing his continued attendance at Pilates classes, Jackson (client) explained that he needed to continue managing his back problem, otherwise *"it's going to go big style and I can't afford that"* [Jackson, client. 596-597].

Two teachers discussed how they associated the value of their knowledge with the costs associated with training. Teacher, Tania, described how her training required *"two years of finding people to teach, going to London all the time"* but despite the *"huge cost associated with it"*, she felt it provided *"an incredible experience"* [Tania, teacher. 69-72]. Janey (teacher) expressed how she chose a longer training course because, *"if all you've done is a two day weekend training course then I didn't feel I would have the skills to be a teacher"* [Janey, teacher. 78-80]. However, teachers were aware that one of the *"obstacles"* to Pilates *"would be financial"* [Cindy, teacher. 790]. Janey (teacher) describes how, *"in an ideal world, everybody would have private sessions... in a realistic world, it's expensive"* [Janey, teacher. 338-340]. As a remedy to the financial barrier, Cindy explained how, *"lots of my private clients have gone into regular classes because that's more affordable"* [Cindy, teacher. 790-793].

Whilst clients who discussed Pilates in monetary terms valued the investment they were making in the teacher's knowledge, one client, Jasmine, described how the financial barrier made it hard for her *"to sell it to a lot of people"* because *"they think it's a leisure activity"* and *"they don't feel like they're getting value for money"* [Jasmine, client. 237-242]. Jasmine related her difficulty in 'selling' Pilates to a lack of understanding about the method,

*"Really this is a lot of money, if you think about it. You pay sixty pounds an hour to lie down on a flat bed and do leg raises. A lot of people would think 'What am I doing? I can do this at home...What is this doing for me? Nothing. So, they are very quickly sort of put off by that.'" [Jasmine, client. 250-255]*

Two participants used the term ‘invested’ to describe aspects of the teacher-client relationship. Grace (client) considered that *“you can’t improve if you’re not invested somehow”* [Grace, client. 543-544]. She felt her teacher *“knows how invested I am in improving, and in what she does”* [Grace, client. 817-818].

Grace viewed this investment as reciprocal, suggesting *“they’re a little bit invested in me as well”* [Grace, client. 789-790]. Teacher, Janey, concurred, *“I feel I’m as invested in them as they are in me”* [Janey, teacher. 617-618]. Grace felt that investment was associated with the element of time,

*“You can be more invested in a way in Pilates because you have more time than you have with the Osteopath.”* [Grace, client. 706-707]

The examples above illustrate the worth placed on Pilates by clients. This value was also portrayed by instances where clients discussed how they felt Pilates should be available more freely. Gwen suggested, *“I think Pilates should come on the National Health Service”* [Gwen, client. 677-678]. Two other clients described more specific aspirations. Joanne (client) felt Pilates *“needs to be taught in all old age homes”* [Joanne, client. 617-618]. Rather than Pilates being a private enterprise, she discussed how,

*“It ought to be something the government actually thinks about as preventative exercise, as part of a more holistic approach to keeping people fit as they get older.”* [Joanne, client. 621-623]

For Jasmine (client), her focus was on education *“at a younger age”* [Jasmine, client. 329-330]. She asserted, *“The government should have the initiative to make it kind of the P.E. education”* [Jasmine, client. 306-308] and considered that the benefits of Pilates *“could be communicated like the healthy lunch”* [Jasmine, client. 331]. Clients who discussed the wider application of Pilates described their views fervently,

*“I think Pilates should be done by everybody personally because everybody needs to have that stretching and mobility because our whole lives depend on it.”* [Joanne, client. 575-577]

### **5.13.3 Summary of 'Service Perceptions'**

The theme of 'service perceptions' describes participants' perceptions of the provision of a Pilates service. The sub-theme 'convenience' illustrates how the locality of the Pilates venue and the timing of the session were considered by clients' as factors influencing their choice of teacher. The sub-theme 'value' emerged from data relating to the value participants placed on Pilates, described in monetary terms, with the term 'investment' used to describe input to the teacher-client relationship. Some clients described their aspirations for Pilates to be available to a wider audience, through government funding; and whilst illustrating client enthusiasm for Pilates, this is suggestive of a potential financial barrier.



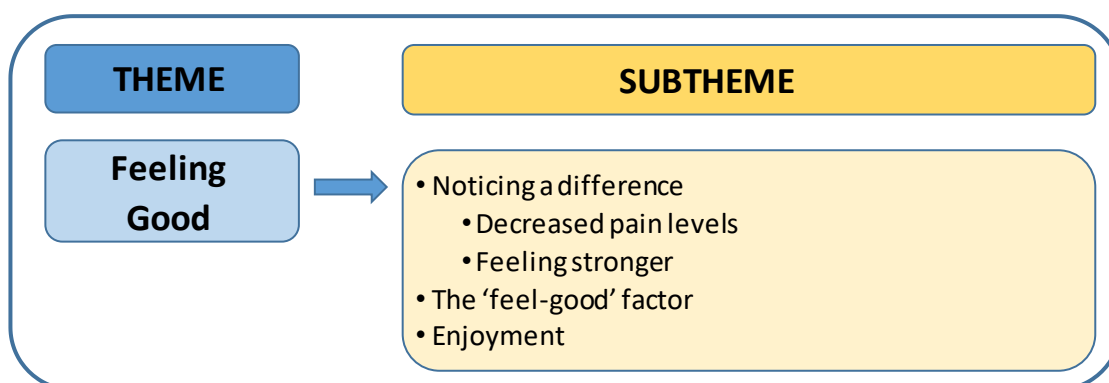
## 5.14 Theme 10 – Feeling good

The theme ‘feeling good’ emerged from data relating to participants’ views on the impact of Pilates. Clients described how they perceived a difference in their bodies from doing Pilates, which related to a decrease in pain levels and feeling stronger, both physically and mentally. Participants further described how Pilates made them feel better, and expressed how they enjoyed doing Pilates. As client, Lindsey, encapsulated,

*“It’s the feel-good factor. So, it’s emotional and physical and you walk out and ... it’s good.”*  
[Lindsey, client. 490-491]

‘Feeling good’ is composed of three elements: (1) noticing a difference, (2) the ‘feel-good’ factor, and (3) enjoyment. The construction of the theme and sub-themes is illustrated in Figure 48, and described below.

Figure 48. Theme 10 - Feeling Good



### 5.14.1 Noticing a difference

Clients discussed a perceived positive impact from doing Pilates, with the majority of clients describing how they ‘noticed a difference’. This difference was perceived as relating to a decrease in pain levels and a sense of feeling stronger.

#### Decreased pain levels

Some clients discussed how they felt Pilates had contributed to the overall decrease in the episodes of back pain they experienced. Talking about her back pain, Gwen (client) said, *“I don’t get it very much now at all and I think that’s down to Pilates because of the development of the*

core muscles" [Gwen, client. 23-24]. For other clients, the reduction in pain levels related more specifically to lessening the impact of a painful episode.

Client, Neil, related how he *"felt some sciatica that I hadn't felt for a while, and I had Pilates the next day and I came out of that and it helps"* [Neil, client. 487-489]. Jackson (client) described the impact of Pilates on an acute flare-up of his back pain when he *"was really, really struggling"*. He went to his Pilates class *"to see what happens, even if I just sit there and watch. I didn't, and it did feel better when I got back"* [Jackson, client. 240-245]. Client, Grace, on the other hand, described how she felt Pilates helped her through a more persistent episode, saying, *"It kind of helps stop that bad week of pain"* [Grace, client. 314-315].

The perceived impact of Pilates in decreased pain levels did not appear to be time-related. Client, Jennifer, related how seeing her teacher *"just once a week"* her back pain *"has been much, much better"* [Jennifer, client. 261]. Indeed, new client, Robyn, expressed how, *"my back is certainly not any worse, and some days, I have much better days than I used to have"* [Robyn, client. 43-44].

#### Feeling stronger

Clients also described how they felt Pilates made them *"one hundred percent stronger"* [Grace, client. 322]. Clients described an association between feeling strong with a reduction in back pain. Virginia (client) explained, *"The stronger you are, the quicker you'll get over the episode"* [Virginia, client. 185], and Gwen specified how *"keeping this core strong...is the real key"* [Gwen, client. 403-404]. Jennifer brought together the link between feeling stronger and reduced pain levels,

*"I actually kind of pull my stomach muscles in and I actually use my Pilates to help me... so I know that makes me stronger and... it has been much better."* [Jennifer, client. 348-350]

In addition to discussing feeling physically stronger with Pilates, Jennifer (client) also described how she felt Pilates was *"helping the inside as well... emotionally"* and that in addition to decreased pain levels, she was also *"feeling stronger on the inside"* [Jennifer, client. 634]. Other participants shared this perspective, with teacher, Tessa, suggesting, *"It's not purely just a physical, muscle thing"* [Tessa, teacher. 964-965]. Neil (client) concurred, stating, *"I feel better the way my body moves in subtle ways and then I say there is this mental side as well"* [Neil, client. 490-491].

Considering the impact of Pilates on well-being, Tania (teacher) described how *“a few clients say to me, ‘I actually come to Pilates for my mental wellbeing more than anything’”* [Tania, teacher. 601-602]. Tessa (teacher) described how her perception of the impact of Pilates had evolved,

*“If you had asked me this a year or two ago, I would have said to you, I believe that I’m strengthening the right muscles... balancing around the joints, improving strength and flexibility and function. I still do believe that, however, I now believe there is a whole lot more to it as well.”* [Tessa, teacher. 952-957]

Neil (client) suggested the significance of the perceived impact of Pilates when he expressed, *“I feel like Pilates is not just healing a particular injury, I feel its hope”* [Neil, client. 314-315]. One of the mental-health benefits described universally by participants was the ‘feel-good’ factor, and this will be described below.

#### **5.14.2 The ‘feel-good’ factor**

The majority of clients described how Pilates made them feel, with Joanne (client) typifying client descriptions, saying, *“I just felt so good after Pilates”* [Joanne, client. 20]. Clients described how they *“always come out feeling better physically”* [Neil, client. 480] even if *“to start with, you go in feeling a bit stiff and cranky, you come out feeling great”* [Jackson, client. 127-128]. Gwen (client) described how *“you get a real high”* after Pilates, attributing this to the fact *“your body feels good and you’ve stretched it”* [Gwen, client. 771-772]. Clients, Neil and Joanne, described how Pilates made them feel *“taller”* and also associated movement with positive affect,

*“You would walk out of it and you would actually feel that you were lighter and taller, and it really did seem to stretch the spine and the discs, and you did feel so much better after doing it which was lovely.”* [Joanne, client. 21-24]

Teachers also discussed the connection between movement and feeling good. Coretta (teacher) stated, *“Moving the spine in every direction and working at those end ranges, naturally makes anybody feel fabulous”* [Coretta, teacher. 467-469], whilst Tessa (teacher) enthused about her own movement practice,

*“I could honestly spend hours and hours and hours just on my mat doing that, enjoying a sense of flow and control. I get up and my body feels amazing.”*  
[Tessa, teacher. 1099 -1102]

Furthermore, four teachers discussed how making clients 'feel better' was a primary focus of their work. Indeed, Tania (teacher) expressed how, *"making people feel good is probably the most powerful tool there is"* [Tania, teacher. 449-450]. Tessa (teacher) described how she used her own experience to *"try and know them [clients] in the same way that I know me, and give them their feel-good exercises"* [Tessa, teacher. 1106-1107]. Teacher, Janey, considered her motivations, suggesting, *"I don't know if it's maternalistic, but I'm in it to make people feel better about themselves and their bodies and their lives"* [Janey, teacher. 1038-1040], whereas Coretta (teacher) was more explicit in explaining her focus,

*"When I first started doing Pilates I was like, 'How... how do you 'fix' people?' and, you know, it's like... I don't try and fix people any more ... because you can't do the rest of their lives for them but you can make them feel better for that session and that's what your job is and if you've done that, you've done a really good, good thing."*  
[Coretta, teacher. 475-479]

In addition to the discussing perceptions of 'noticing a difference' and 'the feel-good factor', participants also described how they enjoyed taking part in Pilates, illustrated below.

### **5.14.3 Enjoyment**

Whilst participants discussed positive impacts of Pilates in terms of reduced pain levels and feeling stronger, the data revealed that clients also gained enjoyment from Pilates. As Lindsey (client) explained,

*"I don't have to do it, because I'm a grown up. I can walk away from it if I wanted to, but I go because I enjoy it and I like it."* [Lindsey, client 416-418]

A number of participants acknowledged that enjoyment of an activity was a motivation for continuing. New client, Robyn explained, *"I'm finding that I really do enjoy it"* [Robyn, client. 38] and that, *"whatever class you do, if you enjoy it, it's the motivation to keep going"* [Robyn, client. 426-427]. Long-term client, Virginia, agreed, *"I think people maintain doing something because, ultimately, it's enjoyable"* [Virginia, client. 227-228]. Teacher, Kimberley had similar views saying, *"You've got to find the exercise that you enjoy because you're never going to stick with it otherwise"* [Kimberley, teacher. 620-622].

This perspective was echoed by two clients who described how the teacher was crucial to their enjoyment of Pilates. Jennifer (client) described how *“at home somehow it feels like a chore”* [Jennifer, client. 713]. Virginia (client) expanded on this perspective, saying how she had to do Pilates at home, *“in front of the telly”*, because *“otherwise you’re bored to death if you’re in room and there’s nothing”* [Virginia, client. 510]. Conversely, participants described how going to a Pilates session with a teacher *“should be fun”* [Grace, client. 911], suggesting a link between the relationship with the teacher and the client’s potential enjoyment and motivation to continue Pilates. This was emphasised by client, Lindsey, who described her experience of Pilates with another teacher, *“I’ve always considered that Pilates was a good thing, it’s just that I had never been able to grit my teeth long enough to do it”* [Lindsey, client. 572-573]. However, Lindsey’s view had changed with her new teacher, explaining,

*“I get cross when I can’t go so, if somebody arranges a holiday and I can’t go for three weeks in a row, I get peeved. It’s now part of my life, it’s part of what I do.”* [Lindsey, client. 585-587]

A number of other clients also expressed how Pilates was an important part of their lives. Three clients described how they noticed Pilates *“just builds into every day”* activities [Lindsey, client. 310]. Gwen (client), described, *“If I’m out in the garden and I’m doing something I’m always engaged and I think about movement now”* [Gwen, client. 651-654]. For client, Jackson, *“uphill walking is great these days”* because *“you use the glutes that you should have been using in the first place”* [Jackson, client. 522-525]. Lindsey (client) described a more widespread impact,

*“I try to think about what I’m doing a lot of the time so, walking or gardening or cleaning or whatever I’m doing.”* [Lindsey, client. 299-301]

Client, Jackson asserted that he, *“can’t think of stopping now”* [Jackson, client. 307], whilst Jasmine (client) relayed how she had *“nothing bad to say”* about Pilates. Instead she said, *“I tell all of my friends about it. It really is the best thing”* [Jasmine, client. 222-223]. Gwen suggested, *“It’s sort of like a way of life really”* [Gwen, client. 663], indeed, Gwen’s enthusiasm for Pilates was such that, *“If I’d been twenty years younger I would have liked to have taught it actually”* [Gwen, client. 448-449].

#### **5.14.4 Summary of ‘Feeling Good’**

The theme ‘feeling good’ illustrates participants’ perceptions of the impact of Pilates. The sub-theme ‘noticing a difference’ described how clients associated practicing Pilates with a perceived reduction in pain levels, related to number of episodes experienced in addition to managing acute flare-ups or persistent pain episodes. The perceived reduction in pain levels was associated with ‘feeling stronger’, both physically and mentally, with both clients and teachers describing a perceived mental-health benefit of Pilates. ‘The feel-good factor’ portrayed participants’ experiences of the positive affect associated with movement, and the feeling of being stretched. Additionally, clients discussed their ‘enjoyment’ of Pilates, relating enjoyment to the motivation to continue exercising; and the majority of clients described Pilates as an important part of their lives, depicting both the use of Pilates in everyday activities, and also the value placed on Pilates itself.

### 5.15 Dynamic Interconnection of Themes

The previous sections have presented findings in a linear progression, providing a framework for understanding the aspects of each theme. However, this may provide the reader with the impression that each theme is independent of the other, and thus a more dynamic analysis of the themes' interrelations is depicted below.

The relationship between client and Pilates teacher was initiated through the client's choice to use Pilates as a management tool for their persistent low back pain. This choice appeared to be driven through the influence of pre-existing 'health perceptions'. Clients attributed their back pain to biomechanical causes, often associated with past trauma and perceptions of '*misalignment*'. Exercise was considered beneficial for back pain, and the decision to choose Pilates was influenced by recommendations from clients' healthcare professionals, and also media coverage of Pilates and '*core strength*'. However, the majority of clients expressed concern that movements should be carried out '*correctly*' in order to prevent '*putting your back out*', and therefore a teacher was considered essential. Clients described how 'teacher expertise' was an important factor in their choice of teacher, with 'qualifications' and 'medicalised knowledge' associated with confidence in the teacher's ability to understand the client's back pain, and to deliver an exercise programme that would '*help not hinder*'. Furthermore, two teachers described using their healthcare qualifications specifically to market their Pilates service. In addition to the influence of 'health perceptions' and 'teacher expertise' on clients' choice of Pilates teacher, participants also considered 'convenience' of the location and timings of the Pilates sessions to be an influencing factor.

The interaction between client and Pilates teacher was composed of connected components, whose interplay ultimately led to a sense of the client 'feeling good'. Participants discussed how the ability of the teacher to 'remember details' about the client and to provide 'individual attention' based on their knowledge of the client was a central component of the relationship. Clients placed 'value' on the teacher's 'medicalised knowledge' and 'qualifications' to understand their specific issues, providing 'reassurance' to the client that alternative exercises could be provided to minimise aggravation of pain levels. This was perceived as creating an inclusive environment, whilst additionally fostering 'active engagement' of the client with movement. 'Individual attention' was facilitated through the teacher's use of a client-specific communication strategy employing observation, seeking client feedback and tailored verbal communication.

However, 'being known' depicted more than just the biomechanical understanding of a person's back pain, with participants expressing a more intimate rapport, 'describing the relationship' as '*like a friend*'. In order to build this close relationship, teachers shared details of their own lives and showed their weaknesses. Whilst the amount of personal information shared provided divergent opinions concerning 'navigating the boundaries' amongst teachers, 'being human' was described as an essential quality of the teacher.

The theme of 'being known' provided the basis for the teacher to provide 'encouragement' to the client, with the teacher being seen as a '*cheerleader*' offering 'positive reinforcement' through verbal and tactile feedback. Participants perceived the result of this support to be 'reassurance', and the confidence to move more. However, participants perceived that a pivotal tenet of Pilates was achieving 'control' of movement through '*correct alignment*'. Whilst appearing at variance with descriptions of 'active engagement' in movement, the 'mastery' of an exercise lay at the heart of the teacher-client relationship. Underlying 'health perceptions' demonstrated clients' views that doing an exercise '*incorrectly*' could lead to more '*damage*'. Clients' choice of Pilates as a management tool for their back pain appeared to some degree predicated on the '*precise*' nature of the method, with the teachers' role central to the client '*getting it right*' and achieving 'mastery'. Universally, participants discussed how teachers' provided 'correction' to help the client find 'control' through verbal and tactile feedback. Verbal feedback was associated with 'positive reinforcement', and the use of touch was regarded as helpful, with more intimate application suggestive of the level of 'trust' ascribed to the relationship. Conversely, fieldnotes depicted examples of negative reinforcement, and participants used descriptive terms reminiscent of military-style discipline and client compliance suggestive of a directive approach to client instruction. However, the authority of the teacher was perceived as an integral ingredient for the relationship, with 'mastery' of '*correct*' alignment associated with a reduction in clients' perceived pain levels.

Perceived pain levels were also central to the teacher 'building trust' with the client by '*not making it worse*'. 'Building trust' was associated with the teacher 'knowing' the client and having 'medicalised knowledge', in order to provide 'individual attention' with sessions tailored to how the client was feeling. Client confidence in the teacher's ability, coupled with 'encouragement' was perceived as decreasing the clients' fear of movement. Thus, 'trust' facilitated a sense of 'feeling safe', where the client felt confident to participate in 'active engagement' with movement. Additionally, 'feeling safe' may have been influenced by the Pilates environment with



some participants describing a '*safe*' and '*relaxing*' space as important factors for their Pilates experience.

The importance of the components of 'being known', 'encouragement', 'teacher expertise', 'mastery' and 'trust' to the formation of the relationship are portrayed through clients' comparisons to other teachers. Clients indicated that if expectations for a knowledgeable, personalised and directive service was not provided they would not continue with the relationship. In addition, the personal nature of the relationship was indicated with client descriptions of how cultural differences could influence their perception of the teacher.

The interconnected nature of the components of the relationship, and the influences upon it have been described above. The impact of this dynamic relationship was conceived as 'feeling good', with clients 'noticing a difference' in perceived pain levels and 'feeling stronger' both physically and mentally. Furthermore, clients expressed 'enjoyment' in doing Pilates, with 'group dynamic' influencing 'enjoyment' positively through the social support of regular class attendance where everyone is '*in the same boat*', or negatively with '*frustration*' about distractions.

Across the themes, two further patterns emerged as interwoven aspects of the relationship; (1) time, and (2) perceptions of decreased pain levels. These patterns are portrayed above as integrated elements within the themes, however, considering these factors individually further illustrates the interconnected nature of the findings. Participants considered 'time' essential, with the continuity of regular, long-term attendance underpinning the theme of 'being known'. Teachers' skills developed with 'time', providing a level of 'medicalised knowledge' that fostered client confidence. This connects to 'time' being required to 'build trust', where 'feeling safe' to move was built on the confluence of the components of the relationship. Over 'time' the 'group dynamic' of a class was seen to provide additional social support. Furthermore, participants considered the length of Pilates sessions compared favourably with other healthcare appointments, suggesting that 'time' was an important factor spanning both short-term and longer-term aspects of temporality. The influence of 'time' appeared to continue towards the future with clients describing how Pilates was '*part of my life*'.

The second pattern related to perceptions of decreased levels of pain. The theme 'health perceptions' demonstrated clients' anxiety that exercise could make their pain worse if done '*incorrectly*'. The perceived level of teachers' 'medicalised knowledge' engendered client confidence in the teacher's ability to provide 'individual attention' that minimised aggravation of their back pain. 'Trust' in the teacher allowed the client to 'feel safe' to move without further

*'damage'*. Pilates was described as *'controlled'* and *'precise'*, with the *'mastery'* of an exercise contingent on *'correction'* by the teacher to *'get it right'*. *'Mastery'* was directly associated with clients' perceptions of decreased pain and *'feeling stronger'*.

Thus, it can be seen above that the findings demonstrate the complex, multi-faceted interaction that occurs during Pilates sessions, in which clients particularly value the authority of the teacher.

## **5.16 Differences between one-to-one sessions and group class**

The data collected in this study have been extracted across participants and synthesised, as set out in Section [4.7](#). Differences between one-to-one sessions and group classes have been illustrated as relevant throughout the findings; however, to aid clarity a summary is provided:

- Nine of the ten clients had experienced group classes, five clients had experienced regular one-to-one sessions.
- Clients discussed elements relating to all themes, regardless of Pilates session attended, with the exception of one client who did not describe any elements relating to *'Teacher Expertise'* (detailed in Section [5.7.3](#)).
- Teachers, and clients who had attended both session types, described a difference between one-to-one sessions and group classes when discussing *'Individual Attention'* (Section [5.5.2](#)), acknowledging that whilst individual attention was provided within a class setting, the level of interaction was less than a one-to-one setting. Nonetheless, clients attending group class spoke of the benefit of the individual attention provided, suggesting that this was still a recognised and valued element.
- Some teachers and clients discussed the potential financial barrier associated with one-to-one sessions relating to *'Value'* (Section [5.13.2](#)).

## 5.17 Chapter summary

This chapter presented the findings from the study, initially providing demographic data for participants, followed by a contextual background situating the observer and providing an overview of a Pilates session. Thereafter, a descriptive account of the ten themes emerging from the inductive thematic analysis of the data was presented, with participant quotes and fieldnote extracts providing richness and context.

Together these themes have been explored as an inter-related, dynamic process of interaction between teacher and client, grounded within certain health perceptions, and predicated on expectations of individuality, choice and expertise. The complex nature of the relationship has been revealed, with findings portrayed through descriptive detail. Whilst this demonstrates the participants' voice and acknowledges context, it lacks a theoretical exploration of the findings. Thus, the following chapter provides theoretical consideration within a synthesis and contextualisation of the findings.



## Chapter 6: **Synthesis and Contextualisation**

### **6.1 Introduction**

The previous chapter presented the findings from an inductive thematic analysis of the data, identifying ten themes associated with the relationship between Pilates teachers and clients with persistent low back pain. Whilst this has demonstrated various inter-related characteristics of the relationship, in order to identify which of these characteristics relate to components of the relationship, or influences upon it, a synthesis with wider research literature is presented below. Findings are initially situated within the Pilates-specific literature, and subsequently within literature pertaining to therapeutic relationships in physical therapy contexts. From this evaluation, the components of the relationship between Pilates teachers and clients with persistent low back, and influences upon it, are identified within a taxonomy based in research literature, with areas of similarity and divergence highlighted.

Thereafter, divergent characteristics are contextualised using a social constructionist lens to illuminate potentially distinctive components within a socio-cultural background, thus providing the basis for an understanding of the nature of the relationship, and whether it may be considered therapeutic. The final section relates assertions regarding the nature of the relationship between Pilates teachers and clients with persistent low back pain within wider theoretical perspectives of the therapeutic relationship.

### **6.2 Situating findings within the literature**

#### **6.2.1 Situating findings within the Pilates literature**

This study is the first to specifically explore the relationship between Pilates teachers and clients with persistent low back pain; however, two previous studies have provided evidence of relational elements within the scope of wider research and have been reviewed in Section [2.4.1](#). Findings from the current study will now be considered in relation to this research in order to establish areas of similarity or divergence.

Allen's (2014) investigation into the scope of Pilates in the UK provided evidence for the perceived importance of the teacher-client relationship. Whilst the broader research focused on establishing the demographics of clients attending Pilates, data concerning the use and effects of Pilates

revealed a number of findings relating to aspects of the teacher-client relationship. The study highlighted the importance of Pilates as an individualised form of exercise with adaptations provided by the teacher. Teachers described how awareness of clients' expectations, concerns and fears was fundamental to trust and client confidence, and considered communication skills to be central in building a working relationship with encouragement, positive feedback and tactile feedback discussed as elements of the 'therapeutic alliance' (Allen 2014). In addition, teachers linked personalised adaptations with empowerment and the view that clients should take responsibility (Allen 2014). These views link to the current study, showing similarity with sub-themes and themes of 'Individual Attention', 'Encouragement' and 'Trust' described above in Chapter 5.

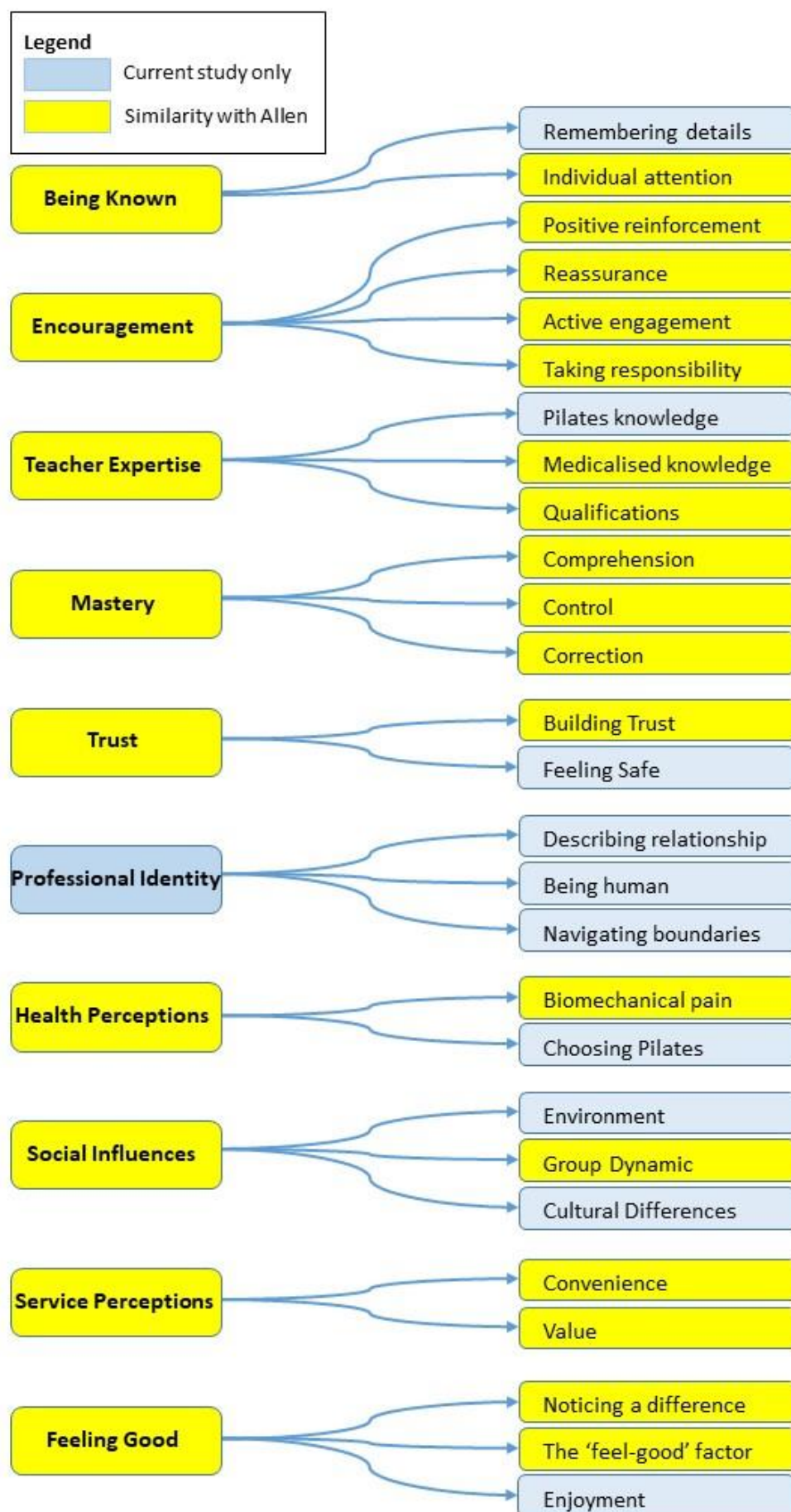
Additionally, clients considered teacher expertise a key facilitator to Pilates, whereby teachers with healthcare qualifications were perceived to have increased levels of knowledge, with some participants relating this to perceptions of trust in the teacher and of feeling safe (Allen 2014). These views echo the theme of 'Teacher Expertise' and the interconnected nature of themes portrayed in Chapter 5 above. Interestingly, the *teachers* in Allen's (2014) focus group described the negative impact of qualifications, associating perceived inadequate training with potential client injury. In contrast, the current study demonstrated *client* concern with the same issue. The lack of teacher comment in the current study may have been due, in part, to the nature of the semi-structured interview questions which focused on the personal interaction, rather than Pilates as a whole.

Client education was described in relation to biomechanical understanding, postural awareness and the use of exercises for core stability to manage 'flare ups' in long-term conditions (Allen 2014, p32). In addition, 'corrective feedback' was considered 'paramount' for those with long-standing conditions (Allen 2014, p34), with clients revealing concern surrounding the potential for doing exercises incorrectly, expressing how the corrective feedback from the teacher was a beneficial component of Pilates. These elements can be related to the findings of the current study within the sub-themes of 'Comprehension', 'Control' and 'Correction' in the theme of 'Mastery', and resonate with the 'Biomechanical Reasons for Back Pain' described above in 'Health Perceptions'. Interestingly, teachers in Allen's (2014) study asserted that individualised corrective feedback distinguished Body Control Pilates teachers from those teaching in larger classes in leisure centres. In the current study, similar views were described by teachers from a variety of training backgrounds.

Comparable to the findings from the current study, teachers described the 'Group Dynamic' as a supportive social network with "Pilates as the focus" (Allen 2014, p35). Additionally, data from the client focus group demonstrated clients' long-term commitment to Pilates, despite the financial and time barriers, suggesting a similarity with the sub-themes of 'Value' and 'Convenience' in the current study. In considering the effect of Pilates, participants asserted improvements in posture and core stability, with teachers emphasising the role of Pilates in increasing a client's confidence to move and facilitating a sense of overall well-being, whilst clients also described feeling stronger, and having less pain. These findings echo the sub-theme of 'Reassurance' and the theme 'Feeling Good' in Chapter [5](#).

Figure 49 provides a diagrammatic representation of commonality between the findings of the current study, and Allen's (2014) research. For clarity, it should be noted that the named themes and subthemes in the diagram are taken from the inductive analysis of the current study, with highlighted themes and subthemes representing areas of similarity to existing research.

Figure 49. Similarities between findings and study by Allen (2014)





In contrast to Allen's (2014) approach, Scarpellini (2013) sought to understand the psychotherapeutic concept of transformation within teacher-led structured exercise, through an Interpretive Phenomenological Analysis of clients' experiences of Pilates. Within this analysis, elements relating to 'intense relationships' with the teacher were elucidated. The descriptions of clients' experience of classes placed value on the teachers' skills and expertise, and the clients' 'felt' relationship with the teacher (Scarpellini 2013, p73). Similarity to the current study's sub-themes 'Comprehension' and 'Medicalised Knowledge' are demonstrated within descriptions of transformative learning experiences,

"I couldn't move the arm in the way she wanted me to do it, and we spent quite a while taking in fairly technical terms about what she wanted." (Scarpellini 2013, p76)

Scarpellini (2013, p77) states this learning experience may provide a transformative "light-bulb moment" where the client feels in a safe environment to receive corrective feedback from the teacher. Additionally, four participants highlighted how differences in teachers' approaches could affect the sense of safety they perceived with the teacher, highlighting similarities within the sub-themes above of 'Correction', 'Choosing Pilates' and 'Feeling Safe' from the current study.

Furthermore, participants described the interpersonal relationship with the teacher, describing a "connection" with their teacher, where the teacher "remembers things" and the client feels recognised as an individual (Scarpellini 2013, p82); suggestive of a similarity to the sub-theme in the current study of 'Remembering Details'. One participant alluded to a sense of intimacy within the relationship, describing how the teacher observed his body closely and used touch as feedback. Scarpellini (2013) posits that this level of scrutiny necessitates feelings of connection, safety and trust, echoing participant views of 'Trust' in the findings in Chapter 5. Interestingly though, the client alludes to the presence of a power asymmetry here, describing how the teacher sought consent for the use of touch at the beginning of the relationship. Scarpellini (2013) contends that the client is invited to grant or decline the teacher authority to use tactile feedback, although this appears to pertain only to the initial interaction. In the current study, whilst tactile correction was discussed as an important and beneficial aspect of the teacher's role, there was no discussion surrounding consent and fieldnote observations provided no record of consent requests prior to the use of touch.

The nature of the relationship between client and teacher is portrayed with two client accounts describing the relationship as a friendship (Scarpellini 2013). One participant described how the relationship had grown closer over time, with the client caring about the details of the teacher's

life, whilst the other participant tempered their description, adding that the friendship came with “a level of professionalism” (Scarpellini 2013, p81). Scarpellini (2013) suggests potential ambivalence regarding the significance of the relationship, which echoes the juxtaposition within the theme of ‘Professional Identity’ in the current study.

Scarpellini (2013) posits that Pilates classes had a transformative role in shaping clients’ emotional attitudes towards their body and behaviour, leading to a sense of empowerment and enjoyment, supportive of the findings above in ‘Active Engagement’ and ‘Enjoyment’. Moreover, extracts denote that mastery of postural alignment and “being able to control muscles” (Scarpellini 2013, p91) predicated this transformation, supporting the significance of the theme ‘Mastery’ and its associated sub-theme of ‘Control’.

Figure 50 presents areas of similarity between findings from the current study and Scarpellini’s (2013) research, followed by Figure 51 depicting commonality between all three studies.

Figure 50. Similarities between findings and study by Scarpellini (2013)

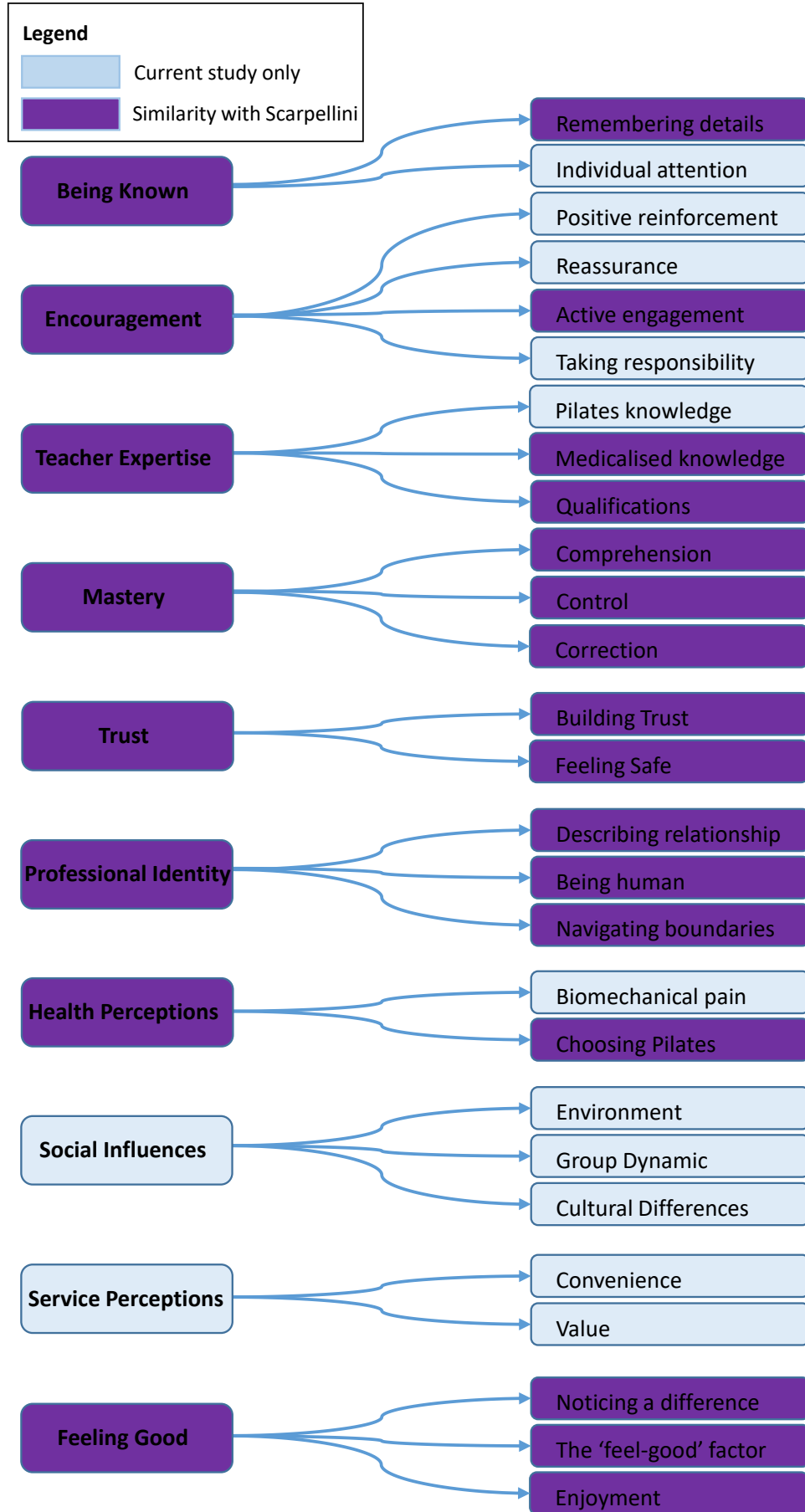
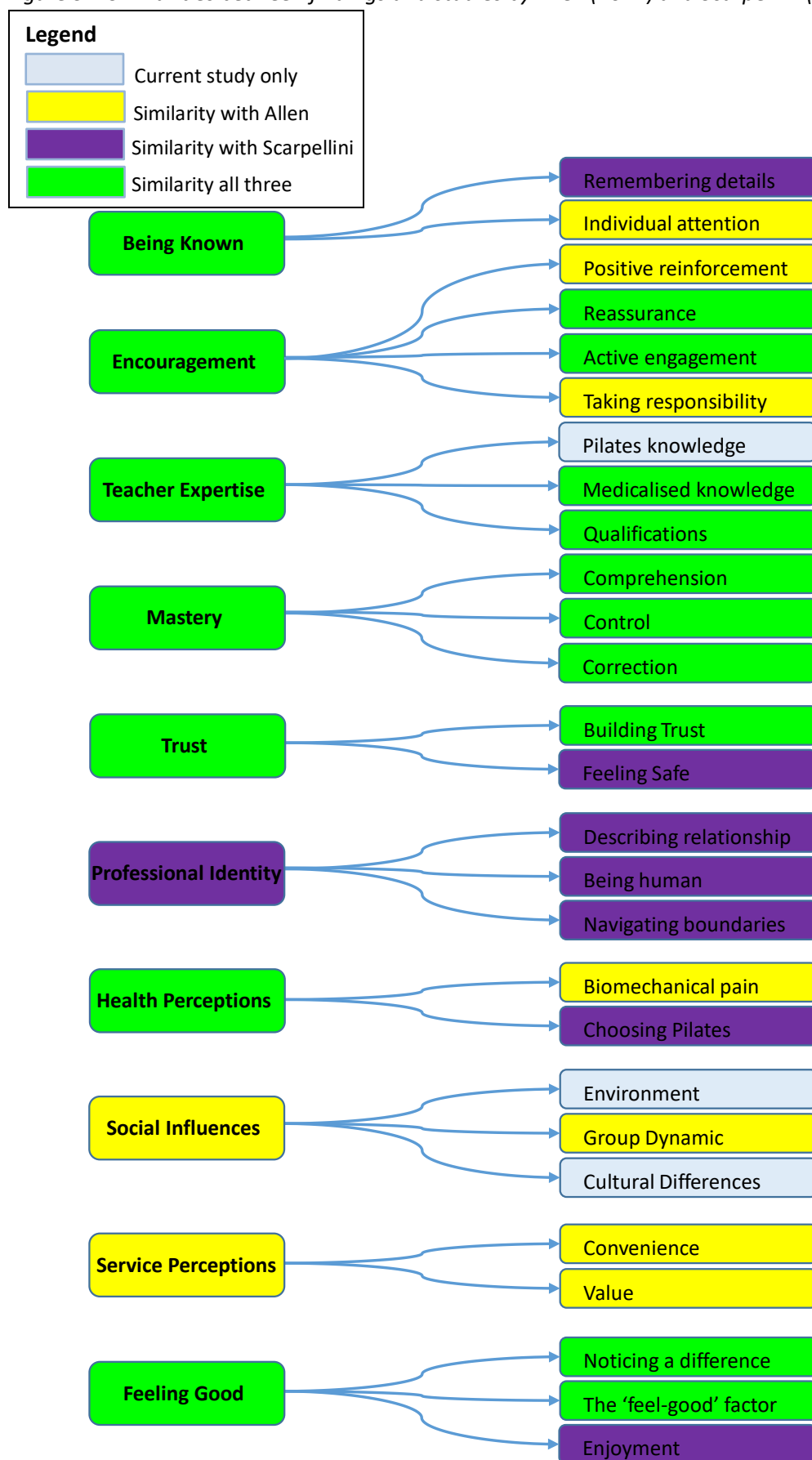


Figure 51. Similarities between findings and studies by Allen (2014) and Scarpellini (2013)



Considering the findings of the current study within the context of the Pilates literature, broad congruence may be observed relating to elements perceived as important to the relationship between Pilates teachers and clients, as shown in Figure 51. All the elements relating to the theme of 'Mastery' were described in both previous studies, suggesting the significance of 'Comprehension', 'Control' and 'Correction' as key tenets of Pilates, with the teacher's role fundamental to the attainment of mastery. This is particularly interesting given the different aims and designs of the studies. Allen (2014) used qualitative focus groups, followed by large-scale survey questionnaires to gather data relating to examine the use and effects of Pilates in the UK, with an emphasis on demographic analysis. In contrast, Scarpellini (2013) used Interpretive Phenomenological Analysis to investigate Pilates as an arena for transformation and psychological well-being, with thick descriptions from eight participants describing their lived experience of Pilates classes. The current study used an ethnographically-informed design to specifically explore the relationship between Pilates teachers and clients with persistent low back pain, with a focus on understanding the social meanings of everyday interactions. Despite these differences, all three studies portrayed the elements of 'Mastery', suggesting the centrality of this theme within Pilates.

Allen (2014) and Scarpellini's (2013) studies showed similarities to a further six themes, relating findings to a variety of sub-themes, but lacked overall concordance. It is interesting to note the disparity relating to three themes, with Scarpellini's (2013) study providing similarities to findings in 'Professional Identity', and Allen's (2014) research highlighting elements of 'Social Influences' and 'Service Perceptions'. This divergence may be due to the differing nature of each study's aims, with Scarpellini (2013) seeking to explore the client's personal experience of Pilates, whilst in contrast, Allen (2014) sought a much wider perspective of facilitators and barriers to the use of Pilates.

The previous studies (Scarpellini 2013; Allen 2014) provided no equivalence to the sub-themes 'Pilates Knowledge' within 'Teacher Expertise', or 'Environment' and 'Cultural Differences' in 'Social Influences'. It may be that teacher knowledge of Pilates is an implied expectation, or is bound within broader references to teacher expertise. It is interesting to note that environment was not discussed as a potential facilitator or barrier to Pilates in Allen's (2014) study, whereas in the current study this was commonly discussed as an influence on Pilates experience. However, the scope of Allen's (2014) research was primarily focused on gathering data related to teacher and client characteristics, with only one teacher question asking about barriers to attendance, and one client question exploring negative experiences of Pilates before or after class. Thus, the

structure of the questions may not have elucidated wider influences on experience. In considering 'Cultural Differences', Scarpellini's (2013) phenomenology revealed how clients differentiated 'good' teachers based on expectations of shared values, similar to the current study's findings, however it is not clear if participants had experienced teachers from different cultures to themselves.

Two recent studies (Gaskell et al. 2019; Gaskell and Williams 2019) explored client and Pilates-trained physiotherapist perceptions of Pilates group classes for people with chronic musculoskeletal pain, and whilst neither study discusses the relationship between the teacher and client, participant perceptions demonstrate some similarities with the current study. Pilates-trained physiotherapists described the importance of the clients understanding "good posture... good alignment and core strength" (Gaskell et al. 2019, p210) in order to self-manage their condition; additionally relating that correction of exercises was key in ensuring the client's correct performance. Furthermore, both studies (Gaskell et al. 2019; Gaskell and Williams 2019) describe the teachers' provision of individualised exercises, with Gaskell and Williams (2019, p59) relating this to clients "being in control of, and understanding the right way to exercise as a therapeutic intervention". Resonance may be seen here with the sub-themes of 'Comprehension' and 'Control', and the theme of 'Individual Attention' in the current study. Interestingly, both studies (Gaskell et al. 2019; Gaskell and Williams 2019) associate the provision of individualised exercises specifically to the teacher's professional status as a physiotherapist, with Gaskell et al. (2019, p212) concluding "physiotherapists are seen to be experts in movement and exercise... and are the ideal professionals to promote, guide and prescribe group and individualized exercise". These descriptions show some similarity with the sub-theme of 'Qualifications' in the current study, but also highlight divergence from the general theme of 'Teacher Expertise' where clients perceptions of 'expertise' appeared to relate more to the use of medical terminology than the teachers' background.

In summary, findings from the current study support previous Pilates-specific research, particularly where relational aspects have been recorded as part of wider findings. Further synthesis is provided below by situating the findings within the broader physical therapy literature.

### 6.2.2 Situating findings within a wider context

The literature search in [Chapter 2](#) revealed the scant Pilates-specific literature relating to the relationship between Pilates teachers and clients, leading to a wider literature review encompassing relevant articles in the field of physical therapy. As described in Section [1.8](#), physical therapists may use Pilates as a management tool for low back pain (Cuddy and Gaskell 2020; Giannakou and Gaskell 2020), therefore this body of literature is used to provide a conceptual comparator to address the research question relating to the identification of the components of the relationship between Pilates teachers and clients with persistent low back pain. This knowledge may, in turn, further understanding on how low back pain management with Pilates may impact outcomes.

Given the emerging nature of the research in this area, only a handful of articles have reviewed the evidence relating specifically to the conceptual analysis of the therapeutic relationship in the physical therapy literature to determine the characteristics of, and influences on the relationship. The findings from these reviews will be briefly summarised before considering similarities and differences with the findings of the current study, alongside synthesis within the broader literature.

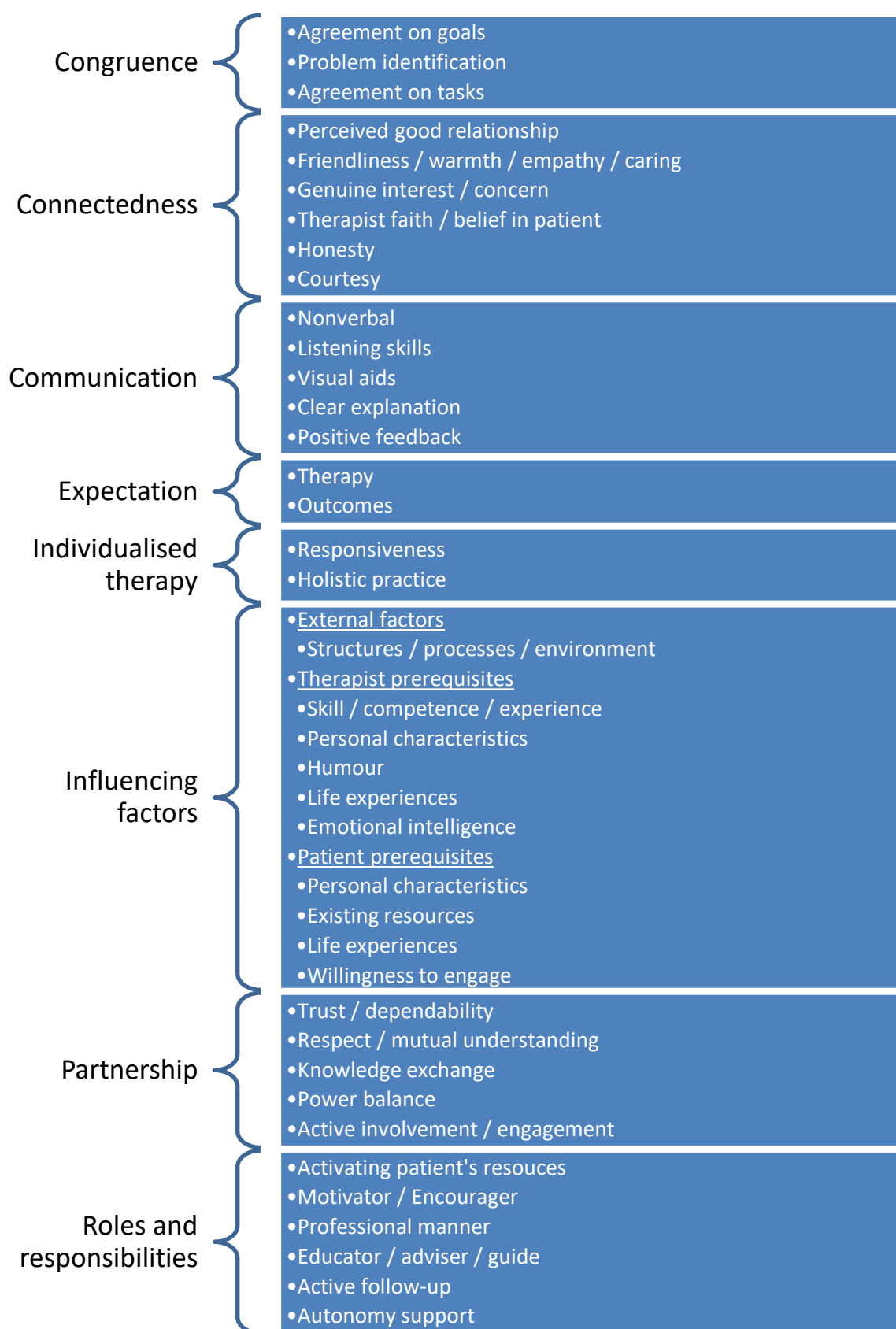
Besley et al. (2010) conducted a literature review of 16 articles across a broad range of physiotherapy clinical specialties to identify core components of the therapeutic relationship (participant numbers were not reported). A literature review differs from a systematic review in that it lacks specific procedural guidelines, therefore systematic searching and quality assessment may or may not be conducted, and analysis may be conceptual, thematic or chronological (Grant and Booth 2009). The review included four theoretical / discussion articles, one descriptive study and 11 qualitative studies exploring therapist and patient perceptions, with the inclusion of non-empirical literature hampering quality assessment. Findings reported eight core themes: (1) patient expectations of treatment and outcome; (2) personalised therapy, with 'holistic practice' involving understanding the context of the person's whole situation; (3) partnership, including trust, mutual respect, knowledge exchange, mutual power balance, collaboration and active involvement; (4) physiotherapist roles and responsibilities, in particular activating the patient's own resources, and being a motivator and educator; (5) congruence, with agreement on goals, problem identification and treatment; (6) communication, including verbal communication, active listening and visual aids; (7) relational aspects, comprising friendliness, caring, warmth and empathy; and, (8) influencing factors relating to external factors in the provision of physiotherapy care, the skills and competence of the physiotherapist, and patient characteristics. Whilst this

review provides the earliest synthesis of literature relating to the components of the therapeutic relationship in the physical therapy field, the variable quality of the included studies, plus methodological limitations of the review leave conclusions open to bias (Grant and Booth 2009).

These findings were mirrored and expanded in Babatunde et al.'s (2017) broad scoping review of 130 articles, totalling 7018 participants, exploring physical therapy and occupational therapy literature to describe the research investigating therapeutic relationship in musculoskeletal rehabilitation settings. One aspect of the review reported a narrative synthesis mapping core themes pertaining to the therapeutic relationship. Eight themes emerged: (1) congruence, with agreement on goals, tasks and problem identification; (2) connectedness, encompassing a perceived good relationship including friendliness, empathy, warmth, caring and genuine interest; (3) communication, including non-verbal and listening skills, clear information, visual aids and positive feedback; (4) expectations of therapy and outcomes; (5) individualised therapy, comprising responsiveness and holistic practice; (6) influencing factors such as external factors, therapist skill, competence and personal characteristics, as well as patient characteristics; (7) partnership, including trust, respect, mutual understanding, knowledge exchange, power balance and active involvement; and, (8) roles and responsibilities of the therapist in activating the patient's resources and being a motivator. The most reported aspects of these themes comprised listening skills (30%), agreement on goals (24.6%) and therapist skills, competence and experience (23.1%). Themes and associated subcategories are shown in Figure 52 for further detail. This scoping review presents a broad range of literature demonstrating the nature and extent of research in physical and occupational therapy relating to the therapeutic relationship; however, the lack of quality assessment may be considered a limitation (Pham et al. 2014). The lack of details regarding how data were analysed and interpreted for the narrative synthesis also limits these findings (O'Dwyer and Bernauer 2013).

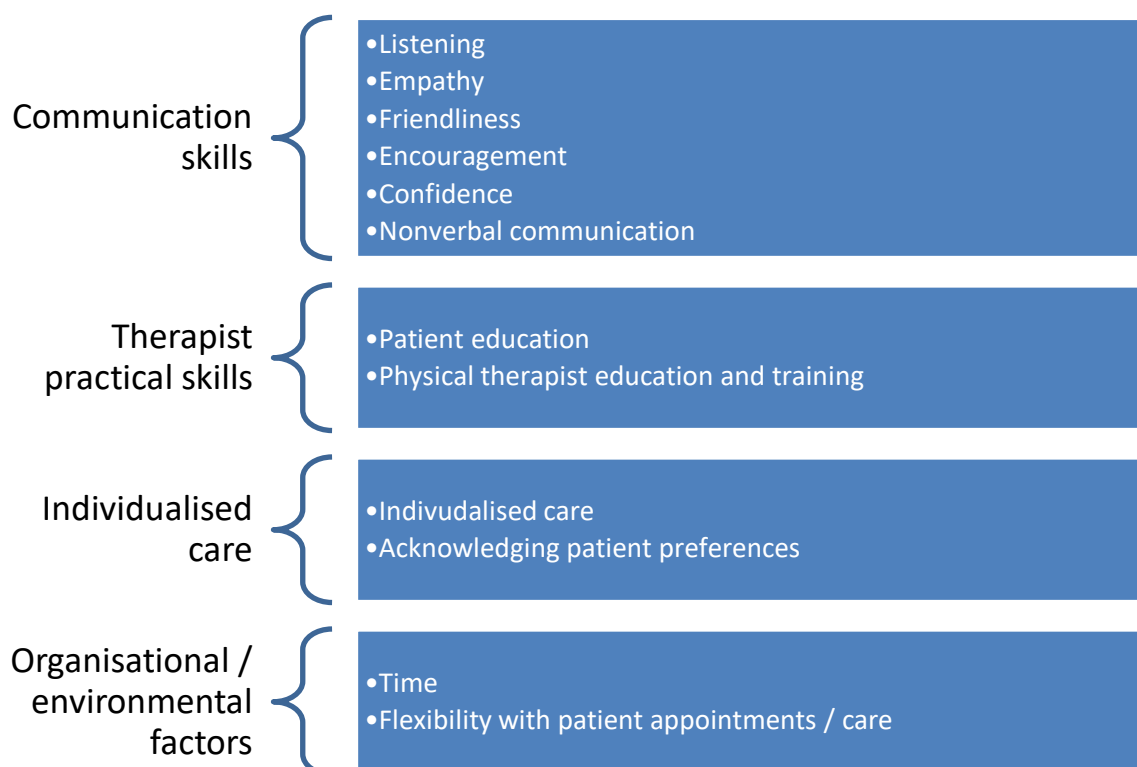


Figure 52. Core themes associated with the therapeutic relationship – Babatunde et al. (2017)



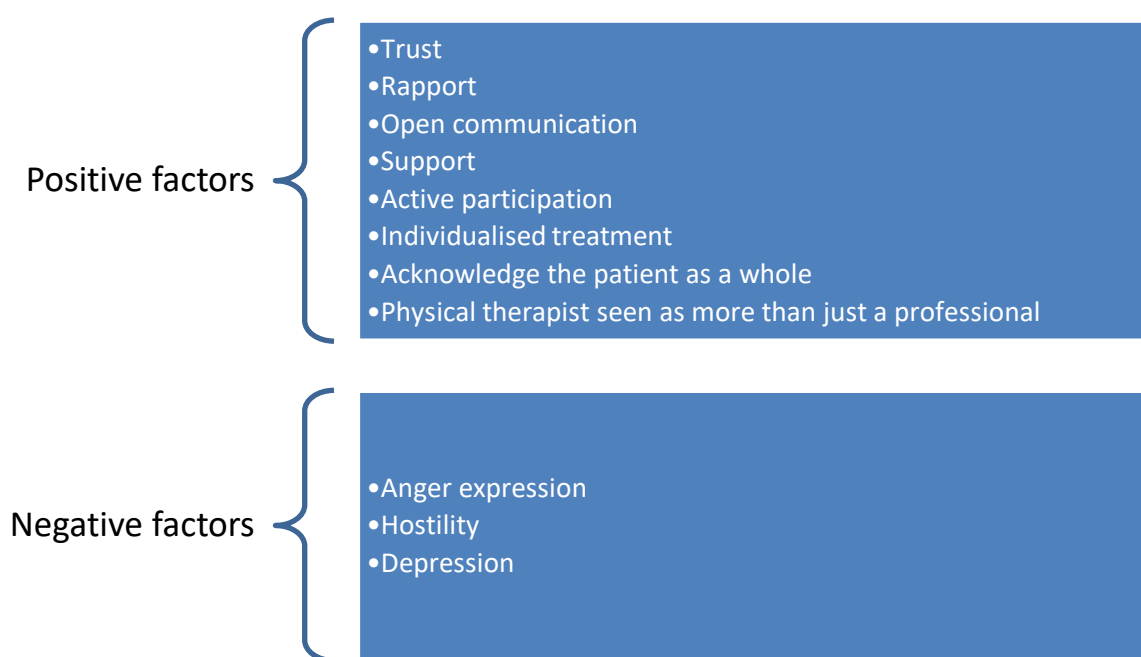
In a qualitative systematic review and meta-synthesis (O'Keefe et al. 2016) of 13 qualitative studies, including 253 patients and 78 physical therapists, patients' and physical therapists' perceptions of factors influencing the patient-therapist interaction in musculoskeletal settings were examined. From a thematic synthesis four themes emerged: (1) physical therapist interpersonal and communication skills, including active listening, empathy, friendliness, encouragement, confidence and non-verbal communication; (2) physical therapist practical skills, encompassing patient education and therapist expertise and training; (3) individualised patient-centred care with patient preference taken into consideration; and, (4) organisational and environmental factors, relating to time and flexibility with patient appointments and care. Figure 53 provides further details of themes and codes applied to the data. The authors of the review (O'Keefe et al. 2016) acknowledged that methodological limitations of included primary studies may have affected the credibility, dependability and transferability of the results, and the review may have been strengthened with further details reporting how concepts were synthesised across studies, and with the inclusion of quotes from primary studies (Munthe-Kaas et al. 2018).

Figure 53. Factors influencing patient-therapist interactions – O'Keefe et al. (2016)



Kinney et al. (2018) conducted a systematic review of seven studies, with 480 participants. Within the review, four observational studies, totalling 105 participants, identified factors influencing the therapeutic relationship between physical therapists and patients with chronic musculoskeletal pain as part of the findings (see Section 1.8 for further details). Three studies (Harman et al. 2014; Bunzli et al. 2016; Wilson et al. 2017) reported factors positively influencing the therapeutic relationship, included a trusting relationship, individualised treatment, rapport, support, communication, and acknowledging the patient as an individual. Negative influences were reported from one study (Burns et al. 1999) as patient hostility, depression and anger expression. Limited number of studies, and the low quality of the review suggest findings should be interpreted with caution. A summary of the reported influencing factors is presented in Figure 54.

Figure 54. Factors influencing the therapeutic relationship – Kinney et al. (2018)



Whilst only a small number of articles with varying methodological quality have provided a conceptual analysis of the therapeutic relationship, the findings from these reviews demonstrate broad concord, providing preliminary evidence for general characteristics of the therapeutic relationship within a physical rehabilitation setting, thus providing a context to consider similarities and differences to the current study.

### Being known and individualised therapy

In the current study, the theme 'Being Known' comprised the teacher 'Remembering Details' about the client, and providing 'Individual Attention' through exercise adaptation. Similarities may be seen with the wider literature, where 'individualised treatment' has been highlighted as a characteristic of the therapeutic relationship across multiple studies (Besley et al. 2010; O'Keefe et al. 2016; Babatunde et al. 2017; Kinney et al. 2018). Babatunde et al. (2017) expands this theme with two key constructs: 'holistic practice', acknowledging the patient-as-person; and 'responsiveness', with the therapist addressing the patient's individual needs.

'Holistic practice' relates to the context of the whole person being taken in to account by the therapist, including understanding the patient's culture, background, life experience and beliefs, with value placed on the physiotherapist remembering the details of previous sessions (Babatunde et al. 2017). The findings of the current study show similarity with the sub-theme of 'Remembering Details', where the teacher's ability to recall diverse details about the client was considered fundamental in 'knowing' the client. Whilst the current study echoes wider findings with the client feeling able to tell the teacher intimate details of their life, the skill of 'knowing' a client was also strongly related to the client's body, with value placed on the teachers' abilities to distinguish subtle changes. The construct of 'responsiveness' was also related to 'individualised treatment' with individual needs being addressed, even within a group setting (Babatunde et al. 2017). O'Keefe (2016) reported that patients felt a stronger bond with the therapist when treatment was personalised, and appreciated the therapists' efforts to adapt treatment when difficulties arose. These findings show similarity to the current study's sub-theme of 'Individual Attention' with the provision of tailored exercises dependant on how the client felt in order to minimise aggravation of a client's pain levels.

The theme of 'Being Known' also echoed the wider literature, where understanding and getting to know the patient, alongside personalised care were considered important from the patients' perspective. A good quality systematic review (Slade et al. 2014) of 12 qualitative studies, with a total of 398 participants, explored patient beliefs and perceptions about exercise for persistent low back pain, identifying four main themes: (1) perceptions and classification of exercise; (2) role and impact of the health professional; (3) exercise and activity enablers/facilitators; and, (4) exercise and activity barriers. Participants expressed the importance of feeling known and understood, with the provision of individualised exercise with supervision and feedback.

A systematic review (Hopayian and Notley 2014) of 28 qualitative studies (participant numbers not given) explored the expectations and experiences of healthcare of people with low back pain and sciatica receiving primary or secondary care across a range of disciplines. A thematic content analysis revealed nine themes, including personalised care with tailored treatments and an understanding the context of the patient's life. Understanding was also seen as essential to the patient-practitioner relationship, alongside empathy (Hopayian and Notley 2014). Whilst the quality of the included primary studies was considered high, synthesis of qualitative studies has been criticised as it removes data from their context (Thorne 2016); however, Hopayian and Notley (2014) assert that the similarity of findings across a range of healthcare settings strengthens transferability. Similar findings were reported in a scoping review (Chou et al. 2018) of 43 articles, with over 7500 participants, exploring patients' perceived needs of healthcare providers for low back pain management. The study identified four areas of need including: (1) desirable characteristics of healthcare providers; (2) the need for information regarding low back pain; (3) the need for certain aspects of care; and, (4) perceived barriers to care. Aspects of care included the need for holistic, personalised, emotionally supportive and encouraging healthcare, with desirable characteristics of practitioners including the need for understanding and empathy (Chou et al. 2018). This scoping review was strengthened with the addition of a quality assessment of included studies (Pham et al. 2014) considering the potential risk of bias relating to recruitment strategies and data collection in both quantitative and qualitative studies included in the review.

Findings from current study emphasised 'Being Known' in terms of the client feeling acknowledged and understood as a person, but the wider literature shows understanding linked with empathy, as understanding requires that a person takes in to consideration the individuality of the other (Hopayian and Notley 2014; Chou et al. 2018). Empathy is considered an essential component of all helping relationships (Mercer and Reynolds 2002), yet definition remains elusive, with a lack of consensus in the literature (Fernandez and Zahavi 2020). Mercer and Reynolds (2002) define clinical empathy as the ability to: (1) understand the patient's situation, perspective and feelings (and their attached meanings); (2) communicate that understanding and check its accuracy; and, (3) act on that understanding with the patient in a helpful (therapeutic) way. It is generally agreed that empathy begins with interpersonal understanding, yet debate surrounds *how* this understanding may be achieved through affective or cognitive processes (Hardman and Howick 2019). Affective empathy involves the subjective experiencing of another's emotions, whereas cognitive empathy encompasses an objective identification and understanding of another's feelings and perspective (Morse et al. 1992). Concern has been raised that affective

empathy may lead to over-identification with the patient (Morse et al. 1998), and may motivate biased and irrational actions (Bloom 2017), with an emphasis placed instead on the use of cognitive empathy within healthcare (Hojat 2016); however, Halpern (2001) contends that an emotional resonance between patient and healthcare professional is at the heart of clinical empathy. Fernandez and Zahawi (2020, p4) dissolve the distinction using a phenomenologically-based concept of 'basic' empathy as "an experiential engagement with the other that recognizes and preserves the self-other difference".

Practitioner empathy has been associated with increased patient enablement, adherence, satisfaction, reduced depression and increased quality of life (Derksen et al. 2013; Howick et al. 2018). A systematic review (Derksen et al. 2013) of seven studies, including 3227 participants, considered the effectiveness of empathy in general practice. Results reported positive associations between empathy and patient satisfaction, adherence, reduced levels of anxiety and changes in physiological measures. Results should be interpreted with caution however, owing to limited reporting of the literature search strategy and no discussion considering the risk of bias of included studies (Viswanathan et al. 2018). A more recent, good quality systematic review and meta-analysis (Howick et al. 2018) of 28 randomised controlled trials, with a total of 6017 participants, examined the effect of empathic and positive communication in healthcare consultations. Studies included those with empathy and expectation interventions where positive communication was designed to promote positive patient expectations. Results for the empathy intervention studies demonstrated a small patient benefit (SMD -0.18, 95% CI: -0.32 to -0.03,  $I^2 = 55\%$ ). Sub-group analysis of three trials investigating the effects of empathic care on persistent pain reported a non-statistically significant benefit (SMD -0.05, 95% CI: -0.32 to 0.22,  $I^2 = 61\%$ ); however, limitations relating to risk of bias in the primary studies may have impacted results.

Neumann et al. (2009) have proposed an explanatory model for how clinical empathy may achieve improved outcomes. Expanding on Squier's (1990) model of empathic understanding, Neumann et al. (2009) posit that empathic communication encourages the patient to provide more detailed information to the practitioner, leading not only to a more accurate diagnosis, but also to enhanced understanding of patient needs, and the individualisation of communication and treatment. As a result, the patient feels listened to and acknowledged as an individual, and to feel their thoughts and feelings are validated. The impact of clinical empathy is hypothesised as improved short and long-term health outcomes (Neumann et al. 2009).

Whilst findings of the current study show some similarity with the concept of empathy, where the theme 'Being Known' demonstrated the importance of the client feeling understood and acknowledged as an individual, further research is indicated to explore what aspects of empathy are utilised within the Pilates relationship.

### Encouragement and communication skills

The communication strategies used by Pilates teachers in the current study encompassed verbal and non-verbal strategies. Teachers used positive feedback and used client-centred language to provide 'Encouragement' and promote reassurance, which led to the active engagement of the client.

Findings from the current study portrayed the perceived importance of 'Encouragement' as a communication strategy, sharing similarity with the wider literature. Results from a scoping review (Chou et al. 2018) of 43 articles exploring the literature regarding patients' perceived needs of healthcare providers for low back pain management identified desirable characteristics of healthcare providers to be good communication and listening skills, with an encouraging communication style preferred. Communication skills have been emphasised as central to the therapeutic relationship within physical therapy settings (Besley et al. 2010; O'Keefe et al. 2016; Babatunde et al. 2017; Kinney et al. 2018) with various verbal and non-verbal skills reported such as positive feedback, clear information, listening skills and visual aids.

Communication, therefore, relies not just on what is said but also the manner in which it is said, through the interplay of verbal and non-verbal factors (Roberts and Bucksey 2007), referred to as interaction styles (Pinto et al. 2012). A systematic review (Pinto et al. 2012) of 12 cross-sectional, observational studies, including 9286 patients and 349 clinicians<sup>2</sup>, investigated communication factors correlated with constructs of the therapeutic relationship. Study settings included primary, secondary and tertiary care, with participants presenting with a wide variety of conditions. The Verona Medical Interview Classification System, considered a reliable and valid tool (Piccolo et al. 2005), was used to categorise communication factors from the included studies to five categories: (1) information gathering, through open and closed questioning; (2) patient facilitating, with the use of transitions and conversation; (3) patient involving, through asking the patient for information or clarification; (4) patient supporting, with the clinician agreeing with or reassuring

---

<sup>2</sup> Not all studies reported number of participants

the patient; and, (5) patient education, through provision of information and instructions regarding illness management.

Results from the Pinto et al.'s (2012) analysis identified 36 interaction styles, with 20 categorised as both patient facilitating and patient involving, nine as patient education and seven as patient supporting. All factors associated with patient supporting interaction styles, and most associated with patient facilitating and involving styles, showed large positive associations with the therapeutic relationship as measured by communicative success, agreement, trust and rapport. Elements most strongly associated with the therapeutic relationship included the clinician being comforting and caring, being communicative and asking the patient questions, suggesting that emotional support may be of importance in building a therapeutic relationship (Pinto et al. 2012). A meta-analysis was not carried out due to the heterogeneity of included studies, therefore the magnitude of any association could not be accurately assessed. Additionally, aspects relating to the therapeutic relationship may vary dependent on symptoms (e.g. acute versus chronic) and setting (e.g. hospital inpatient versus general practice), thus a direct comparison may not be commensurate, potentially limiting results. The review may also have been strengthened with additional reporting of how the researchers were trained to use the Verona Medical Interview Classification System to classify data from primary studies, as there may be ambiguity in coding more subtle interactions, such as vague expressions of emotion (Stone et al. 2012).

The use of positive reinforcement as a communication strategy in the current study shows similarity with a patient supporting interaction style, with fieldnotes demonstrating the use of agreement, reassurance and support. This communication style was perceived by clients as promoting feelings of reassurance and confidence to move. Furthermore, the sub-theme of 'Feeling safe' described perceptions of trust in the teacher leading to increased confidence to move, linking with the sub-theme of 'Reassurance' and demonstrating the dynamic inter-connections across the findings.

Care guidelines for low back pain recommend the use of reassurance and encouragement of physical activity (Almeida et al. 2018), and may therefore be considered of key importance. Holt and Pincus (2016, p2) define reassurance as "any behaviour by a physician which could lead to reduced worry in a concerned patient", and further categorised as affective and cognitive reassurance. Addressing the different factors associated with these categories, Holt and Pincus (2016) propose a conceptual map based on the model by Coia and Morley (1998). Affective reassurance is associated with: generic reassurance (such as encouragement, praise and positive reinforcement); showing caring and empathy by conveying genuine interest, understanding and



acceptance with active listening; building a relationship through a warm and friendly personal bond; showing strength, dependability and confidence; and, providing a clear message that uncertainty is manageable. Cognitive reassurance is associated with: giving information regarding aetiology, prognosis and treatment; checking the patient understands the information and has the chance to ask questions; checking the patient agrees with the diagnosis and treatment, engaging the patient in decision-making; and providing individualised information based on the patient's 'whole story'.

Findings from the theme 'Encouragement' in the current study demonstrate similarity with elements associated with affective reassurance, with encouragement seen as important by participants, and praise and positive reinforcement frequently evidenced in fieldnotes. Additionally, the theme 'Being Known' suggests clients felt understood by their teacher, and the sub-theme 'Being Human' portrays the warmth and friendliness of the bond perceived by participants.

Research investigating the relationship between reassurance and patient outcomes shows that affective and cognitive reassurance may have differing influences. A systematic review (Pincus et al. 2013) of 16 studies, including 5373 participants, examined prospective cohorts in primary care that measured patient-practitioner interactions with reference to patient outcomes. Findings suggested that cognitive reassurance was associated with improved outcomes immediately after the consultation and at follow up, including improved symptoms, higher levels of patient satisfaction and enablement, and a reduction in concerns. Conversely, affective reassurance may improve patient satisfaction, but was associated with higher symptom burden and less improvement at follow up. The review authors (Pincus et al. 2013) caution that findings may have been impacted by another variable, such as risk of poor outcome, leading to the use of more affective reassurance, and call for further research. Additionally, further details clarifying whether study selection was performed in duplicate may have strengthened this review (Moher et al. 2009).

A theoretical explanation for the apparent difference between type of reassurance provided and outcome is provided by Coia and Morley (1998), suggesting that whilst affective reassurance may provide an immediate reduction in patient anxiety, this may lead to a decrease in the patient's engagement with cognitive reassurance, with a resultant dependency on the practitioner. This point is of interest when considering the sub-theme of 'Taking Responsibility' in the current study, where teachers expressed frustration with clients who failed to take 'ownership' for the management of their back pain. Further research to determine how teachers use affective and

cognitive reassurance would provide clarification on how reassurance may impact outcomes in Pilates.

There are also noticeable differences between the findings of the current study and the physical therapy literature. 'Active listening' was reported as one of the most represented aspects of communication skills within physical therapy settings (Besley et al. 2010; O'Keefe et al. 2016; Babatunde et al. 2017). Active listening "requires intentional effort to attend to a client's verbal and non-verbal cues" (Watanuki et al. 2006, p39) and has its roots in psychotherapy (Rogers 1951), emphasising listening as a means to understand the meaning underlying the content of what is being said. Active listening requires the use of a number of strategies, including: paying attention and maintaining eye contact; showing attentive listening with non-verbal behaviours such as nodding, smiling or encouraging non-verbal utterances; providing feedback through reflection or paraphrasing; deferring judgement by letting the person finish speaking and refraining from counter-arguments; and, responding appropriately with openness and respect (Watanuki et al. 2006).

In the current study specific mention of teacher listening skills was absent. This dissimilarity may be due to the differing nature of a Pilates session compared to a physical therapy appointment. 'Active listening' is considered essential in the management of low back pain in physiotherapy, where history taking and evaluation lead to the development of a diagnosis (Moffett and McLean 2006). Whilst Pilates may be used by healthcare and non-healthcare practitioners, there is a clear distinction with regards to scope of practice, where it is beyond the role of a Pilates teacher to diagnose (Robinson 2010). Moreover, Pilates sessions (as described in Section [5.3.2](#)) include only brief periods where dialogue is the only activity, with Pilates exercises being performed continuously for most of the session. Therefore, there is potentially little expectation for periods of 'active listening', particularly within a group class environment. Within a private Pilates session, most of the dialogue continues whilst the client is moving, with the teacher also changing their position frequently. The client may therefore be unable to see, or not expect, the usual body and facial cues of an 'active listener', such as eye contact, nodding head and open posture (Watanuki et al. 2006).

Additionally, the purpose of touch may be considered a difference between the findings of the current study and the physical therapy literature. In the current study touch was specifically used to provide tactile feedback, either encouraging the client or providing corrective positioning, in contrast to 'hands-on' therapy, where touch may be used as an active intervention (Roger et al.

2002). Roger et al. (2002) provide a conceptual framework for the types and purposes of touch used in physiotherapy, describing eight types of touch, outlined in Table 21 below.

*Table 21. Types of touch used in physiotherapy (Roger et al. 2002)*

<b>Types of touch used in physiotherapy (Roger et al. 2002)</b>	
<i>Type of touch</i>	<i>Purpose of touch</i>
Assistive touch	To provide physical help to a patient e.g. active-assisted range of movement
Building rapport	To build a relationship with a patient e.g. a hand-shake
Caring touch	To comfort and encourage e.g. a pat on the back
Perceiving information	To gain information about patient's symptoms e.g. palpation during evaluation
Preparation	To prepare a patient for treatment. Considered non-therapeutic e.g. draping a towel over the patient
Providing information	To convey a message to the patient e.g. showing a patient how to perform an exercise correctly
Security	To provide a feeling of safety or reassurance
Therapeutic intervention	Task-oriented, to provide the intervention e.g. manipulation or massage

The nature of touch used in Pilates was not determined in the current study, but given the descriptions and observations of its use, it may align with categories of touch such as assistive touch, providing information and security (Roger et al. 2002), although further research is needed to determine the types and purposes of touch in Pilates settings. Interestingly, Roger et al.'s

(2002) categories almost exclusively describe technical or cognitive aspects of touch, or gnostic touch, where the body is viewed from an objective, bio-anatomical perspective, thus enabling the ethical use of touch for data collection and treatment (Bjorbækmo and Mengshoel 2016). This use of touch may be considered in-line with accepted views of professional touch (Paterson 2007). An alternate view is provided by Nicholls and Gibson (2010, p499) who argue that limiting the use of touch to a biomechanical perspective was the “most potent device deployed in the... quest for legitimacy” in the field of physiotherapy, suggesting that wider socio-cultural influences might have shaped how we perceive the use of touch.

The findings from the current study provide evidence for the use of touch by Pilates teachers as a means of data-collection, with teachers’ describing how they used tactile cueing to verify that the client was doing an exercise correctly; however, touch was also described as providing the opportunity for kinaesthetic learning. The teacher’s hand provided proprioceptive feedback enabling the client to better discern their body positioning, but beyond this mechanistic view of tactile feedback, Merleau-Ponty (1982) considered touch and movement as creating a dialogue and common ground between two people. Here, touch may be viewed as a sense of communication where,

“touch reaches beyond cutaneous sensation to encompass a range of affective, emphatic, metaphorical and other meanings. Through touching others and being touched, people are brought into proximity in ways more complex than simple skin-to-skin contact.” (Bjorbækmo and Mengshoel 2016, p17)

In considering the association between touch and the therapeutic relationship, O’Keefe et al. (2016) posited that physical contact, based on ‘hands-on’ treatment, enhanced the patient-physiotherapist interaction. Indeed, Miciak et al. (2018, p10) contend that the influence of touch in physiotherapy could “build a connection that words cannot sometimes achieve”. Similarly, touch was considered integral to the Pilates context, universally valued by participants. In the discussion above, touch has been described as more than the technical application of a ‘hands-on’ approach, comprising a vehicle for communication, providing a sense of relatedness.

### Teacher Expertise

In the current study, the theme of ‘Teacher Expertise’ described the importance of teachers’ qualifications, knowledge and experience. This mirrored findings from the wider literature demonstrating the value of therapist competence and skill (Besley et al. 2010; O’Keefe et al. 2016; Babatunde et al. 2017). Therapist expertise was considered essential in developing the patient’s

trust in the therapist, thus enhancing the relationship (O'Keefe et al. 2016), and encompassed both technical and clinical knowledge (Babatunde et al. 2017). It is interesting to note that in the current study whilst some clients discussed the 'technical' expertise of Pilates-specific knowledge, 'Medicalised Knowledge' appeared to be fundamental to the client's choice of teacher, their perceptions of a 'good' teacher and the confidence that they placed in the teacher's ability to provide an individualised session that would 'help not hinder'.

Whilst Besley et al. (2010) and Babatunde et al. (2017) located therapist competence as an influencing factor in the relationship, participants in the current study perceived 'Medicalised Knowledge' as a key tenet of the relationship between Pilates teachers and clients with persistent low back pain, suggesting a level of importance for this theme that might be considered as exceeding that of an 'influence'. A possible explanation may be that client perceptions of Pilates include its use as a leisure activity, with Allen's (2014) study into the scope of Pilates in the UK reporting that 42.8% of client respondents attended Pilates for general health and wellbeing, or to improve overall fitness. Thus, clients attending Pilates primarily to manage their back pain may perceive medicalised knowledge as a way of differentiating teachers.

This echoes findings from Slade et al.'s (2014) systematic review exploring patient beliefs and perceptions about exercise for persistent low back pain, where participants made a distinction between general activity, exercise and medical exercise, with medical exercise categorised specifically for rehabilitation purposes. Participants with persistent low back pain expressed a preference for exercise instructors who were effective educators, and could provide understanding and explanation of the patient's condition, suggesting similarity with the findings from the current study where 'Medicalised knowledge' was key to choice of teacher.

### Mastery and education

The theme of 'Mastery' in the current study described a central tenet of Pilates as the accomplished performance of an exercise within the parameters of postural alignment and movement control set by the teacher. 'Comprehension' was portrayed as the first step in the clients' mastery of a Pilates exercise with the teacher providing information to help the client understand why they were doing an exercise. Value was placed on the teachers' abilities to facilitate a learning environment that also incorporated feedback and 'Correction' to the client, for the primary goal of performing an exercise with the precision and 'Control' prescribed by the teacher. Thus, in the current study education was associated with a directive learning environment. Patient 'education' was highlighted as an important factor in the therapeutic

relationship in physical therapy settings (Besley et al. 2010; O'Keefe et al. 2016; Babatunde et al. 2017). Education was related to the therapist sharing knowledge with the patient with clear explanations for what the patient's problem was and why exercises were being prescribed (O'Keefe et al. 2016; Babatunde et al. 2017). Patient education may be associated with an information-giving interaction style (Piccolo et al. 2005), that according to Pinto et al.'s (2012) systematic review of communication factors, showed a fair association with the therapeutic relationship (pooled correlation  $r = 0.33$ , 95% CI: 0.24 to 0.42).

In the wider low back pain literature, the term 'patient education' may relate to the oral or written provision of information and advice, either as a separate intervention or as part of a multimodal programme (Engers et al. 2008), with the aim improving patients' understanding of their back problems, reducing unwarranted concern and to empower patients to return to normal activity (Cherkin et al. 1996). A Cochrane systematic review (Engers et al. 2008) examined the effectiveness of individual patient education in the treatment of non-specific low back pain, including the provision of verbal or written educational information. Results showed no difference between the effects of different types of education, and there was strong evidence that for patients with persistent pain, education was less effective for back pain-specific function than more intensive treatments (e.g. spinal manipulation or exercise). The authors of the review (Engers et al. 2008) acknowledged that evaluating the effects of patient education is difficult, concluding that the communication skills of the clinician, and the way the information is presented, may influence the impact of educational strategies.

The information provision portrayed in the sub-theme 'Comprehension' shows similarities with cognitive reassurance, where educational communication and explanations are provided (Hasenbring and Pincus 2015) and which is associated with improved outcomes (Pincus et al. 2013). However, further research is required to more fully evaluate whether Pilates teachers provide cognitive reassurance.

Besley et al. (2010) and Babatunde et al. (2017) link education with activating the patient's own resources by providing a tool for the client to understand themselves, involving the patient with their treatment, thus promoting engagement, empowerment and enhancing self-management. This relates to findings in the current study, where sub-themes of 'Active Engagement' and 'Taking Responsibility' are considered key to change, but here they are related to the theme of 'Encouragement', where positive reinforcement led to reassurance, which in turn motivated clients to actively engage with movement.

Terms such as involvement, engagement, activation and empowerment may appear on the surface to have similar meaning but from a research perspective they are not synonymous, yet nor are they necessarily conceptually distinct or easily defined (Higgins et al. 2017). A recent concept analysis (Fumagalli et al. 2015) attempted to disentangle these overlapping terms and a brief summary is given to provide context for understanding the findings of the current study in the wider literature.

The aim of patient education may be seen as the ability of the patient to 'manage' their condition through coping mechanisms and self-management. This requires people to have the knowledge, skills and motivation to make necessary changes in their lives and to feel they have the capacity to be responsible for, and have control over, their lives (Aujoulat et al. 2007). This aim corresponds to the concept of patient empowerment, a key concept in the patient-centred care paradigm (Castro et al. 2016). Fumagalli et al. (2015) delineate three interpretations for empowerment within their concept analysis: (1) patient empowerment as an 'emergent state', through the possession of knowledge, skills, attitudes and self-awareness; (2) patient empowerment as a 'process' that leads to personal transformation through activities that increase the patient's ability and motivation e.g. education; and, (3) patient empowerment as an 'active behaviour', representing behavioural change that follows acquisition of skills and knowledge, where patients assume responsibility of self-care and decision-making (Fumagalli et al. 2015). A note of caution is suggested with regard to the 'active behaviour' interpretation, as empowered patients do not necessarily undertake self-care, and undertaking self-care is not necessarily an indication of being empowered (O'Cathain et al. 2005; Schulz and Nakamoto 2013; Fumagalli et al. 2015). The dual interpretations of empowerment as 'emergent state' and 'process' may be viewed as intra-personal or inter-personal dimensions of the concept, where individual transformation takes place, but within the context of a process of communication and education (Aujoulat et al. 2007); in essence, the knowledge, awareness and skills required for empowerment do not emerge spontaneously but from socially-constructed processes (Fumagalli et al. 2015).

Having considered empowerment, 'neighbouring' terms will now be considered. Patient enablement may be considered to include the healthcare provider's provision of knowledge and skills to promote the patient's ability to control their health and life. Patients have acquired the requisite knowledge and skills to participate in self-management but have not necessarily acquired the motivation or power to do so (Fumagalli et al. 2015). Patient activation may be seen as relating to increased motivation, ability and self-awareness. As such, the concept overlaps with empowerment but Fumagalli et al.'s (2015) literature analysis concluded that activation was

focused on precise and specific improvement goals as oppose to the wider lifestyle implications of empowerment. Patient participation and involvement constitute the patient taking an active part in a healthcare interaction, where the level of patient involvement is determined by one party (patient or healthcare provider), whereas levels of participation require a two-way dialogue (Fumagalli et al. 2015). Patient engagement is considered to have a recursive relationship with empowerment, according to Fumagalli et al. (2015), whereby patients engage in self-management as a consequence of empowerment, yet need to be engaged to become empowered. Thus, an 'engaged' patient requires the motivation (or activation) to use acquired knowledge and skills (through enablement) to not only engage in healthy behaviours but also to manage their healthcare by seeking appropriate providers and settings (Fumagalli et al. 2015).

The summary above provides a basis to consider how the findings from the current study fit within this conceptual schema. The theme of 'Mastery' demonstrated the centrality of the teachers' role in providing understanding in the sub-theme of 'Comprehension', and skills and self-awareness in the sub-themes 'Control' and 'Correction', depicting similarity with patient enablement. Clients also widely expressed their motivation to 'get it right' in relation to the correct execution of an exercise, perhaps suggestive of patient activation. However, considering whether the findings demonstrate any equivalence with the concept of empowerment presents more of a challenge. The sub-theme of 'Active Engagement' described teachers' perceptions of Pilates providing an active tool for clients to use in their everyday lives, so that clients could 'Take Responsibility' for the management of their back pain, suggestive of an empowering-approach. Additionally, the sub-theme 'Control' resonates with the emphasis of empowerment giving people more control over their lives. Indeed, in a concept analysis of patient empowerment, participation and patient-centredness, Castro et al. (2016, p1927) assert a consequence of empowerment to be "a sense of mastery and control".

At first glance, perceptions of Pilates 'Mastery' seem to fit neatly within the conceptual box of empowerment; however, deeper inspection reveals divergence. In the current findings 'Mastery' specifically related to the accomplished performance of Pilates exercises, and 'Control' addressed the parameters of postural alignment and movement control associated with the exercises. These parameters were prescribed and overseen by the teacher in a directive learning environment, with clients expressing concern about 'doing it wrong' at home. These findings appear to conflict with patient education empowerment-approaches that aim to enhance people's abilities to solve their own problems, enhance their decision-making abilities and have the power to control their lives (Aujoulat et al. 2007). Whilst patient empowerment is considered a key concept in the



patient-centred care paradigm (Castro et al. 2016), criticism has been raised regarding the emphasis of individual responsibility, as discussed in Section [1.6.4](#). Furthermore, an alternative interpretation of the notion of an individual finding control within the context of socially-constructed processes will be considered in-depth in the following section [\(6.3\)](#).

Whilst the Pilates teachers' roles as educator and encourager/motivator resonate with wider research evidence (Besley et al. 2010; Babatunde et al. 2017) it is interesting to note the divergence of the application of education within the Pilates setting, which is primarily concerned with mastery of Pilates exercises through directive instruction. A possible explanation for this divergence may be connected to client expectations. The sub-theme 'Choosing Pilates' explored clients' reasons for attending Pilates, with a common perception that exercise for the management of low back pain was 'perceived wisdom' with both media representation and healthcare practitioner advice reinforcing the view that core strengthening was required. Additionally, clients expressed concern that exercise could be potentially injurious, emphasising the role of the teacher as an exercise educator. This echoes the findings in Slade et al.'s (2014) systematic review of beliefs and perceptions about exercise for low back pain, with participants expressing a fear of movement and pain aggravation as barriers to exercise.

The beliefs and perceptions a patient holds may produce expectations, defined as "a set of beliefs an individual holds in regard to treatment and its outcomes with an anticipation that a given event is likely to happen as a consequence of an intervention" (Mohamed Mohamed et al. 2020, p1). A recent Cochrane systematic review (Hayden et al. 2019), of 60 studies with a total of 30,530 participants, examined the evidence relating to the association between recovery expectations and disability outcomes in people with low back pain. Results showed moderate quality evidence that positive expectations are strongly associated with return-to-work outcomes at one year (OR 2.43, 95% CI: 1.64 to 3.62). Results also indicated evidence for an association between expectations and important recovery outcomes (OR 1.89, 95% CI: 1.49 to 2.41), pain intensity (OR 1.40, 95% CI: 0.85 to 2.31) and functional limitations (OR 1.15, 95% CI: 1.08 to 1.23), although the quality of the evidence was considered low (important recovery outcomes and pain intensity) and very low (functional limitations) due to the risk of bias in many of the included studies.

The populations included in the Cochrane review included healthcare, occupational and general populations, and included acute, sub-acute and chronic low back pain participants. A recent systematic review (Mohamed Mohamed et al. 2020) of seven randomised controlled trials, with a total of 1320 participants, investigated the influence of patient expectations on outcomes in patients with persistent low back pain receiving physiotherapy interventions. Mixed results were

reported with regard to an association between patient expectations and pain intensity, with two trials reporting a positive association at short and long-term, whilst two trials reported no association at medium-term. Similarly, of the six trials that reported associations between expectations and function levels, three demonstrated positive associations, with the other three trials showing no significant association (Mohamed Mohamed et al. 2020). Findings should be considered with caution owing to the heterogeneity of study design and methodological limitations relating to blinding and allocation concealment in the primary studies, and the low quality of the systematic review, with limited reporting of the impact of this heterogeneity and risk of bias on the results of the review (Viswanathan et al. 2018).

Findings from the current study demonstrated that participants' beliefs and perceptions influenced the clients' choice of Pilates as a management tool for low back pain. There is evidence to suggest that positive expectations should be considered a prognostic factor in the management of persistent low back pain (Hayden et al. 2019), and therefore further research considering the role of client expectations in Pilates may be warranted. It is noteworthy, however, that in the current study a commonly expressed view was that strengthening core muscles was a requirement in managing back pain. As considered in Section [1.4.2](#), the concept of core stability has been challenged (Allison and Morris 2008), with a recent Cochrane systematic review (Saragiotto et al. 2016) of 29 studies, including 2431 participants, investigating motor control exercise for persistent low back pain. Analysis demonstrated high quality evidence that motor control exercise is no more effective than other exercise in reducing pain at intermediate (MD -2.98, 95% CI: -6.96 to 0.99, six trials) and long-term follow-up (MD -2.69, 95% CI: -6.90 to 1.53, five trials), and high quality evidence for no clinically important difference in disability at intermediate (MD -2.88, 95% CI: -6.92 to 1.15, ten trials) and long-term follow-up (MD -0.71, 95% CI: -4.87 to 3.45, four trials). The review by Saragiotto et al. (2016) excluded Pilates interventions but the Cochrane systematic review by Yamato et al. (2016) (discussed in Section [1.4.3](#)) examining the effect of Pilates for low back pain also showed no significant difference between Pilates and other exercises.

The difference between public perception and research evidence may be of importance when considering the potential for dissonance between patient and practitioner explanatory models (Parsons et al. 2007). This point is considered further with regard to notions of low back pain in Section [6.3](#).

### The influence of external factors

Findings from three reviews (Besley et al. 2010; O'Keefe et al. 2016; Babatunde et al. 2017) concluded that external factors relating to structure, processes and environment may influence the therapeutic relationship. In the physical therapy context this related to issues such as waiting times, staff dynamics and institutional regulations (Greenfield 2006; Medina-Mirapeix et al. 2015) which have little equivalence with the Pilates setting. However, sub-themes of 'Environment' and 'Convenience' in the current study show broad similarities with the wider literature surrounding the potential influence of the environment (Gyllensten et al. 1999; Potter et al. 2003; Holopainen et al. 2018), and the relative importance of convenience regarding location of clinics and flexible times for appointments (Harrison and Williams 2000; Cooper et al. 2008; Medina-Mirapeix et al. 2015).

Two areas of divergence may be noted, with the physical therapy literature revealing that lack of time during appointments was a negative influence (Gyllensten et al. 1999; May 2001; Cooper et al. 2008), whereas session time was described positively within a Pilates context. Moreover, the current study identified 'Group Dynamic' as a specific factor, an influence lacking in the wider physical therapy context. However a possible explanation for this difference may be the predominance of group classes within the Pilates context. One study by Schoster et al. (2005) investigating motivating factors and barriers to attending the People with Arthritis Can Exercise programme reported participants derived considerable social support from a group class environment, providing some evidence of similarity with the current study.

### Professional Identity and connectedness

A key theme within the current findings related to the teachers' 'Professional Identity', with participants being asked to describe the relationship between teacher and client. Whilst this theme may be considered specific to the research design, descriptions of the Pilates relationship as friendly, warm and caring, with the teacher showing genuine interest and belief in their clients suggest some similarities with the component of 'connectedness' in Babatunde et al.'s (2017) review.

Individual studies provide further evidence of similarity with the findings from the current study. Wilson et al. (2017, p101) explored patients' (n = 8) beliefs and experiences of psychologically-informed physiotherapy using Interpretative Phenomenological Analysis. Study (Wilson et al. 2017) findings proposed that a "vulnerable and fallible" physiotherapist approach created patient perceptions of the clinician as a "fellow human being", suggesting similarity with the current

study's sub-theme of 'Being Human', wherein the teachers' ability to show their own weaknesses was valued by the client. A qualitative, interpretive description study (Miciak et al. 2018), of 11 physiotherapists and seven patient participants, articulated a framework for establishing connections in physiotherapy. Analysis revealed 'giving of self' as a key theme, wherein the therapist disclosed personal aspects of their lives to the patient, suggesting that "these disclosures could deepen a connection by allowing the patient to see the therapist as a person" (Miciak et al. 2018, p8), and were considered important in the formation of a therapeutic relationship. These findings are particularly redolent of the descriptions relating to 'Being Human' in the current study.

The key aspect of 'Professional Identity', however, was the disparity of opinions within descriptions of the Pilates relationship, and pertaining to navigating professional boundaries. This related specifically to perceptions of the teachers' professional identity, with divergence expressed between a more professional or informal identity, with concomitant uncertainty surrounding how much disclosure each teacher felt was appropriate in revealing details of their personal lives to clients. Conversely, whilst Miciak et al. (2018) detail how some physiotherapists were not comfortable with personal disclosure, this appeared to be limited to personal preference, as oppose to professional uncertainty.

Consideration of these findings within the wider physical therapy literature locates a divergence. Physiotherapy is considered a well-established health profession (Nicholls and Gibson 2010), which in the UK is an autonomous profession, regulated by the Health Professionals Council and with the titles 'physiotherapist' and 'physical therapist' legally protected (Chartered Society of Physiotherapists 2020). Additionally, the Chartered Society of Physiotherapists' Code of Members' Professional Values and Behaviour provides a code of conduct addressing how a physiotherapist should act, defining boundaries of ethical practice (Chartered Society of Physiotherapists 2019). Nicholls and Gibson (2010, p501) contend that "physiotherapy owes its present professional identity, social standing, and authority in large part to the adoption of a particular view of the body that allowed early masseuses to legitimize their practice". In contrast to physiotherapy, Pilates is un-regulated and Pilates teachers are compelled to create their own professional identity and navigate the boundaries of this identity using personal values, beliefs and experiences. The role of legitimacy in shaping the popularity of Pilates was introduced in Section [1.4.2](#), and will be discussed further in Section [6.3.3](#) with regards to the social construction of the teachers' identity, and in [6.4.3](#) in relation to the impact of professional codes of conduct.

### Trust and partnership

In the current study, the theme of 'Trust' was considered integral to the relationship between teacher and client, where 'building trust' was centred on the teacher's ability to provide exercises that did not aggravate the client's pain levels, leading to the client 'feeling safe' to move (discussed in relation to reassurance above). 'Trust' was a widely represented characteristic associated with the therapeutic relationship within the physical therapy literature (Besley et al. 2010; Harman et al. 2014; O'Keefe et al. 2016; Babatunde et al. 2017; Kinney et al. 2018).

Trust may be understood as "the optimistic acceptance of a vulnerable situation in which the trustor believes the trustee will care for the trustor's best interests" (Hall et al. 2001, p615). In healthcare, it is asserted that trust is a keystone for effective care, engendered through the practitioners technical competence, as well as interpersonal attributes and values, and associated with positive health outcomes (Pellegrini 2017). A recent systematic review and meta-analysis (Birkhäuser et al. 2017) of 47 studies, including 34,817 participants, investigated whether patients' trust in their healthcare professional was associated with health outcomes. Health outcomes were grouped into dimensions: objective (e.g. physiological assessment such as blood pressure), observer-rated (e.g. diagnosis by a professional), self-reported health behaviours (e.g. treatment adherence) and health-related subjective experiences (e.g. patient satisfaction, depression). Across all outcomes results demonstrated a small to moderate association between trust and health outcomes ( $r = 0.24$ , 95% CI: 0.19 to 0.29), although differences were shown between outcome dimensions. Small and non-significant correlations to objective and observer-rated outcomes ( $r = -0.02$ , 95% CI: -0.08 to 0.03 and  $r = 0.10$ , 95% CI: -0.16 to 0.36 respectively), and a moderate association to self-rated outcomes ( $r = 0.30$ , 95% CI: 0.24 to 0.35) (Birkhäuser et al. 2017). The authors of the review explain the higher level of association with self-rated outcomes relating to the potential conceptual proximity of trust with subjective outcomes. For example, Hall et al. (2001) consider that trust and satisfaction are closely related, with trusting patients more likely to be satisfied, and previous satisfaction likely to foster greater trust; therefore, trust and health outcomes may mutually affect each other (Birkhäuser et al. 2017).

The results of this high quality systematic review and meta-analysis (Birkhäuser et al. 2017) suggest increased trust may be correlated with improved health outcomes; however, limitations should be noted. Firstly, analysis revealed smaller associations in higher quality studies, suggesting overall results may have been over-estimated. Secondly, potential moderators such as participant characteristics, or wider influences such as political, social or cultural processes could not be estimated.

In the current study, a trusting relationship was built on multiple facets. The development of trust centred on the teacher not aggravating the client's pain, predicated on 'knowing' the client and providing 'individual attention' and underpinned by 'teacher expertise'; in particular the demonstration of 'medicalised knowledge' in understanding the client's back pain. The client's 'trust' in the teacher's ability to minimise pain aggravation, coupled with 'encouragement' providing additional 'reassurance', facilitated a sense of 'feeling safe' and more confident to move. The story told within these findings portrays how Pilates clients with persistent low back pain may have lost confidence in their body, with concerns relating to recurrent flare-ups and 'putting your back out' by moving in the 'wrong' way. Thus, the Pilates teacher's role, at its most fundamental, relates to re-establishing this confidence.

In this respect, findings of the current study may relate to Tyreman's (2015) philosophical treatise on patient uncertainty. Tyreman (2015) argues that instead of focusing on the clinical uncertainties relating to diagnoses and non-responsiveness to treatment, with an ever-increasing reliance on medical testing to provide certainty, a healthcare practitioner should instead seek to understand uncertainty in relation to why a person is seeking care. Herein, life is seen as a journey, with events such as illness providing difficult and uncertain terrain for us to navigate, "but it is not the disease or pathology *per se* that is the source of the uncertainty... but the context, the way health problems literally get in the way of our journey's progress" (Tyreman 2015, p472). In these situations, our usual ways of moving through life become hindered, we become uncertain how to continue, losing confidence and trust in our bodies' abilities. This description of illness as uncertain terrain seems particularly redolent of low back pain experiences, where people describe the profound impact of pain on their ability to continue life as normal (Froud et al. 2014). For Tyreman (2015), the primary task of a healthcare practitioner therefore, is not to problem-solve but to establish a trusting relationship to support the uncertain patient, describing how "the practitioner becomes for the patient a temporary experienced guide whose task is to re-establish trust... offering a supporting hand and travelling alongside the patient as they find 'a new way' (of living) within an unfamiliar terrain" (Tyreman 2015, p476). A consideration of the role of the Pilates teacher as a guide providing reassurance and explanation is considered in more depth in Section [6.3.3](#).

Trust has been conceived as central to the therapeutic relationship (Buchman et al. 2017), and within the physical therapy literature trust has been related with other qualities of 'partnership' such as respect, mutual understanding and knowledge transfer (Babatunde et al. 2017). Together these qualities were considered to demonstrate the collaborative nature of the relationship, with

a balance of power seen as preferable (Norrby and Bellner 1995; Harrison and Williams 2000). In contrast, the findings from the current study appeared to show trust related to the teacher's authority, with faith in the teacher's expertise facilitating the client 'Feeling Safe' to carry out movements. The creation of a safe environment to foster patient progress was described in a number of articles in the wider literature, (Ekerholt and Bergland 2004; Wilson et al. 2017; Holopainen et al. 2018), with a 'safe space' associated with elements of caring and support. Within the current study, whilst encouragement was seen as contributing to building trust, the mastery of exercises through a directive teaching approach was associated more directly with feeling safe, reiterating the value placed on the teacher's authority.

Additionally, the findings from the current study showed little equivalence with the core theme of 'Congruence' where agreement on goals and tasks was widely reported within the literature (Besley et al. 2010; Babatunde et al. 2017). In the current study, the notion of goals appeared to be generalised perceptions related to expectations of outcome from attending Pilates. This included pain management and 'protecting' the back through core strengthening and improved flexibility. Scant discussion surrounding goals and tasks revealed a predominance for teacher-directed activity, with only one teacher describing a collaborative approach and the use of more formalised outcome measures. These findings highlight a significant disparity with the wider literature, where agreement on goals and tasks is considered an essential component of the therapeutic relationship, associated with Bordin's conceptualisation (1979) and in-line with patient-centred care (Mead and Bower 2000), as discussed in Sections [1.6.1](#) and [1.6.4](#) above. The centrality of the teacher's authority in the findings of the current study will be discussed further in Section [6.3.3](#).

### Feeling good

The theme of 'Feeling Good' described clients' perceptions of how Pilates made them feel, and the enjoyment associated with it. Clients described 'noticing a difference' in their bodies from doing Pilates, feeling stronger both physically and mentally, additionally describing the positive affect, or 'feel good factor', associated with movement. Moreover, clients described their 'enjoyment' of Pilates, with value placed on Pilates being a continuing part of their lives. Consideration of these findings in the wider literature may be aided by separating the theme in to short- and longer-term perceptions associated with Pilates.

The sub-theme 'noticing a difference' related to perceptions of decreased pain levels, with clients describing the effect of Pilates in the short-term when experiencing pain, and also in relation to

longer-term perceptions of less flare-ups. Section [1.3](#) considered the effectiveness of exercise interventions in the management of low back pain, with results from systematic reviews (Searle et al. 2015; Steffens et al. 2016) providing evidence that exercise may decrease levels of low back pain and reduce the risk of further episodes in comparison to minimal intervention. Pilates-specific systematic reviews (Wells et al. 2013; Yamato et al. 2016), considered in Section [1.4.3](#)., also demonstrated low quality evidence that Pilates improved pain and disability in the short-term compared with minimal intervention, although inconsistency was shown with regard to medium-term effect and with no studies reporting long-term follow-up.

In the current study, clients associated a decrease in perceived pain levels with feeling stronger physically. However, a systematic review (Steiger et al. 2012) examining the relationship between changes in clinical outcomes (pain and disability) and physical function (strength and mobility) after exercise therapy revealed little evidence to support this relationship. With regard to the influence of the therapeutic relationship on perceived pain levels in physical therapy settings, Section [1.8](#) described three systematic reviews (Hall et al. 2010; Kinney et al. 2018; Taccolini Manzoni et al. 2018) providing limited evidence from a small number of studies of an association between therapeutic relationship and improved levels of pain.

The sub-theme ‘Feel-good factor’ also represented perceptions of a short-term benefit, with participants describing how much better they felt immediately after a Pilates session. These findings echo the exercise-induced ‘feel-better’ effect proposed by Morgan et al. (1971), with subsequent research providing general consensus that exercise makes people feel better by improving affect (Buckworth and Tomporowski 2013). However, Ekkekakis et al. (2020) contend that there is incongruity between the notion that exercise makes people feel better and the high levels of inactivity seen in the general population, suggesting that exercise may produce other affective changes beyond ‘feel-better’. For example, repeated unpleasant experiences of exercise may be inhibitory, therefore the decision to engage in exercise may be influenced by affective variables such as pleasure and displeasure (Ekkekakis et al. 2011). Highlighting the potential role of positive affective responses, Dishman et al. (1985, p162) noted that “feelings of enjoyment and well-being seem to be stronger motives for continued participation [than] knowledge of and belief in the health benefits of physical activity”.

This resonates with the current study’s findings in the sub-theme ‘Enjoyment’, where participants described how the enjoyment they gained from Pilates motivated their continued attendance. Thus, it may be argued that the ‘Feel-good factor’ and ‘Enjoyment’ are suggestive of an affect-related response to Pilates. However, the current study did not include participants who had

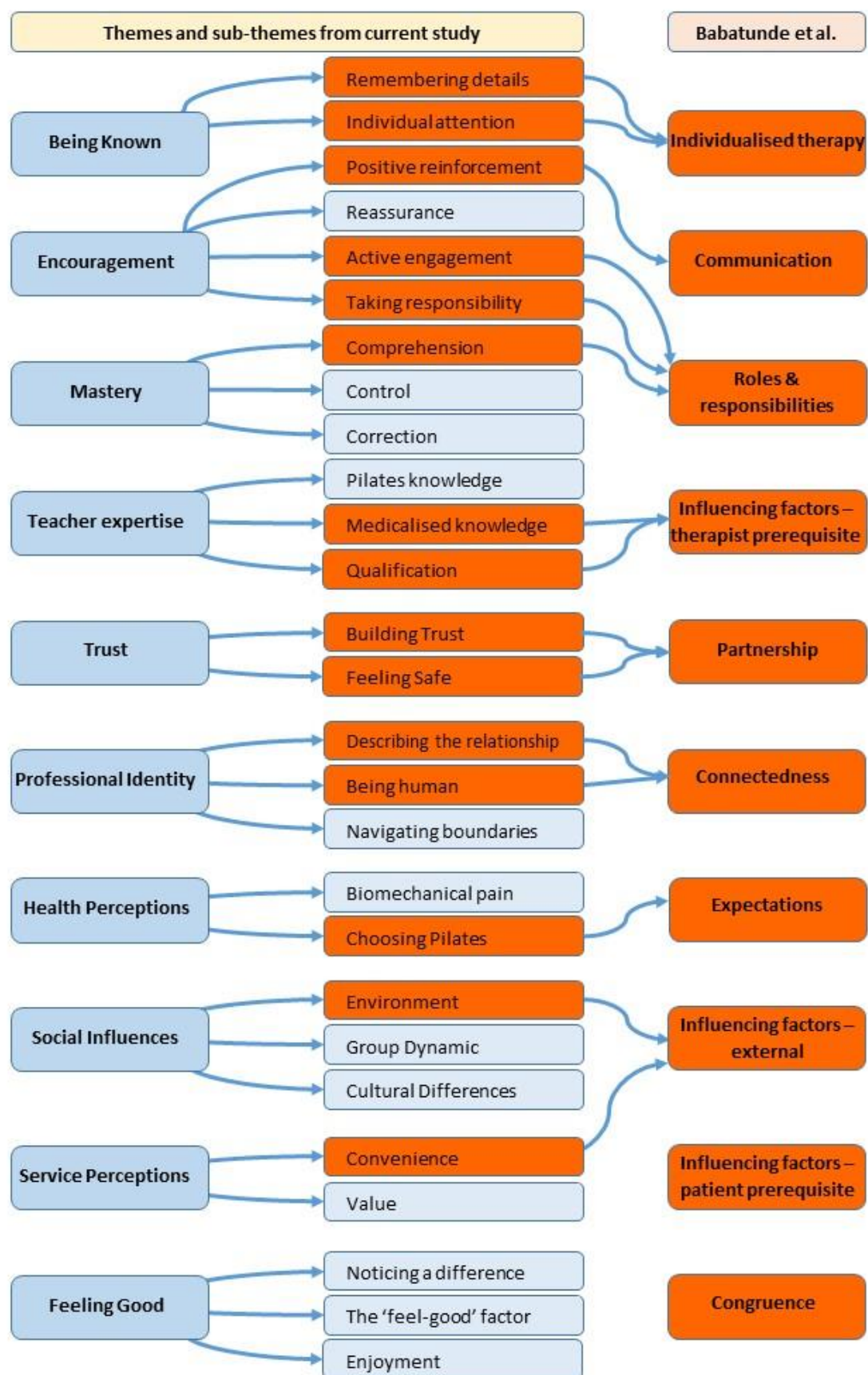


discontinued Pilates and therefore further research would be warranted in this area. Findings from the sub-theme 'Enjoyment' depicted the centrality of the teacher in facilitating the client's enjoyment and motivation, suggesting the role of the relationship may be important to continued attendance. This finding echoes the physical therapy literature, with Babatunde et al.'s (2017) scoping review of characteristics of the therapeutic relationship reporting that characteristics predictive of adherence included connectedness, individualised care, positive feedback, trust in the therapist, activating the patient's resources and shared goals and tasks.

### Summary

The discussion above has situated the findings from the current study within the literature relating to the therapeutic relationship in a wider physical therapy setting. Some evidence of shared characteristics was demonstrated, including elements relating to: individualised therapy, understanding and empathy; communication skills, with the Pilates teachers' communication style portraying a supporting style and elements of affective reassurance; the perceived value of the teachers' expertise; the role of the teacher as educator, suggesting elements of cognitive reassurance, enablement and activation alongside client expectations; influencing factors such as external factors; and the element of trust. Divergence was also demonstrated, in particular highlighting the lack of findings relating to congruence in the current study. Figure 55 provides a diagrammatic representation.

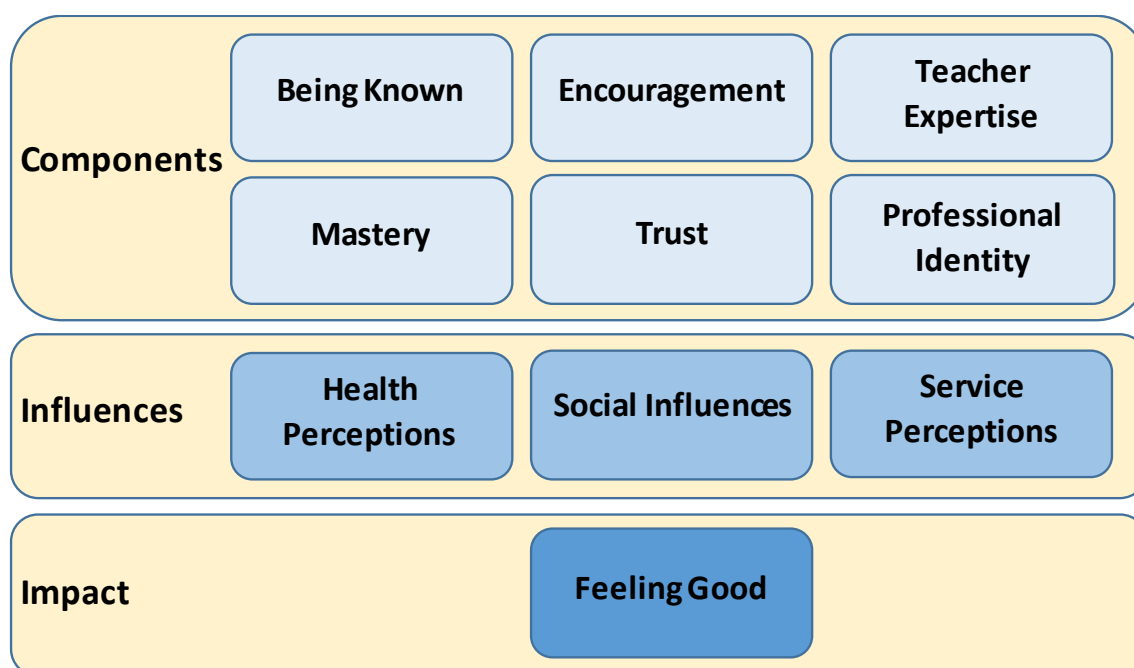
Figure 55. Similarities between findings and Babatunde et al. (2017)



### 6.2.3 Identifying components of the relationship

In this section, findings from the current study have been situated within the wider literature. Initially themes were considered in relation to Pilates-specific research which discussed the therapeutic relationship (Scarpellini 2013; Allen 2014), with comparison demonstrating considerable alignment, as detailed in Figure 39 above. Subsequently, findings have been situated within the broader literature pertaining to the therapeutic relationship in physical therapy contexts. Using core themes from four pertinent literature reviews (Besley et al. 2010; O'Keefe et al. 2016; Babatunde et al. 2017; Kinney et al. 2018), similarities and differences have been explored. Both Besley et al. (2010) and Babatunde et al. (2017) propose similar taxonomies differentiating components of the therapeutic relationship from influencing factors, and these have been used as guidelines to propose the grouping of themes from the current study in to components of the relationship between Pilates teachers and clients with persistent back pain, influences on the relationship, and the impact of the relationship, as shown in Figures 56.

Figure 56. Components of, influences upon, and impact of the relationship



Whilst similarities relating characteristics of the Pilates relationship to characteristics of the therapeutic relationship in physical therapy have been demonstrated, the evidence of divergence requires further examination. Disparity was demonstrated relating to the theme of 'Mastery' in the current study, with clients striving to achieve 'Control' of their body position and movement through 'Correction' by the teacher. Divergence was also apparent pertaining to the characteristic of 'congruence' described in the wider physical therapy literature, with scant descriptions of goals and tasks in the current study pointing to teacher-directed activities. Furthermore, clients' described gaining benefit from the teachers' directive approach, suggestive of a valued power asymmetry within the relationship between Pilates teachers and clients with persistent low back pain. These findings contrast with the wider healthcare literature, where a collaborative relationship is considered optimum. However, clients' descriptions of 'Choosing Pilates', alongside perceptions of value suggested consumer choice, creating a juxtaposition relating to the location of power within the relationship. Additionally, divergence within the findings of the current study revealed uncertainty surrounding the professional identity of the teacher, and concomitant relationship boundaries.

A potential explanation for these differences may relate to the location of Pilates as an exercise approach within the wider socio-cultural context. As described in Chapter [1](#), the Pilates method was borne from the specific historical context in which Joseph Pilates lived, and has evolved with influences from media and medicalisation to become a commonly used exercise therapy for the management of low back pain in particular (Yamato et al. 2016). The basic taxonomic description detailing the components and influences shaping the relationship shown above provides a useful comparative function; however, a fuller understanding of the relationship may be provided by contextualising the findings within a socio-cultural context. This perspective is expanded below using a social constructionist lens.

### 6.3 Situating findings in a socio-cultural context

As proposed in Chapter 3, the nature of the body-in-pain is inherently social. The subjective experience of pain is communicated through language, facial expressions and body language in person-to-person interactions, with its interpretation embedded within social and cultural contexts (Scarry 1985).

The Pilates relationship explored in this study is predicated on the dyad of a person-in-pain and a provider-of-help, the fundamental constituents of a therapy relationship (Benedetti 2010). However, as highlighted in Chapter 1, conceptions of the therapeutic relationship are varied, dependant on the theoretical lens through which the relationship is viewed. A comparison of the findings from the current study with the physical therapy literature exposed divergence from the established markers of a therapeutic relationship in the twenty-first century, where collaboration and power balance predominate (Mead and Bower 2000). In this regard, elements relating to the mastery of controlled movement and the authority of the teacher emerged from the data as keystones within the Pilates relationship.

This section will use a social constructionist lens to explicate these divergent elements. Herein, knowledge is viewed as culturally-specific; created, transferred and maintained through social interactions, and embedded within historical context (Burr 2015). Initially, cultural norms associated with back pain and posture are explored, proposing that these nineteenth-century ideas, constructed at the beginning of Joseph Pilates' development of 'Contrology', may continue to influence its use, practice and the inter-relationships of teachers and clients. Thereafter, the social construction of expertise is considered in relation to the value placed on the Pilates teacher's authority. As such, a social-constructionist perspective may provide an explanation for these distinctive characteristics, and provide an understanding of the nature of the relationship.

#### 6.3.1 Notions of low back pain

Low back pain has been a feature of the human experience through the ages with written records dating to ancient Egypt (Allan and Waddell 1989). Waddell (1996) contends that whilst there is no evidence that back pain is more common in modern times, an 'epidemic' of persistent low back pain exists, and this is supported by more recent figures showing that low back pain is the leading cause of disability worldwide (Hoy et al. 2012). Whilst the prevalence of low back pain may not have changed with time, the distress arising from it has, so much so that Waddell (1996, p2824)

described it as a “twentieth century health care disaster”. These changed notions of back pain are considered within a cultural and historical perspective below.

#### Low back pain – a cultural and historical perspective

Allan and Waddell (1989) suggest two nineteenth-century legacies that created the foundations for changed conceptualisations of back pain: firstly that pain came from the spine, and secondly was due to trauma. Prior to this, back pain was categorised as a rheumatic disease, with causation based on the Galenistic humoral tradition, through exposure to cold and damp conditions. However, the concept of spinal irritation proposed by Brown (1828) established the view that not only could the spine be a source of pain but could also be ‘irritable’. The concept was to have a profound influence as the basis for an enduring biomechanical approach to back pain, with its legacy beginning with the public notoriety of ‘Railway Spine’ (Allan and Waddell 1989).

Railways epitomised the public face of the fast-paced and potentially hazardous process of mechanisation and technology in the Industrial Revolution (Freeman 1999). As rail-travel increased, accidents and injuries multiplied, affecting not just industrial workers but people from all social classes (Harrington 2007). Employing the concept of spinal irritation, Railway Spine was considered an affliction resulting not just from traumatic accidents, but also from the vibration and jarring movements of a moving railway carriage (Erichsen 1866). According to Harrington (2007), this seemingly arbitrary risk produced the Victorian perception of the railway accident as a modern phenomenon, associated with an acute sense of the vulnerability of human beings in the face of the technologies they had created, but were unable to control. In this context, injury and death became meaningless and impersonal, as author Sala (1860, p417) poetically portrays,

“Who cares to sing the railway victims?... there is nobody to blame! And the excursion train...rattles gaily over the very place where, a month since, the accident took place; over the very spot where the earth drank up blood, and the rails were violently wrenched. ”

In an effort to apportion blame, public litigation against railway companies increased rapidly during the mid-nineteenth century, with the railways losing almost every claim brought against them (Harrington 2007). Consequently, establishing the precise nature of injuries became a central focus for court cases, with medical practitioners taking centre stage (Odden 2003).

Symptoms of railway spine were wide-ranging, including (but not limited to) back pain, paraesthesia, giddiness, memory loss, speech impairments and sleeping difficulties (Odden 2003;

Harrington 2007). Intriguingly, this ‘train’ of symptoms might appear some time after a seemingly trivial initial event (Erichsen 1866), and whilst large compensation could be sought for evidence of physical trauma, it is interesting to note that judges strongly opposed the award of compensation for symptoms that were “merely hysterical” (Odden 2003, p37). Consequently, Odden (2003) contends that the legal battles for compensation facilitated the creation of two separate but linked knowledge constructs.

Firstly, Erichsen’s (1866) biomechanical explanation of ‘spinal concussion’ leading to systemic nervous disorder (based on the earlier concept of spinal irritation) gained wide acceptance within the medical profession as a valid diagnosis, and more broadly with the intense public interest in Railway Spine court cases (Harrington 2007). Thus, the drama of the courtroom may be viewed as facilitating a discursive construction of knowledge, fostering the perception that even a minor episode of back pain could be the forerunner of much wider and debilitating systemic disorder (Hadler 2009). Nonetheless, the lack of specific physical evidence coupled with a preponderance of psychological symptoms, made the diagnosis ambiguous and open to challenge (Harrington 2007), creating a more subtle social construct. Herein, ‘hysterical symptoms’ associated with the more emotional aspects of Railway Spine were considered ‘worthless’, both in terms of financial compensation and as evidence of trauma (Odden 2003).

Eventually, high-speed rail travel became widely accepted, and diagnoses of Railway Spine disappeared; however, Allan and Waddell (1989) contend that the influence of the Victorian railway era left an enduring mark on the cultural psyche. Widespread notions of an irritable spine vulnerable to injury as a consequence of minor trauma persist, with the potential for serious, systemic sequelae to ensue (Allan and Waddell 1989; Hadler 2009). Additionally, it may be asserted that afflictions of the spine became indelibly linked to the helplessness of the sufferer, attendant with a more nuanced anxiety in relation to back pain symptoms being dismissed as ‘all in the mind’ (Harrington 2007).

#### Pilates clients and the influence of Railway Spine

Against the socio-cultural backdrop presented above, the back pain perceptions of participants in the current study may be considered from a social constructionist perspective. The majority of clients in this study associated the start of their back pain with a past trauma, often describing how the pain surfaced some time after the precipitating event. Participants connected trauma with perceptions of long-lasting damage to the spine, despite medical investigations generally showing no significant injury. Clients expressed anxiety about ongoing episodes of pain, where

‘putting your back out’ was related to biomechanical causes, with blame attached to periods of inactivity such as driving and sitting, or particular activities that might ‘jolt’ the back such as lifting or gardening. Not only do these perceptions echo nineteenth-century beliefs in the insidious nature of back pain, but also show accord with recent research investigating perceptions about back pain in the general population, reporting widespread belief in the negative consequences of back pain (Darlow 2016; Morton et al. 2019).

Thus, despite the challenge to the notion of a biomechanical basis for persistent low back pain in recent times (Lederman 2011; Hartvigsen et al. 2018), an assertion may be made that knowledge socially constructed over a century ago continues to percolate and colour perceptions, promoting the notion that back pain is related to biomechanical failures of the spine, creating anxiety surrounding the vulnerability of an uncertain body.

### **6.3.2 Practices of control - mastering the uncertain body**

In the socio-cultural context illustrated above, the back is portrayed as vulnerable to injury. In a qualitative study exploring low back pain perceptions, Darlow et al. (2015) describe how patients believed the back required ‘protection’ through avoiding dangerous activities, strengthening muscles and controlling posture. Consistency may be found with the findings from the current study, where the sub-themes of ‘Control’ and ‘Feeling Stronger’ were particularly associated with perceived decreased levels of pain.

Lupton (2000, p56) asserts that “one of the most dominant logics organising ways of acting and thinking in Western societies... is that of control”, whereby people strive to impose order and certainty on a chaotic world through the exertion of self-will on their actions. In this regard, Foucault (1988) referred to practices of control where social norms governing appropriate behaviours become internalised, then re-emerge through the labours of self-discipline. In particular, conceptualisations of health and illness provide conspicuous examples of the desire to wrest control of an uncertain body, wherein the body may be perceived as a project for constant improvement, and through which self-knowledge, self-mastery and self-care can be demonstrated (Lupton 2000; Shilling 2012). In the current study, the importance of self-control was manifest, with the mastery of a controlled body through disciplined movement and posture described as a central tenet of the Pilates method. Lack of control was associated with episodes of pain, conversely, mastery of control was associated with feeling safe to move, and linked to perceptions of decreased pain levels.



Shilling (2012), however, states that active intervention in the body is meaningless without moral criteria to guide not just *'why'* people should control their bodies, but also *'how'*. In this regard, further socio-cultural contextualisation may deepen an understanding of the mechanics that underpin the perceptions of Pilates as a means of attaining control.

### The social construction of 'correct' posture

In order to place contemporary perceptions of posture within a socio-cultural context, Elias's (1969) conception of the 'civilised body' provides a useful starting point. The concept of the 'civilised' person relates to a process of socialisation where moral codes inhibit the expression of impulsive actions (Elias 1969). According to Elias (1969), the outward control of a 'civilised' body has its roots in the etiquette of Renaissance court society, where court etiquette provided a highly controlled setting for social interaction, with the rules surrounding manners and deportment dictating a person's status within the hierarchy. Strict adherence was required, with punitive social sanctions administered; a single 'discourteous' act such as placing the hand on the hip could result in socially catastrophic disrepute (Elias 1969).

The control of body positioning metamorphosed into sixteenth-century military 'postures' with specific positions for the efficient carrying and discharge of weapons (Gilman 2014). The fundamental posture was "standing at attention", with a "plumb line" from head to feet and a rigidly erect spine, rehearsed many times until soldiers stood with identical posture (Gilman 2014, p59). Thus, a disciplined posture equated to military efficiency and might.

In 1898, German anatomists Braune and Fischer brought the study of posture to the medical realm using plum line measurements to provide the 'optimum' line of the body, transforming the military efficiency of 'standing to attention' to a debate on physiological postural efficiency (Gilman 2014). Postures deviating from the 'ideal' plumb line, such as kyphotic, lordotic, sway-back or flat-back, were considered pathological. 'Poor' posture was correlated with physical deformations from diseases such as rickets - a malady of the poor, urban working-class populace. 'Good' posture now reflected an indivisible merging of morality with perceptions of health and illness (Gilman 2014); a healthy body required a disciplined approach.

Cultural fascination with body discipline reached a zenith in the early twentieth-century physical culture movement introduced in Chapter [1](#). Based on rational and scientific approaches to the body, physical culture aligned with the medical paradigm, wherein the body could be measured, analysed and improved (Budd 1997). The concept of 'exercise' thus provided an appropriate locus for the affirmation of discipline, character and health, a tool with which to master the uncertain

body (Pfister 2003). The creation of the Pilates method may be seen as contemporaneous with the culture; however, consideration should also be given to the militaristic context of Joseph Pilates' early life. According to Gilman (2014), nineteenth-century German gymnastics, or 'Turnen', located body discipline as a cornerstone of German national identity, making 'good' posture a moral imperative. Whilst the darker significance shrouded in the notion of the body aesthetic is beyond the scope of this thesis, the socially-constructed notion of bodily discipline described above may provide a perspective to illuminate the importance of control and disciplined movement considered to underpin the Pilates method, or as it was originally named 'Contrology'.

The historical excursion above locates the findings from the current study within the context of posture. Herein, data relating to the value placed on finding 'correct' alignment may be explained from a social constructionist perspective as the representation of internalised cultural norms, based in the relics of centuries old practices of postural control.

### History repeated

The suggestion proffered in the sections above contend that Victorian perceptions of the body, and of the spine in particular, constructed the body as a locus of anxiety, requiring control, with the exercise regimes of early twentieth-century physical culture providing an answer couched in self-discipline and the morality of 'good' posture. Nonetheless, as described in Chapter 1, physical culture faded into the background against the ascendance of sport to mass popular culture, and remained relegated to the side-lines until the emergence of 'healthy lifestyles' at the end of the twentieth century.

As the twentieth-century progressed, public health anxieties resurfaced with the increasing concern over chronic diseases such as cancer and heart disease, and the emergence of HIV/AIDS (Lupton 2000; Crawford 2006). These diseases were associated with individuals who were "out of control" (Crawford 2006, p414). In response, the notion of 'health consciousness' associated with prudence and self-control was promulgated via the media, emphasising individual risk-management through 'lifestyle' (Crawford 2006; Lupton 2012). In particular, the dangers of inactivity were writ large through public health initiatives and mass media, and exercise took its place once again on centre stage (Cairney et al. 2018).

Whilst some authors consider the rise in 'health consciousness' as a contemporary preoccupation (Greenhalgh and Wessely 2004), a clear genealogical lineage may be traced to nineteenth-century health concerns, with "new health consciousness" defined in the moral value of self-control

(Crawford 2006, p407). Thus, the popularity of exercise in the twenty-first century may be viewed as an upcycling of pre-existing cultural norms. To combat the ‘problems’ of inactivity, society has returned to the lifestyle notions of control and discipline inherent within the physical culture movement.

#### Pilates as a practice of control

Findings from the current study demonstrated the importance participants placed on achieving ‘control’ of the body, describing efforts to find and maintain ‘correct’ alignment and precise movement. Mastery of controlled movement was aided by the teachers’ corrective feedback, described at times in militaristic language reminiscent of sixteenth-century firearm ‘postures’, where correct ‘form’ was ‘drilled’ in to the client. Furthermore, clients’ emphasised how ‘core stability’ was a key part of the management of their back pain, in line with the wider findings from Allen’s (2014) scope of Pilates study, where 95.4% of client respondents reported better core stability as an effect of Pilates. This biomechanical concept requires the ability of a person to control the position and motion of the spine and pelvis, with core stability exercise defined by Hodges (2003, p245) as “the restoration or augmentation of the ability of the neuromuscular system to control and protect the spine from injury or re-injury” (Hodges 2003, p245). Despite concerns that the concepts of ‘stability’ and ‘instability’ may act to emphasise notions of the spine’s vulnerability (Reeves et al. 2019), the findings from the current study suggest that Pilates may be viewed as a valued practice of control, socially-constructed to reduce anxiety surrounding the uncertain body.

However, amongst the multitude of exercise methods available, the question arises, ‘Why Pilates?’ Pfister (2003, p70), describing Swedish gymnastics, raises a compelling point, equally germane to Pilates,

“It is difficult to understand why this form of physical culture became successful and to imagine what made it attractive. Were people really eager to practise relatively simple exercises which were all rather alike and followed the same rhythm and the same commands from the teacher?”

The next section proposes an explanation, couched within the socio-cultural context developed above. Crawford (2006, p404) reiterates that in the quest for control, “health seekers look to the star of medical knowledge for... the key to a life free of illness, pain or suffering”. It is proposed that Pilates harnesses practices of control to facilitate the client’s mastery of an uncertain body through the authority of the teacher-as-expert.

### 6.3.3 The authority of the teacher

As described in the sections above, notions of back pain and clients' perceptions of an uncertain body may be seen as embedded within cultural norms, which assume a spine vulnerable to injury and requiring medical intervention. In the current study, participants ascribed importance to the medicalised knowledge of the teacher, with choice of teacher often based on perceived expertise in this area. The use of medical terminology and biomechanical references by the teacher were related to levels of knowledge and understanding, which in turn were associated with clients' confidence in the teachers' ability to provide exercises specifically related to the individual's needs, without aggravation of pain levels.

Additionally, findings demonstrated how clients' evaluated teacher expertise in relation to qualifications. Chapter 1 introduced the alignment of Pilates to the medical profession as a potential means of providing legitimacy; however, given the value placed on expertise, the construction of Pilates teachers' legitimised knowledge through qualifications may illuminate deeper understanding.

#### Constructing expertise

Berger and Luckman (1967, p67) assert that experts are "the officially accredited definers of reality", yet acknowledge the problem of knowing which expert to trust. Koppl (2010, p220) suggests that "we rely on the label since we don't have the expert knowledge itself", thereby depending on a social process governing the construction of the label of expertise.

The process for the construction of expertise may be portrayed in terms of professionalisation which, according to Cant and Sharma (1996) requires a number of strategies to be engaged, each fostering a monopoly on expert knowledge:

- Unification
- Codification of knowledge
- Social closure
- Alignment to the scientific paradigm
- Support from strategic elites

In considering the perceived expertise of Pilates teachers in the current study, a contention is made that the Pilates industry has demonstrated a move towards professionalisation. As noted in Chapter 1, with a surge in interest in 'core stability' research, physiotherapists began to use Pilates; however, with the rise in the popularity of Pilates for the management of low back pain, a

struggle for dominance between healthcare professional and non-professional training and provision may be seen. Articles in the popular press endorsed Pilates but warned that incorrect teaching could be dangerous, unless taught by medically-trained physiotherapists, with one spinal surgeon stating that physiotherapist-led Pilates was safer because, “that medical knowledge means they have a real understanding of back pain” (Dovey 2012). This might be interpreted as an effort to form social closure by subsuming Pilates in a medical monopoly, wherein experts may seek to protect their knowledge and disparage the knowledge of others, necessitating that “outsiders have to be *kept out*” and insiders “have to be *kept in*” (Berger and Luckmann 1967, p87). In this way, a monopoly of expertise may confer authority and status for the experts, and from a medical expertise perspective, controls against “quackery” through the label of “medical science” (Koppl 2010, p222).

By contrast, in another newspaper article, Lynne Robinson, founder of Body Control Pilates (non-healthcare professional training provider) stated, “Pilates is not a treatment for back pain...we don’t diagnose and we don’t treat” (Murphy 2008), suggesting a clear delineation in scope of practice; however, publication of ‘The Pilates Prescription for Back Pain’ and ‘Pilates Back Book’ co-authored by Robinson (Robinson et al. 2002, 2004), proffer a potentially conflicting message with the use of medical terminology and clear reference to Pilates being used for back pain. This might be viewed simply as effective marketing of a brand, but in the market for experts, competition may lead to confusion of the layperson (Berger and Luckmann 1967).

Further evidence of professionalisation is demonstrated in the development of higher levels of qualifications for Pilates teachers, specifically aligned with the scientific paradigm. The UK Pilates community came together to create a national standard in 2005, ratified by the Qualifications Curriculum Authority (QCA) and overseen by SkillsActive and the Register of Exercise Professionals (SkillsActive 2019). This may be viewed as an effort to codify knowledge, with specific criteria laid out for expectations of performance and knowledge, including understanding of the musculoskeletal system (SkillsActive 2019), thus entrenching biomechanical teaching within the Pilates model. Further claims to legitimise knowledge may be suggested with the introduction of Body Control Pilates’ ‘exercise specialist’ Level 4 Low Back Pain qualification in 2010 (Body Control Pilates 2019), suggesting a form of social closure by limiting the number of members through a training programme (Cant and Sharma 1996). Whilst the relatively low academic level of the course cannot be compared with the social closure engendered by degree status, in America, Polestar Pilates now partners with six universities and medical institutions, including a university level Pilates teacher training programme at Rutgers University (Polestar Pilates 2019). These

actions may be construed as a signal of intent by the non-medical training bodies to align with the scientific paradigm, particularly when considering those training with Body Control Pilates (who are allied with the charity BackCare) are entitled to call themselves 'BackCare professionals' (Body Control Pilates 2019).

From the discussion above, a contention may be made that Pilates has sought legitimacy for expertise through a professionalisation process, with elements of codification of knowledge, social closure and alignment with the scientific paradigm evident. Whilst this process may be viewed as ongoing, it provides a socio-cultural context to understand the status of the Pilates teacher.

### Ritual-like practices of control

The sections above have contextualised the activities associated with Pilates as practices of control, based in cultural norms whereby the practices are designed to reduce anxieties surrounding the uncertain body through specific, precise and controlled bodily movements and postures. It has also been proposed that the Pilates teacher is considered an expert in presiding over these practices. When considered together, these elements show similarity to the characteristics of ritual-like activity.

Definitions of ritual are varied, but Strathern and Stewart (1998, p237) propose ritual to be "the repetitive, ordered performance of certain embodied actions ...attached to social values and purposes", with the highly defined activities require attentional focus and effortful action, thus discriminating them from everyday activities (Marshall 2002). The use of ritual has been observed across cultures, commonly used in response to times of uncertainty or crisis, and is considered to foster a sense of credulity, certainty and confidence in those participating (Bell 1992; Collins 2005).

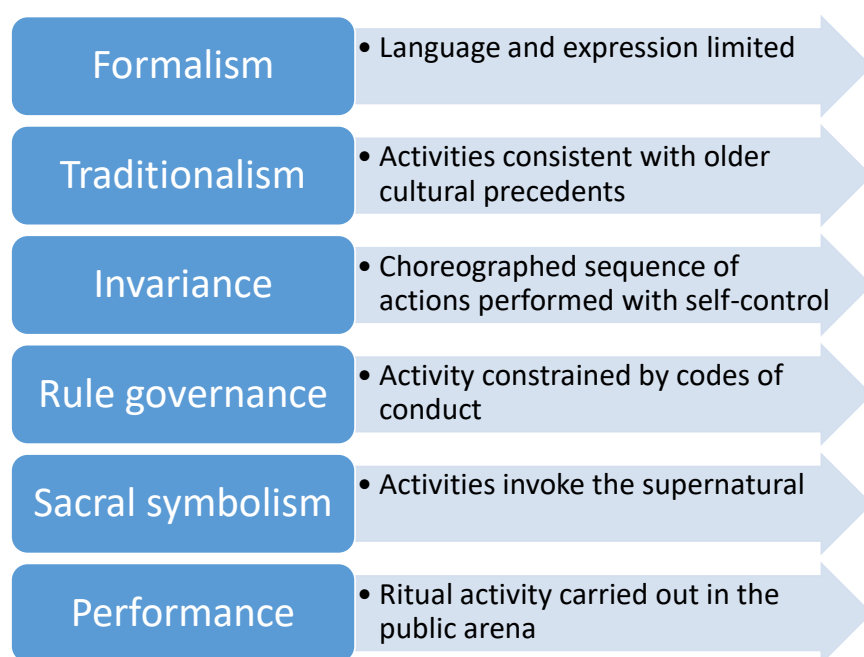
Considering the term 'ritual' introduces connotations of religious or highly ceremonial activities, and it has been argued that in complex societies, the necessity for formal ritual are rare (Couldry 2005). A critique of the utility of the concept of 'ritual' may therefore point to its obsolescence in an individualist and secularised society (Couldry 2005); however, a contention is made that ritual-like activity may provide individuals with a sense of certainty and social cohesion without the requirement for formal ritual (Tonna et al. 2019). The work of Catherine Bell (1992; 1997) offers links between ritual-like activity and wider social practices.

According to Bell (1997), ritual activity can be assigned to six categories of action: formalism, traditionalism, invariance, disciplined rule-governance, sacral symbolism, and performance (see Figure 56). Formalism relates to the degree that language and bodily expression are limited through a “restricted code of communication” (Bell 1997, p135). Table manners are cited as an obvious setting for ritual-like formalised activity which may communicate complex socio-cultural meaning (Bell 1997). Traditionalism represents activities that appear to be consistent with older cultural precedents, such as the use of ceremonial costumes, archaic languages or simply the recreation of traditional Christmas dinner. Bell (1997) asserts that the categories of formalism and traditionalism commonly coalesce, effectively emphasising the difference between ritual and everyday activity.

Invariance relates to “a disciplined set of actions marked by precise repetition and physical control” (Bell 1997, p149), considered to be the characteristic feature of ritual activity. A choreographed sequence of actions, performed with self-control epitomises invariance, which may be linked to a particular setting: such as the format of Alcoholics Anonymous meetings; or may encompass the ritualization of daily activities, as seen in monastic life. In both examples, the routine and discipline required is seen as encouraging self-control and embodying cultural norms (Bell 1997). Rule-governance relates to the constraints imposed on activity by codes of conduct, particularly related to activities such as sport and warfare, channelling and controlling conflict, but equally applicable to interactions in the court-room or boardroom. The premise of rule-governance is seen as providing normative rules for the control of disorder and chaos (Bell 1997).

Sacral symbolism relates to activities that invoke the supernatural, such as swearing on the Bible or the raising of a national flag (Bell 1997). According to Bell (Bell 1997), these symbols embody values, loyalties and emotions. The final category of performance is described as the demonstration of ritual activity in a public arena, whereby the multisensory experience of the performance provides an emotionally compelling instrument for the dissemination of socio-cultural messages (Bell 1997). Examples might include the pageant of the Queen’s golden jubilee or the mass gymnastics rallies of nineteenth century Germany. The categories of ritual activity are summarised in Figure 57.

Figure 57. Categories of ritual activity



As the examples above show, ritual-like activities are practices that may be situated outside codified cultural definitions of ritual, yet align with one or more of the categories of ritual activity listed above, in what Bell (1997) describes as a continuum of ‘ritualization’. It is interesting to note the primacy given to the body within each category, wherein movements, gestures and expressions define the activity and its qualities, thus offering potential utility for further interpretation of the findings of the current study.

A key finding from the current study demonstrated the perceived importance of mastery of prescribed movements with control and precision, suggesting a strong connection to the category of invariance. Participants described the goal of attaining correct alignment and precise movement of the body, whereby adjustments of a few inches were considered paramount in attaining mastery. The exercises given by the teacher were commonly chosen from a repertoire associated with the founding set of Pilates exercises (as described in Section [1.3.1](#)), with clients required to perform an exercise repeatedly with the same degree of precision. Here, the directive role of the teacher was considered pivotal in achieving controlled movement successfully time after time, with teachers expressing frustration when clients did not follow instructions precisely. In addition, a number of participants expressed annoyance when group class clients moved out of time with the group as a whole, suggesting the value placed on rhythmicity and discipline.



The findings also showed similarity with the category of rule-governance, illustrating a common set of rules relating to positioning the spine and pelvis in 'neutral' and in 'correct' posture and alignment. Participants commonly used the phrasing of 'getting it right' and 'doing it wrong', demonstrating the regulated nature of Pilates. Bell (1997) asserts that rule-governance relates to the control of conflict, and whilst this may suggest a lack of concord with the findings of the current study, where rules were described in relation to biomechanical principles, the cultural norms associated with posture described above may point to a tacit implication of conflict control.

Formalism and traditionalism may be considered less discernible in the current findings; however, the teachers' language provides examples of formalism with medical terminology and the use of Pilates-specific language revealed in theme vignettes. Fieldnotes demonstrated the use of a common style of dress in Pilates reporting almost ubiquitous use of close-fitting clothing, potentially highlighting an association with the minimal clothing requirements expounded by Joseph Pilates, or a link to the dance heritage of the method. These associations may be considered speculative; however, without further scrutiny. Furthermore, the categories of sacral symbolism and performance did not appear to be consistent with the current findings.

The findings from this study demonstrate a considerable similarity with the category of invariance, with evidence of rule governance and some suggestion of formalism and traditionalism; thus, a contention is made that Pilates may be a ritual-like activity.

#### The teacher as ritual expert

At the heart of ritual activity are specialised personnel, whose knowledge bestows power and authority for the ritual expert to validate the rituals over which they preside (Bell 1997). In considering the use of ritual within a healing setting, McCreery (1979, p55) considers therapeutic ritual as an activity that "alleviates distress by making illness meaningful", with the healer/therapist at the centre, providing an explanation for illness. Elks (1996), expands the potential role of the healer to three categories; mother, mentor and magus (a person of divinity), suggesting that these roles may be used jointly or severally. The 'mother' role is characterised by the healer attending unquestioningly to the patient's needs, whilst the 'mentor' advises, guides and admonishes an actively participating patient, with the 'magus' role seen as performance of a healing ritual on a passive participant (Elks 1996).

The role of the Pilates teacher in the current study was seen as providing help for the client with persistent low back pain through the provision of Pilates exercises. Findings demonstrated how

teachers used educational language to provide explanations to clients, directed precise execution of the exercises to guide the clients, and used corrective communication to admonish incorrect execution. These findings are suggestive of the teacher's role as a 'mentor'. Whilst the elements characterising a 'mentor' role were described universally by participants, the relationship between teacher and client was predominantly portrayed as an informal social relationship, with participants likening the relationship to a friend or family, describing a sense of closeness and caring. These findings are suggestive of the teachers' role also being 'mother'. Indeed, one teacher described herself as *"protective...like a mother lion"* [Janey, teacher. 1018-1019].

However, teachers' expressed uncertainty in negotiating the boundary between professional and friend, highlighting a potential tension between the roles of 'mentor' and 'mother'. Elks (1996) contends that in a biomedical context, the 'mother' role is usually fulfilled by nurses, allied healthcarers and family, whilst physicians avoid this role as it disturbs the power asymmetry required for the 'mentor' and 'magus' roles. Herein, the power is held by the physician through control of the time allocated to the appointment, the level of communication, in addition to the use of props and physical touch (Elks 1996). In the context of the current study, the teacher also controlled these elements through a directive 'mentor' approach, and therefore a power asymmetry may be identified within the relationship, with the teacher-as-expert holding the power. Conversely, the 'mother' role is associated with the healer's subservience to the patient's needs, thus creating the potential for "awkward professional role issues" (Elks 1996, p604).

Furthermore, findings demonstrated the clients' governance over the relationship as 'consumers' of Pilates services, with the sub-theme 'Choosing Pilates' providing evidence of the clients' power in choosing, maintaining or rejecting a teacher. Whilst this may be viewed as ostensible autonomy, the clients' choices may also be regarded as subtly governed through wider social controls. The clients' health perceptions provided a foundation for the choice of Pilates as a tool for mastery over their back pain through controlled movement, and this search for order resonates with Foucault's (1977) concept of disciplinary power. Herein, bodies are seen as managed, moved and monitored through 'drill-like' regimes of institutions (Foucault 1977). Thus, the Pilates class may be interpreted as an institution symbolising the cultural norms of health, with lessons dictating the 'correct' way to perform an exercise with requisite precision and self-control. However, in contrast to Foucault's (1977) conception of the 'docile body', Pilates clients actively choose an activity that requires obedience to rules. Governance by rules appears to be a meaningful practice that, whilst involving dominance by the teacher aiming to 'normalise' the client, also involves personal agency.

Whilst a Foucauldian analysis of power is beyond the scope of this thesis, the comparison has been made to highlight the social construction of the authority of the teacher within the ritual-like activity of Pilates, embedded within cultural norms, and viewed as fundamental by the client, who actively chooses to confer authority to the teacher-as-expert.

#### **6.3.4 The nature of the relationship – a social constructionist perspective**

In the contextualisation above, an argument has been made that the role of the Pilates teacher in the current study facilitated the alleviation of clients' distress through the application of ritual-like Pilates activity. Thus, from a socially-constructed perspective, the relationship between teacher and client may be considered to be a therapeutic relationship, based on the client-in-pain seeking a teacher-as-expert who guides the client through ritual-like practices of control, based in cultural norms associated with the vulnerability of the spine and the requirement to correct posture. The impact of the relationship may be viewed as reducing the clients' anxieties surrounding the uncertainty of the body by providing culturally-based meaning to their back pain through control of alignment and movement. In considering how a ritual-like practice of Pilates may effect a change, it may be proposed that that strategies of ritualization present historically-situated messages encoded in repetitive actions, "thereby ordering the relations of the past and present, establishing a sense of continuity, security, and direction" (Bell 1997, p168).

The suggestion that Pilates may be a ritual-like practice with the teacher-as-expert at its heart is a tentative proposal. It has been asserted that the practice of Pilates shows some consistency with elements of ritualised activity; however, in order to fully examine this proposal, further investigation and analysis is required, and may therefore be considered as a direction for future research. Additionally, whilst the relationship between Pilates teachers and clients with persistent low back pain has been identified as a therapeutic relationship from a social constructionist perspective, this contention should be examined within the context of other theoretical perspectives, and therefore a discussion is expanded below.

## 6.4 Theoretical synthesis

In the previous section, a sociologically-informed social constructionist lens provided an interpretation of the findings from the current study, asserting that the relationship may be viewed as a therapeutic relationship, with the teacher facilitating the alleviation of the clients' distress through the ritual-like enactment of Pilates exercises. The following section explores this assertion by considering other theoretical approaches introduced in Chapter 1 that have conceptualised the therapeutic relationship. Herein, psychotherapeutic, anthropological and biomedical perspectives provide broad theoretical categories for contrast with the sociological approach used in the current study.

### 6.4.1 Psychotherapeutic lens

The predominant framework for theorising the therapeutic relationship in psychotherapy is considered to be Bordin's (1979) conceptualisation of the working alliance (Horvath and Luborsky 1993), with three conditions necessary to create an effective relationship:

- a) Agreement on therapeutic goals
- b) Collaboration in forming tasks
- c) Affective bond between client and therapist

Decades of research measuring the association between the alliance<sup>3</sup> and outcomes in psychotherapy support the hypothesis that the strength of the alliance is predictive of outcome (Horvath and Symonds 1991; Martin et al. 2000; Horvath et al. 2011). This robust evidence led to a broad acceptance of the concept within psychotherapy (Krause et al. 2011) and more widely within other healthcare contexts (Kelley et al. 2014). Reviews examining the research relating to the therapeutic relationship in physical therapy settings have also employed Bordin's (1979) definition (Besley et al. 2010; Hall et al. 2010; O'Keefe et al. 2016; Babatunde et al. 2017; Kinney et al. 2018). More specifically, Kinney et al.'s (2018) systematic review examining the therapeutic relationship in physical therapy for chronic musculoskeletal pain reported that four of the seven included studies (Burns et al. 1999; Ferreira et al. 2013; Cheing et al. 2014; Harman et al. 2014) used Bordin's (1979) conceptualisation as an operational definition. Two further studies (Fuentes et al. 2014; Wilson et al. 2017) used operational definitions suggestive of earlier psychotherapy

---

<sup>3</sup> : Here the term alliance is used to specify elements of the therapeutic relationship pertaining to Bordin's conceptualisation.

conceptualisations, including aspects of collaboration, warmth, support and positive regard (Rogers 1957; Greenson 1967).

Given the weight of research utilising Bordin's (1979) work in research relating to the therapeutic relationship, evaluating the findings from the current study within this conceptualisation may be considered judicious. The components of the relationship between Pilates teachers and clients with persistent low back pain (as contextualised in Section [6.2.2](#) above) showed a clear discrepancy with the theme of 'congruence' relating to the three conditions specified by Bordin (1979) as requisite for an effective working alliance.

Whilst findings from the current study demonstrated compelling evidence for an affective bond between teacher and client through the themes of 'Being Known', 'Encouragement', 'Trust' and the sub-theme of 'Being Human', there is scant data relating to agreement on treatment goals, or collaboration in forming tasks. In contrast, findings demonstrated a more directive approach, with little evidence for discussion relating to goals, and only one teacher reporting the use of a more collaborative practice. Hatcher and Barends (2006) assert that a negotiated, purposive collaboration is the essential ingredient for an effective working alliance where change can be initiated, without which, the relationship becomes indistinguishable from a supportive everyday interaction (Horvath and Greenberg 1994). Therefore, using a psychotherapeutic lens, the relationship between Pilates teachers and clients with persistent low back pain may not represent a therapeutic relationship.

In physical rehabilitation settings studies investigating the therapeutic relationship, outcome measures developed from psychotherapy are commonly used, with the recent scoping review by Babatunde et al. (2017) reporting only one measure developed specifically for a physical therapy setting. Whilst Bordin (1979) considered his working alliance concept to be 'pan-theoretical', some researchers have questioned this construct is wholly transferable to a physical rehabilitation setting, wherein additional constructs may be important in establishing a therapeutic relationship (Babatunde et al. 2017). Moreover, within the field of psychotherapy, Vowles and Thompson (2012) contend that the importance of the individual components within the relationship have not been identified. Krause et al. (2011) provide further critique, stating that the central feature of collaboration has been accepted without any consensual definition of what the therapeutic alliance is. Indeed, the authors argue that 'de-facto' definitions are a product of the instruments used to assess the relationship, with researchers "devising assessment tools that capture their implicit assumptions about what the alliance is in their particular context, but without explicitly

differentiating what they measured from other conceptualizations and other measures used in the literature” (Krause et al. 2011, p270).

In considering which relational elements both therapists and clients perceived as important within psychotherapy settings, Krause et al. (2011) thematically analysed five phenomenological studies, proposing the following components of the therapeutic relationship: affective reciprocity and emotional expressions; acceptance, trust and understanding; expertise, commitment and collaboration. Herein, an affective bond of warmth, caring and affection was considered paramount, with clients’ choice of practitioner predicated on these characteristics. Feeling understood and accepted allowed clients to develop trust in the therapist, describing aspects close to that of friendship. Clients placed value on the therapists’ knowledge and expertise, thus creating an asymmetrical power relationship, with collaboration identified as either the clients’ implicit or explicit active participation in therapy. Interestingly, agreement on tasks and goals received little attention in response to prompts about important elements of the relationship (Krause et al. 2011). The similarity to the findings of the current study is noteworthy, with the affective bond and teacher expertise described as key characteristics, and limited discussion relating to tasks and goals.

The perceived importance of the affective elements of the relationship in Krause et al.’s (2011) study are used to highlight a potential discrepancy in common measures of the therapeutic alliance, which may instead focus on cognitive and behavioural indicators based in the theoretical concepts of the relationship. Findings from Babatunde et al.’s (2017) reported the Working Alliance Inventory (developed using Bordin’s model) was the most commonly used outcome measure; however, Hall et al. (2012) concluded that measures developed from psychotherapy required re-contextualisation for use in rehabilitation settings. Additionally, Babatunde et al. (2017) emphasised the importance of other relational elements such as external influencing factors. Here, the expansion of components of the therapeutic relationship to encompass additional elements reaches a theoretical impasse, with Hatcher and Barends (2006) lamenting the use of Bordin’s (1979) conceptualisation as a proxy for the relationship as a whole.

However, alternate psychotherapeutic perspectives of the therapeutic relationship, such as the common factors hypothesis, embrace the importance of additional factors beyond Bordin’s conceptualisation (Drisko 2004; Wampold and Budge 2012). The common factors hypothesis refers to a theoretical model for the mechanisms of change in psychotherapy, wherein a set of shared elements found across psychotherapy practices may be considered as the “active ingredients” of therapy (Drisko 2004, p84). The seminal work of Frank and Frank (1993) identified

four common factors across psychotherapy and the healing practices of other cultures. Firstly, an emotionally charged, confiding relationship with a healer is considered necessary. Secondly, the healing context reinforces the patient's perceptions of the healer as a socially-sanctioned expert and creates a feeling of safety. Thirdly, the healer provides a rationale or myth to explain the patient's symptoms and provides a method for their resolution, couched within the patient's cultural context. Fourthly, the enactment of a treatment, procedure or ritual consistent with the explanatory rationale. Frank (1971) describes how therapeutic ritual is necessary for all treatments to be effective, with the enactment of a specific procedure delivered within the context of a relationship founded on expectancies produced through cultural context. Thus, from this perspective, psychotherapy is considered to be a social healing practice.

The findings from the current study demonstrate consensus with the four common factors of the healing process conceptualised by Frank and Frank (1993). The relationship between Pilates teachers and clients with persistent low back pain was shown to be emotionally-charged and confiding, as described within the themes of 'Being Known', 'Encouragement', 'Being Human' and 'Trust', with participants describing the closeness of the relationship in the sub-theme of 'Describing the Relationship'. The value of the teacher-as-expert was portrayed in the theme 'Teacher Expertise', with the rationale of movement 'control' couched within the cultural context of clients' preconceived notions for their back pain, as described in the theme 'Health Perceptions'. This rationale was consonant with the ritual-like enactment of Pilates exercises depicted in the theme of 'Mastery', where the similarity to Frank and Frank's (1993) conception of treatment akin to ritual activity may be considered of particular relevance. Therefore, from a common factors perspective, it may be contended that the relationship between Pilates teachers and clients with persistent low back pain does represent a therapeutic relationship.

Whilst Bordin's (1975) conceptualisation of the working alliance predominates in operational definitions of the therapeutic relationship in the physical therapy literature, the discussion above regarding common factors provides a potentially wider remit for considering influencing factors viewed as important through a psychotherapeutic lens. Consequently, consideration may be required to evaluate the suitability of operational definitions of the therapeutic relationship grounded purely in Bordin's conceptualisation. Indeed, Horvath (2018, p512) proposes that future research in psychotherapy may benefit from a shift "to reconsider the need for tasks, goals, and bonds as exclusive 'targets' of alliance".

#### 6.4.2 Anthropological lens

The anthropological perspective considers health practices, whether constituting a biomedical approach or not, to be socio-cultural systems where notions of health and illness “strike to the core of prevailing philosophical and moral beliefs” (Comaroff 1978, p249). In this regard, Comaroff (1978) considers a universal feature of the healing process as the provision of explanatory codes that act to re-order disrupted states between the physical and social aspects of the patient, and to make sense of the apparent chaotic nature of the patient’s experience. Levi-Strauss’s (2000) account of shamanic practices amongst Cuna Indians during childbirth illustrates this feature. The incantations of the shaman draw upon an explanatory rationale to explicate the woman’s strong sensations as the struggle for her soul, facilitating an acceptance of the physiological process, and creating an environment for the woman to feel able to manage her bodily sensations. Using this example, Lévi-Strauss (2000) draws parallels with psychoanalysis, whereby both healing practices seek to provide explanatory structures for the patient’s distress in a manner that creates regulatory mechanisms for the management of uncertainty. The nature of the relationship between Pilates teachers and clients with persistent low back pain described above in Section [6.3.4](#), shows commonality with Comaroff’s (1978) depiction of the healing relationship. This is perhaps unsurprising given the overlap between sociological and anthropological perspectives; however, from an anthropological standpoint, the contextualised findings of the current study may provide the basis for asserting that the relationship is a therapeutic relationship.

In the sphere of medical anthropology, conceptions of the body are considered central, with Scheper-Hughes and Lock (1987, p7) asserting the units of analysis may comprise “three bodies”: the individual body, perceived as the lived experience of the self; the social body representing a symbol of culture and society; and the body politic, conceived as regulated and subject to surveillance by macro-social structures in order to effect control over bodily behaviours. Whilst a socially-constructed perspective of bodily practices may be seen to encompass the analysis of the social body and body politic, the approach has been critiqued with regard to the ‘absent body’, wherein the lived experiences of the physical body are subsumed beneath analyses of how society has made the body meaningful (Shilling 2012; Burr 2015). This is of particular concern to the current study, where the body-in-pain is at the heart of the research. A contention may be made; however, that in situating the relationship within a ritual frame, the body can be returned to a central prominence via the embodied nature of ritual-like activity. Bell (1997) posits that within ritualised action the body is the instrument of communication through the enactment of spatial movements, thus meaning is communicated in embodied form. This assertion may be seen to rest



on a definition of embodiment such as that stated by Strathern and Stewart (1998, p237), wherein embodiment is seen as, “the anchoring of certain social values and dispositions in and through the body, with primary reference to the body”, and a question may be raised as to whether this view of embodiment realises the full potential for lived experience. Scheper-Hughes and Lock (1987) emphasise the role of emotions as a potential key to bring together aspects of the “three bodies”, highlighting an aspect of the current study which may be perceived as underexplored.

The theme ‘Feeling Good’ describes participants’ perceptions of the impact of Pilates, associating the practice not just with perceived reductions in pain levels but also with positive affect. A number of teachers discussed how their focus was on ‘making people feel better’ rather than trying to ‘fix’ them, and clients described how they enjoyed Pilates. It may therefore be claimed that the contextualisation of findings within a social constructionist framework presented above has marginalised the emotional aspects of the lived experience of Pilates in favour of socio-cultural context. Bringing ‘alive’ embodied experience within this approach is not unproblematic (Cromby and Nightingale 1999), and an argument may be made that an alternative approach, such as phenomenology, might provide a deeper understanding of the embodied being (Burr 2015). In this regard, Scarpellini’s (2013) interpretative phenomenological analysis of clients’ experiences of Pilates provides a useful source of experiential data, demonstrating commonality with the findings from the current study, as described in Section [6.2.1](#).

This section has considered the findings from the current study from an anthropological lens, proposing that from this standpoint, the relationship between Pilates teachers and clients with persistent low back pain may be viewed as a therapeutic relationship. The anthropological perspective has provided a point of critique with regards to difficulties situating embodied experience within a social constructionist analysis, and whilst the findings from the current study portrayed the affective components of the relationship within the inductive analysis, contextualisation within a socio-cultural context may be criticised for marginalising the emotional impact of the relationship. The next section aims to consider the findings from the current study through a biomedical lens.

### 6.4.3 Biomedical lens

In the evaluation of the doctor-patient relationship, Emanuel and Emanuel (1992) provided an influential conceptualisation with which to evaluate the relationship, based on three components that combine to produce differing levels of patient autonomy: (1) who sets the goals of the visit (doctor, patient or both), (2) the significance of the patient's values (assumed by the doctor, jointly explored, or unexamined), and (3) the role of the doctor (guardian, adviser, friend or consulting technician). From an evaluation of these components, four models of the doctor-patient relationship are proposed: informative, interpretive, deliberative and paternalistic (Emanuel and Emanuel 1992). In a paternalistic relationship, the doctor controls the agenda, goals and outcomes, acting as a guardian for the patient's best interests, with the assumption that these values are in line with the patient's values and where the patient assents to the authority of the doctor. By contrast, the informative model represents a consumer model, where the patient controls the agenda and chooses the treatment, with the doctor's role viewed as a technical consultant delivering expertise as a means for the patient to exercise control over their health. The interpretive model shares similarity with the informative role in the doctor's provision of information which allows the patient to make decisions, however, in this model, the doctor acts as an adviser in a mutual process. The deliberative model requires the doctor to understand the patient's health-related values, and to act as a teacher or friend, using moral persuasion to suggest the course of action the patient should, facilitating the patient's autonomy to choose moral self-development (Emanuel and Emanuel 1992). These models are summarised in Table 22.

Table 22. Four models of the doctor-patient relationship

Summary of Emanuel and Emanuel's (1992) Models of Doctor-Patient Relationship				
	<i>Informative</i>	<i>Interpretive</i>	<i>Deliberative</i>	<i>Paternalistic</i>
<i>Doctor's role</i>	Technical expert	Adviser/counsellor	Teacher or friend	Guardian
<i>Patient autonomy</i>	Patient controls decision-making	Shared decision-making	Patient decisions based on doctor's moral persuasion	Assenting to doctor's decision

Emanuel and Emanuel (1992) state that different clinical situations require the use of different models. For example, the use of a paternalistic model may be appropriate in an emergency situation where delays in treatment may be life-threatening; whereas for patients where there may be treatment options with differing risks, such as surgical or non-surgical interventions, an interpretive model may be preferable. A deliberative model may be chosen for a patient with a chronic condition such as diabetes that requires lifestyle modification; whereas an informative model may be more applicable in a one-time interaction in a walk-in centre (Emanuel and Emanuel 1992). Inherent within this model is the assumption that as one component changes, the others change simultaneously, as in the emergency situation where the paternalistic model is directly linked to the person's health status. However, research suggests more fluid boundaries, with a recent qualitative focus group study (Schandl et al. 2017) of 17 intensive care nurses who described how, even when critically ill and unable to communicate verbally, patients could still indicate their preferences. Equally, not all patients want to participate in decision-making, regardless of the role the physician takes (Levinson et al. 2005). This highlights the challenge of trying to conceptualise the patient-practitioner relationship; however, Emanuel and Emanuel's (1992) model provides a lens for considering the findings from the current study from a biomedical perspective.

This conceptualisation may be achieved through consideration of goal setting, perceptions of the client values and the teacher's role. Firstly, findings found limited evidence for joint-decision making, instead portraying a more directive approach, with the teacher controlling the format of the Pilates session. Whilst this may bear similarities with a paternalistic approach, client discussions surrounding their expectations for a good teacher (seen across themes of 'Being Known', 'Encouragement', 'Teacher Expertise', 'Trust', 'Mastery', 'Social Influences' and 'Service Perceptions') provided evidence of the clients' autonomy in deciding which teacher to work with, more suggestive of an informative or interpretive model. However, universally, participants described teacher 'correction' as one of the most valued aspects of the teacher's role, thus demonstrating the significance of the teacher's authority within the relationship. The juxtaposition between the client as consumer and the teacher as valued authority may be rationalised within the deliberative model.

From this perspective the teacher has a strong understanding of the clients' values, as described in 'Being Known', and provides moral persuasion to facilitate the clients' 'Mastery' of 'correct alignment', thus empowering the clients' self-development through the attainment of culturally-defined postural norms. The teacher's role is perceived as a friend or teacher, highlighted in

‘Describing the Relationship’, and whilst the choice of this model may seem unsurprising given the nomenclature already provided to the ‘Pilates teacher’, the aim of the current study was to understand the nature of the relationship between Pilates teachers and clients with persistent low back pain without tethering the investigation to preconceptions.

As described in Section [1.6.4](#), a doctor-patient model based on mutual understanding, informed consent and joint decision-making is perceived as the ideal doctor-patient relationship in modern healthcare, forming a patient-centred approach (Mead and Bower 2000) that sits broadly within the interpretive model. This suggests that the relationship between Pilates teachers and clients with persistent low back pain, situated within a deliberative model, may lack the potentially beneficial element of mutuality.

Emanuel and Emanuel (1992) provide an alternative perspective, contending that the deliberative model represents the ideal relationship, arguing that patient control over medical decisions does not equate to autonomy, and portraying the informative and interpretive models as an oversimplification of the interaction. Instead, in the deliberative model, active discussion is embraced but results not just in the doctor’s recommendation for a course of action, but also persuasion of the patient to accept the treatment that best promotes moral self-development (Emanuel and Emanuel 1992). Objections to the deliberative model rest primarily on the nature of the moral deliberation on which the relationship is based, questioning whether it is appropriate for a doctor to judge the worthiness of health-related values (Emanuel and Emanuel 1992). Interestingly, from the perspective of the current study, moral deliberation appeared to be a core consideration for clients in choosing Pilates as a management method for their back pain, situating the method as a means of self-improvement through ‘control’ and the teacher as the valued authority to judge the clients’ efforts to attain mastery of precise movement and alignment. Also noteworthy, the common description of the Pilates teacher’s role as ‘like a friend’ demonstrates similarity with Emanuel and Emanuel’s (1992) use of the term ‘friend’ to denote the doctor’s role in the deliberative model, and the use of this term may explicate the divergence shown by teachers in the current study when discussing navigating the relationship boundaries. The data illuminated perceptions of uncertainty regarding the teachers’ professional identity, with those with a healthcare professional background expressing limitations on the level of friendliness deemed appropriate. A potential explanation may be provided when considering that healthcare professionals are situated within settings exemplified by a patient-centred relationship model that stipulates the role of adviser as ideal, and those of friend or paternalistic guardian as less appropriate (Mead and Bower 2000) thereby setting up conflicting values when associated with

the more intimate role associated with the Pilates teacher. Thus, a question may be raised with regards to the position of Pilates within healthcare, where the apparent search for legitimacy as a rehabilitative method may therefore require a re-contextualisation of the teacher's role.

For other helping professions, regulatory bodies provide practice guidelines to delineate acceptable professional behaviours from unacceptable behaviours, thus creating parameters for professional relationships and preventing an abuse of power (Austin et al. 2006). Pilates teaching; however, does not have an overarching regulatory body and therefore each teacher creates their own relationship boundary. It might therefore be argued that defining appropriate boundaries within a Pilates context should be necessitated from an ethical standpoint.

However, a recent phenomenological interpretive study (Smythe et al. 2018) exploring the relationship of un-regulated mental health support workers with mental health clients suggests an alternate consideration. The study was a secondary analysis of a previous appreciative inquiry study of 34 participants examining the role of mental health support workers in New Zealand (Hennessy et al. 2017), with four participant stories used in the secondary analysis, chosen for their insight into the relationship of support workers and clients. Analysis of data followed an iterative process with three researchers. Findings from the analysis demonstrated how support workers earned the trust of clients through getting to know the person who needed their help in a person-to-person relationship. In this way, support workers “could offer care in its fullest sense , with little differentiation between the boundaries of clinical, social and friend” (Smythe et al. 2018, p 291). However, this close bond also brought with it a feeling of responsibility, with one participant describing the emotional wrench of leaving a job. Smythe et al. (2018) suggest that support workers created individual relationship boundaries unburdened by professional boundaries, with relationships characterised by much deeper trust and closeness with clients than their professional colleagues (Smythe et al. 2018). The use of an interpretive phenomenological approach in this study provides insight into how trusting relationships are formed in a mental healthcare setting; however, transferability to other settings may be limited given the situational uniqueness (Krefting 1991). Sampling and data analysis processes were clearly articulated, although here the hermeneutic circle of understanding involved co-construction with other researchers rather than participants, as data were extracted from a previous study (Lavery 2003).

Smythe et al. (2018, p293) describe the ‘humanness’ evident in the relationships studied, and question whether “professionalism has robbed us of the very thing that makes relationships work”. This relates to the findings presented in Chapter 5, where ‘Being Human’ was considered a central element in creating the professional identity of the Pilates teacher. Thus, it may be

beneficial to consider whether professionalisation of Pilates teaching, with concomitant relationship constraints, would enhance or impede the relationship.

The discussion above has asserted that from a biomedical perspective, the relationship between Pilates teachers and clients with persistent low back pain may represent a deliberative relationship model, as described by Emanuel and Emanuel (1992). Whilst this may be seen as differing from the patient-centred relationship ideal dominant within mainstream healthcare contexts, a contention has been made that the role of friend or teacher designated within this model may provide the benefit of facilitating a close, trusting relationship.

Having considered the findings from the current study from a variety of theoretical lenses, consideration will now be given to other conceptual approaches utilised to investigate the therapeutic relationship in physical therapy settings.

#### **6.4.4 Other conceptual approaches**

Whilst conceptualisations of the therapeutic relationship in psychotherapy are well established (Horvath 2018), research has only recently begun to focus on the concept within the physical therapy field (Ferreira et al. 2013). Babatunde et al.'s (2017) review of the characteristics of the therapeutic relationship in physical and occupational therapy investigated the theoretical underpinnings used to conceptualise the relationship, identifying the use of three theories and eighteen models (see Table 23).

Table 23. Conceptualisations used to investigate the therapeutic relationship

Conceptualisations used to investigate the therapeutic relationship	
Theory	Model
<ul style="list-style-type: none"> <li>• Self-determination theory</li> <li>• Social learning theory</li> <li>• Self-efficacy theory</li> </ul>	<ul style="list-style-type: none"> <li>• Biopsychosocial model</li> <li>• Consumer model</li> <li>• Gelso and Carter model</li> <li>• Health belief model</li> <li>• Health locus of control</li> <li>• Independent living model</li> <li>• Information-Motivation-Behavioural model</li> <li>• Intentional Relationship Model</li> <li>• Model of empathic understanding</li> <li>• Model of helping encounter</li> <li>• Model of human occupation</li> <li>• Model of physiotherapist-patient interactions</li> <li>• Process model of collaboration</li> <li>• Resource conservation model</li> <li>• Self-management model</li> <li>• Self-regulation model</li> <li>• Transtheoretical model</li> <li>• Tripartite efficacy model</li> </ul>

The various approaches listed above provide a variety of perspectives for understanding the therapeutic relationship; however, in Babatunde et al.'s (2017) review, the studies using an explicit conceptualisation of the therapeutic relationship were used almost exclusively to investigate patient adherence, satisfaction or behaviour change, thus relating to specific aspects of the relationship. Three studies presented models of the relationship as a whole (Norrby and Bellner 1995; Szybek et al. 2000; Gorenberg and Taylor 2014) and Table 24 shows the differences in conceptualisations based on thematic categories of the components of the relationship, as described by Babatunde et al. (2017).

Table 24. Components relating to models of the therapeutic relationship

Components relating to models of the therapeutic relationship			
Components	Gelso and Carter model (Szybek et al. 2000)	The Intentional Relationship Model (Gorenberg and Taylor 2014)	The Helping Encounter (Norrby and Bellner 1995)
Congruence	✓	✓	✗
Connectedness	✗	✓	✓
Communication	✗	✗	✗
Expectation	✗	✗	✗
Individualised therapy	✗	✗	✗
Influencing factors	✗	✗	✗
Patient prerequisite	✗	✗	✗
Partnership	✓	✓	✓
Roles & responsibilities	✗	✓	✓

The studies proposing models of the clinician-patient relationship comprise one study relating to physiotherapy and two relating to occupational therapy. Szybek et al. (2000) used the Gelso and Carter tripartite model (1994) of the therapeutic relationship to specifically incorporate a psychoanalytic perspective with physiotherapy. The three elements of the model include the real relationship, a transference configuration, and the working alliance, with the alliance theorised using Bordin's (1975) conceptualisation (see Section [6.4.1.](#)). Gorenburg and Taylor (2013) propose The Intentional Relationship Model (Taylor 2008) to facilitate occupational therapy students' attainment of therapeutic relationship skills. Taylor (2008) describes the model as based in underlying psychotherapy concepts, expanding the focus beyond interpersonal relations to encompass occupational engagement. Both of these models are seen as including 'congruence' as a key component, comprising agreement on goals, problem identification and agreement on tasks (Babatunde et al. 2017).



In contrast, Norby and Bellner (1995) provide a model of the ‘helping encounter’ in occupational therapy that does not include congruence as a component. This model is influenced by Carkhuff’s Helping Model (1969), which questioned the emphasis in psychotherapy research on whether or not behaviour change was achieved, asserting that the outcome of a helping relationship is, to a large extent, dependant on the therapist’s interpersonal skills. Berenson and Carkhuff (1977) outlined five components of a helping relationship; empathy, respect, genuineness and concreteness (help that is meaningful and relevant to the client), common to all interactions where one person seeks help from another, regardless of theoretical orientation.

It is interesting to note that the variance shown between these models, and more widely with the perspectives discussed in the sections above, appears to rest purely on theoretical orientation. Whilst Horvath (2018, p500) suggests that “there is no identifiable source or doctrine that owns the concept”, Babatunde et al.’s (2017) review provides evidence for the dominance of psychotherapy-oriented theoretical perspectives. Thus, the social constructionist contextualisation of the findings in the current study present a novel approach to understanding the therapeutic relationship in a rehabilitation setting.

#### **6.4.5 Moving beyond the theoretical**

A central focus of this thesis has been the assertion that the therapeutic relationship may be an important factor in the management of persistent low back pain (Harman et al. 2014; Holopainen et al. 2018; Calner et al. 2019), with the potential to influence outcomes (Ferreira et al. 2013; Cheing et al. 2014; Fuentes et al. 2014). The relevance of the therapeutic relationship in settings where Pilates is used as a rehabilitative tool for the management of low back pain has been considered in Section [1.8](#).

The previous sections in this Chapter have discussed the findings of this study within differing theoretical perspectives as a fundamental step in answering the research questions related to identifying the components of the relationship between Pilates teachers and clients with persistent low back pain, and whether the relationship may be considered a therapeutic relationship. From these considerations, the findings provide evidence suggesting the relationship between Pilates teachers and clients with persistent low back pain may be considered a therapeutic relationship. Whilst this may satisfy the research questions pertaining to the study, a move beyond the theoretical might provide a more applied perspective to the findings.

This leads to a consideration of what the ultimate goal of persistent low back pain management strategies should be. Waddell and Burton (2005) state that the primary goal of healthcare is a relief of symptoms and a restoration of function, to overcome activity limitations and improve social participation (Waddell and Burton 2005). Similarly, in a recent review of the evidence, challenges and promising directions for the prevention and treatment of low back pain, Foster et al. (2018, p2368) suggest that “strategies are needed that prevent and minimise disability and promote participation in physical and social activities”.

Tengland (2006) argues that health-related quality of life is the ultimate goal of healthcare, with all other goals related to this. The assertion here is that there is more to health than the absence of disease, “for life to be worth living it has to have some quality” (Tengland 2006, p156). Hence quality of life equates to more than clinical symptoms or functional ability, encompassing two main areas: (1) well-being, an individual’s subjective sense of happiness, or the presence of pleasure and absence of suffering; and, (2) the fulfilment of one’s desires (Brülde 2001). In considering the goals of medicine, Brülde (2001) questions whether the domain of healthcare should be restricted to the relief of pain and suffering, or whether it should strive to enhance people’s happiness, concluding that healthcare indirectly improves quality of life through the manipulation of other variables e.g. through improving function and facilitating a return to activities of value to a person.

The findings of the current study suggest that Pilates, facilitated by the teacher, leads to client perceptions of decreased levels of pain and of feeling stronger physically and mentally, with positive descriptions of social support garnered from attending Pilates sessions. Furthermore, participants described attributes of ‘feeling good’ and ‘enjoyment’ suggestive of subjective well-being. However, further consideration of the contribution of Pilates to a client’s quality of life is beyond the scope of this research and should be considered an area for further research, outlined in Section [7.4.2](#).

## 6.5 Chapter summary

The findings from the current study have presented an inductive exploration of the characteristics of the relationship between Pilates teachers and clients with persistent low back pain, with the aims of identifying the components of the relationship, the factors influencing the relationship and finally to provide understanding regarding the nature of the relationship, specifically questioning whether it may be deemed a therapeutic relationship. This chapter has situated the findings within the literature relating to the therapeutic relationship in Pilates-specific and wider physical therapy contexts in order to provide a framework for categorising the findings in to components and influences, additionally describing an impact of the relationship as 'Feeling Good'.

Divergence was seen with regards to two main areas, congruence and mastery of exercise, and a social constructionist lens was applied to provide a theoretical interpretation. From this socio-cultural contextualisation a tentative proposal has been advanced that the relationship between Pilates teachers and clients with persistent low back pain comprises a therapeutic relationship with the teacher-as-expert guiding the client through ritual-like activity based in cultural norms, resulting in the reduction of anxieties surrounding perceptions of an uncertain body.

Subsequently, the contention that the relationship may be considered a therapeutic relationship was considered through other theoretical lenses, with similarities providing broad consonance. Situating the findings within the wider literature may be seen as important in linking characteristics of the relationship between Pilates teachers and clients with persistent low back pain to established theory in order to evaluate areas for further research and clarification. Moving beyond the theoretical, consideration has also been given to the longer-term health goals for low back pain management. The following chapter provides a summary of the current study, highlighting strengths and weaknesses, and providing suggestions for future research directions and implications for practice.



## Chapter 7: Summary and Conclusions

### 7.1 Introduction

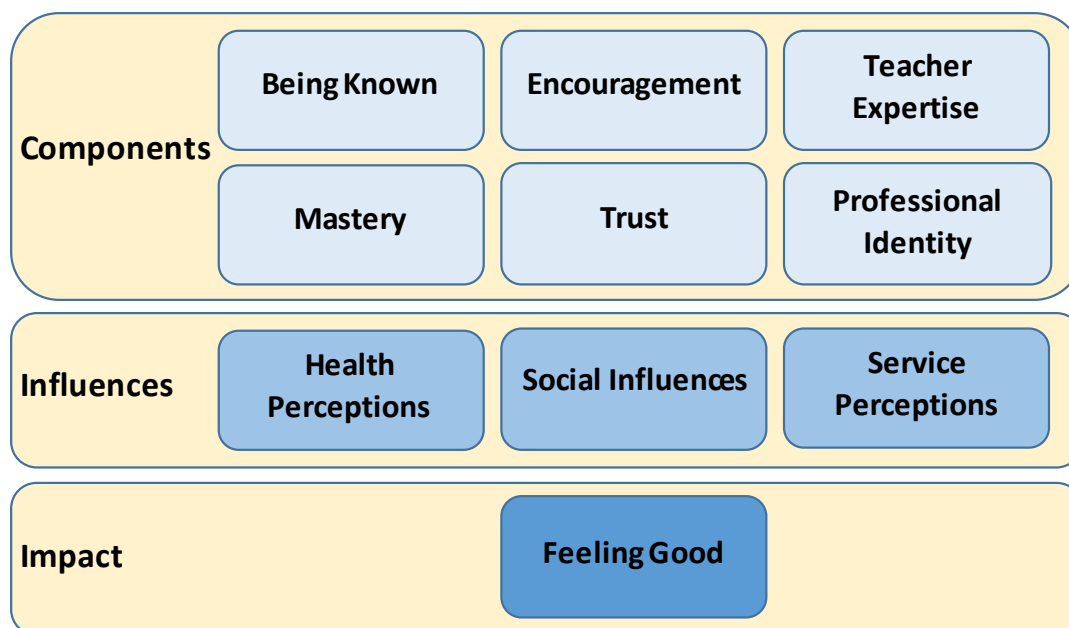
This final chapter will draw together the preceding chapters, firstly providing a summary of the findings in relation to the research questions, and more broadly relating to previous research. A review of strengths and limitations of the research will then be offered, followed by implications for practice and suggestions for future research directions. Finally, plans for dissemination of findings, an autobiographical reflection, and conclusions are presented.

### 7.2 Summary of findings

This research aimed to identify components of the relationship between Pilates teachers and clients with persistent low back pain, influences upon the relationship, and to consider whether it constitutes a therapeutic relationship. Findings from the qualitative, ethnographically-informed study portrayed ten themes, representing a multi-faceted interaction, where the teachers' authority in facilitating an environment for safe, controlled movement was seen as paramount.

This study is believed to be the first to specifically investigate the characteristics of the Pilates teacher-client relationship, and in order to identify which themes may represent components or influences, the findings were situated within the wider literature relating to the therapeutic relationship, in Pilates-specific and physical therapy settings. The resulting synthesis supported the identification of six themes relating to components of the relationship, three pertaining to influences, and one theme proposed as an impact of the relationship as shown in Figure 58.

Figure 58. Components of, influences upon, and impact of the relationship



Whilst the emergent themes showed broad similarity with wider literature, divergence was apparent with regard to two areas, relating firstly to the theme of ‘Mastery’ and secondly to a lack of data demonstrating the component of ‘congruence’, common in wider physical therapy literature. The findings suggest that ‘Mastery’ of controlled movement in the performance of a Pilates exercise was fundamental to the practice, requiring clear understanding of the nature of the movement, and corrective feedback by the teacher in order to achieve successful mastery. Participant discussion, supported by fieldnote observations, suggested a directive approach by the teacher, where the teachers’ authority was valued. In contrast, wider literature suggested that a more collaborative relationship was associated with physical therapy relationships (Besley et al. 2010; Babatunde et al. 2017).

The apparent distinctiveness relating to mastery of controlled movement and the teachers’ valued authority provided a basis for contextualisation from a social constructionist lens. Situating findings within a socio-cultural context offered a tentative proposal for the nature of the relationship, wherein the teacher-as-expert guides the client through ritual-like enactment of Pilates exercises based in cultural norms. The impact of the relationship was suggested to be a reduction in clients’ anxieties surrounding perceptions of an uncertain body, thus generating positive affect. From a social constructionist perspective, an assertion was made that the relationship may be seen as representing a therapeutic relationship.

Further synthesis considered this assertion from alternative theoretical lenses, with commonality suggested with a psychotherapeutic common factors approach, an anthropological perspective of the therapeutic relationship, and the deliberative model of doctor-patient relationships from a biomedical perspective. However, the dominant framework for theorising the therapeutic relationship in psychotherapy utilises Bordin's (1975) conceptualisation, where 'congruence' relating to collaboration on goals and tasks is given primacy. From this perspective, the relationship between Pilates teachers and clients with persistent low back pain may not represent a therapeutic relationship. This is of particular importance given the extent that Bordin's (1975) conceptualisation is used to define and measure therapeutic relationship in the physical therapy context, thus questioning the validity of the assertion that the Pilates relationship is therapeutic.

However, the centrality of goals and tasks has been queried (Krause et al. 2011; Horvath 2018), and Babatunde et al.'s (2017) broad scoping review of physical and occupational therapy settings demonstrated a wider range of factors considered important in developing a therapeutic relationship, including individualised therapy, influencing factors and roles and responsibilities. Consequently, further research is indicated to evaluate consensus on operational definitions of the therapeutic relationship within Pilates-specific contexts.

### **7.3 Strengths and limitations**

This section reflects on areas considered strengths of the study, and areas of limitation including the research design and problems encountered with the study.

#### **7.3.1 Theoretical approach**

This study used a social constructionist epistemology, based in an interpretivist ontology, as a theoretical guide to the research. Contextualisation of the findings was undertaken using a broad social constructionist perspective, and it may be considered a theoretical limitation that a more defined theoretical approach was not taken. The umbrella term of 'social constructionism' covers a variety of perspectives across a broad range of disciplines (Lupton 2000; Holstein and Gubrium 2008b; Shilling 2012). In considering a social constructionist approach to medicine and the body, Lupton (2000) describes a 'strong' constructionist stance as one contending that bodily experiences are inextricable from the socio-cultural context that shaped the experience, with 'weaker' stances considering that bodily experiences may be influenced by socio-cultural forces at some times. From this perspective, the current study might be seen as affording a perspective more aligned with a 'strong' constructionist stance.

However, a 'strong' theoretical approach may also be considered aligned with specific writers such as Foucault, Goffman, Turner and Frank, who all place significance on the role of social or cultural processes (Shilling 2012). Each writer offers a distinctive viewpoint which might have added to the theoretical strength of the current study. For example, a Foucauldian analysis may have illuminated the elements of power asymmetry and governance of the body more fully (Foucault 2002), whereas Goffman's (1983) 'interaction order' may have highlighted elements of non-verbal communication within the interaction, relating to the specific social roles of the actors. Turner's (1984) 'bodily order' theory may have illustrated 'modes of control' by which society governs the body from a more Parsonian perspective (Shilling 2012), whilst Frank's (1991) 'action problems' analysis may have focused on the embodiment of agency. Each of these approaches might be seen as potentially appropriate for the current study; however, this is a retrospective viewpoint. As the first research to specifically explore the relationship between Pilates teachers and clients with persistent low back pain, elements of the relationship were unknown, and the use of any of the approaches described above within the initial research design would have required assumptions unsuitable to an exploratory study. Therefore, a contention is made that the use of a broad social constructionist contextualisation has provided the basis from which future research may take specific theoretical approaches to refine and further understanding.

Given the exploratory nature of the current study, it was considered judicious to examine the proposal that the relationship may be considered as a therapeutic relationship from alternate theoretical perspectives, to provide more robust evidence to support findings. However, synthesis in wider literature may appear to sit uncomfortably within a social constructionist framework, where reality is considered to be constructed differently in different contexts, and where data cannot be 'aggregated' to arrive at a universal 'truth' (Silverman 2013). Yet Edwards et al. (1995) argue that the strength of a relativist stance is to challenge apparent truths, describing it as, "potentially liberating, dangerous, unsettling ...nothing ever *has* to be taken as merely, obviously, objectively, unconstructedly, true" (Edwards et al. 1995, p39).

In this regard, the comparison of a social constructionist interpretation of the relationship with other theoretical perspectives offers a potential challenge to the dominance of psychotherapeutic conceptualisations of the nature of the therapeutic relationship, questioning whether operational definitions based in Bordin's (1975) work are optimal. Simultaneous to, and parallel with this challenge, it is acknowledged that use of this argument represents a double-edged sword by potentially dissolving all arguments into nihilism (Turner 1995). Nonetheless, Cromby and Nightingale (1999, p9) consider that use of a social constructionist lens does not equate to



“unbridled” relativism, instead being seen as contributing to research by questioning dominant views of knowledge.

### **7.3.2 Literature search**

Literature review search terms for the therapeutic relationship were limited to synonyms related to ‘therapeutic relationship’ as a whole, and did not encompass elements that may be associated with the relationship, potentially limiting the results of the search. The theoretical nature of this body of work included a number of differing perspectives of the therapeutic relationship, with a multitude of diverse elements potentially associated with it. Thus, inclusion of all these terms was considered too broad and a pragmatic decision to limit search terms was taken.

### **7.3.3 Methodology**

A strength of the research may be seen in the choice of an ethnographically-informed methodology, capturing details of the Pilates interaction within a natural setting, with the data-set providing a rich, thick data description, an important criteria in establishing credibility of qualitative research (Creswell 2013). The use of a multi-site design may also be considered a strength, as the social groups using Pilates are not limited to a specific geographic area, thus a multi-site approach may be seen as facilitating the exploration of the cultural aspects of Pilates across time and space.

Whilst the use of episodic observations provided a pragmatic and practical solution for this unfunded study, it is acknowledged that a limitation of the research may relate to the restraint on time spent in the field, leaving potential dimensions of the Pilates setting unobserved.

### **7.3.4 Methods**

A number of limitations related to the methods adopted have been identified, relating to sampling, recruitment, the role of the researcher, observation and data analysis.

#### Sampling

The use of purposive sampling for teachers may be considered a strength of the study, with the aim of accessing a diverse sample of key informants. However, the application of an online search technique to gather the purposive sample may not be truly comprehensive, as some teachers have either limited or no online presence, and the extent of this is not known. Furthermore,

whilst efforts were made to find hard-to-reach groups as described in the reflection in Section [4.3](#), it is not known if the lack of results in this area reflects the socio-economic bias of Pilates, or a limitation of the online search strategy.

Additionally, purposive sampling requires the researcher to make a deliberate choice based on judgements of the qualities the potential participant possesses (O'Reilly 2009). In the current study, a purposive sampling strategy outlining elements of interest was applied to guide selection, as advocated by Silverman (2006); however, the possibility of selection bias cannot be discounted. Moreover, the research design did not include clients who had stopped doing Pilates, and therefore negative influences on the relationship may not have been fully explored.

### Recruitment of teachers

A possible limitation to the research was demonstrated in Pilates teachers' apparent hesitancy to participate in research. The reflective journal entry detailed below in Figure 59 describes concerns that prospective teacher participants may have felt intimidated by the formal research process used within the research design.

*Figure 59. Reflections on teacher hesitancy*

**Teacher hesitancy**

*Reflective journal notes from 21/03/2017*

*"One thing that struck me when I mentioned 'observing', she made an "ooh" noise, which I took as concern and I tried my best to explain that my goal is simply to see what happens during Pilates... She seemed really pro the research but I'm concerned it seems too formal and scary with the questionnaire and 'observation'."*

*"I wonder if a more traditional ethnographic approach where teachers hear of what I'm doing through other teachers/clients would have worked better with this group. They are experiential people, not academic, and this formal research stuff is all very different."*

An interesting discrepancy was noted between prospective teacher participants who had healthcare professional backgrounds and those who did not. Teachers with no healthcare background were noted as wanting to talk through the research in great detail, and required

reassurance about the purpose of the study, seemingly concerned about 'being judged'. Those with healthcare backgrounds appeared more at ease with the research process as a whole, yet seemed to want to control the process more closely. A reflective journal entry notes that during an interview, one healthcare professional teacher noted how "last night she was worrying about what she would be asked, and if she needed to read up on things". The notes describe the teacher's use of "word for word" phrasing from research papers, suggesting that the teacher had indeed spent some time preparing for the interview. This is perhaps suggestive of similar concern to the non-healthcare professional regarding 'being judged', but operating at a different level. Here, it may be suggested that the teacher was worried about her professional knowledge being 'tested', whereas the non-healthcare professionals appeared more concerned with a perceived evaluation of their teaching practice. This is perhaps indicative of the juxtaposition evidenced in the theme of 'Professional Identity' in the main findings.

The apparent levels of anxiety surrounding participation in the study may be considered a limitation of the research, as this may have precluded some prospective teachers from participating, and may have influenced the actions of participants. The teachers' concerns may have been due to the inexperience of the researcher in presenting the study, but future research should consider the use of alternative recruitment strategies, such as snowball sampling.

#### Recruitment of interview clients

The size of the sample population of interview clients was questioned in the reflection in Section [4.5.3](#). Hammersley and Atkinson (1987) assert that a key concept of ethnography is small sample size, and it is acknowledged that it may not be able to specify a total number of participants in advance (Higginbottom 2004). However, this study used a purposive sampling strategy (as detailed in Section 4.5), in line with a focused-ethnographic approach. Whilst the sampling strategy was not intended to provide strict parameters, it provided a guideline for reaching a specific population. In this regard, it is acknowledged that the number of clients with persistent low back pain who agreed to participate in interviews fell below the suggested number of 16, with a total of 10. This situation arose because clients could only be accessed through their Pilates teachers, due to ethical and data protection restrictions.

Silverman (2013, p141) points out that access to participants within a field of research may be "dependent on the whims of gatekeepers", whereby a gatekeeper is an individual who can provide access to a wider study population. In this study, Pilates teachers acted as gatekeepers, controlling access to their clients, and this created an unexpected problem with the research

design. Some teachers appeared to be 'protective' of their clients, with an unwillingness to grant access to clients, noted specifically amongst teachers with a healthcare background. This limitation suggests that future research may benefit from considering alternative strategies for accessing Pilates clients; however, with Pilates teachers also acting as business owners and therefore data controllers, this may be difficult to surmount. O'Reilly (2009) suggests that gaining permission from high-ranking officials may pre-empt difficulties later on. A potential future strategy may therefore consider inviting support from Pilates official bodies (such as the Body Control Pilates Association) prior to recruitment of teachers, with the aim of providing reassurance to prospective teachers.

### The role of the researcher

The goal of ethnography may be seen as gaining an insider's perspective and rendering it meaningful (O'Reilly 2009), therefore the researcher's identity is seen as particularly influential (Chew-Graham et al. 2002). As a practicing Pilates teacher, the researcher in the current study may be considered an 'insider', an identity which critics argue lessen the researcher's ability to perceive the "unusual and strange" of a familiar environment (O'Reilly 2009, p110). The insider may be seen as too involved and might therefore struggle to gain insights, whilst the 'outsider' may be better placed to read the 'unconscious grammar' of a group (O'Reilly 2009). Conversely, an 'insider' might gain more rapport with participants, with interviews capturing richer and more personal accounts as a result (Chew-Graham et al. 2002). Additionally, 'insiders' may be more likely to reveal complex interpretations, moving beyond simply "*describing* the unconscious grammar of the community" (O'Reilly 2009, p114).

In the current study, the researcher identified as a 'researcher' unless directly asked; however, teachers' universally enquired and as such, a common identity with the teacher was established. A contention may be made that the 'insider' role of the researcher in this study facilitated rapport with the participants, as evidenced by the depth of the data. However, the sections above highlight teachers' concerns about 'being judged', and Chew-Graham et al. (2002) suggest that a shared identity may lead to identification of the researcher as expert and judge. Whilst this represents a potential limitation of the study, a contention is made that initial identification of the researcher as an 'outsider' may also have created an obstacle in establishing trust with participants, as evidenced in the perceived hesitancy of teachers to participate in the study. Therefore, the role of the researcher in future Pilates-specific research may benefit from careful consideration to avoid the apparent tension surrounding ambiguity of the researcher's role in the current study.

### Observation

It was noted in Section [5.3.1](#) that fieldnote observations included a general account of the setting and descriptions of the exercises performed, concomitant with the teacher's verbal instructions, interactions with clients and non-verbal utterances. With regards to extra-discursive features, the use of touch by the teacher was noted but facial expressions were not routinely recorded.

Observer placement was designed to be as unobtrusive as possible, purposely chosen in each setting to be out of the clients' eye-line, and the nature of a Pilates session required clients to move in to positions where the face might be obscured (e.g. lying prone). A criticism may therefore be advanced that an important part of the interaction between Pilates teachers and clients was disregarded.

In answer to this criticism, the research design was developed to explore specific research questions relating to the components of the relationship and influences upon it. An investigation of facial expressions may offer information relating to *what happens* during an interaction, but this is beyond the scope of this study. Furthermore, with a single researcher, recording all facial expressions during a group class was deemed unfeasible, and would have required a different research design for data collection and analysis. Therefore, future research might usefully employ a research design to capture facial expressions, such as content analysis, to provide further insight.

### Data analysis

A limitation in the data analysis process was noted in Section [4.7.1](#) as an independent researcher was not used to assess a sample of the transcripts. Lincoln and Guba (1985) suggest that peer analysis may contribute to deeper reflective analysis by the researcher, additionally enhancing credibility by checking emergent codes and themes, as well as looking for disconfirming or negative cases. This limitation was due to the nature of this PhD study, which was part-time and unfunded. During the period of study, the researcher's earning ability was limited owing to study demands, thus the resource to engage an experienced, independent researcher to assess transcripts was lacking. However, the clearly articulated steps of the data analysis process, with breakout boxes detailing the decision trail may be considered as enhancing dependability (Korstjens and Moser 2018).

### **7.3.5 Transferability**

The findings of this study are limited to research conducted primarily within an affluent socio-economic demographic within southern England, therefore the nature of the data does not allow for a conclusion to be drawn regarding the transferability of findings to other contexts. Of particular note, the suggestion that Pilates provides a means for attaining self-control may be seen as having socio-cultural specificity, embedded within an individualist society.

The findings of this research are limited to the relationship between Pilates teachers and clients with persistent low back pain. Whilst teachers discussed how they used the same approach to work with any client in pain, further research is required to establish this. Furthermore, findings have been considered within physical therapy literature only. Whilst this was justified on the basis that Pilates is a commonly used rehabilitation tool within the field of physical therapy (Giannakou and Gaskell 2020), this limits understanding of the transferability of the findings to other structured exercise that may be used for low back pain management. Given the diversity of structured exercise modalities within the biomechanical, aerobic and mind-body categories listed in the NICE (2016) guidelines for low back pain management, consideration of similarities and differences between the findings from the current study and other structured exercise was considered beyond the scope of this study, and is an area for future research.

### **7.3.6 Researcher bias and assumptions**

In qualitative research, the researcher is acknowledged to bring their own bias, assumptions and beliefs to the research setting, and this may be especially true when the researcher has a strong affinity to the population being studied (Peredaryenko and Krauss 2013). Therefore, a reflexive stance is recommended (Denzin and Lincoln 2011), where an awareness of one's subjectivity is developed to "acknowledge that it undoubtedly shapes the story we tell" (Bettie 2014, p22).

Every story begins with an idea, and in the current study, the researcher's background and motivation were made explicit in Sections [1.1](#) and [1.4.2](#), linking the choice of research topic to personal interest and experience. This choice; however, may also have been influenced by the researcher's characteristics (Berger 2015) given that Pilates is predominantly a middle-aged, female activity (Allen 2014). The 'plot' of the research story develops around the characters, or participants, and here it is important for the researcher to reflect on how their own views and beliefs may shape the information gathered (Berger 2015). Developing the requisite skills may take considerable practice, requiring a "calibration process" (Peredaryenko and Krauss 2013, p2).

As a novice researcher, reflective journal entries provided an essential tool to facilitate ‘calibration’ in the current study. Multiple entries reveal an anxiety over ‘tainting’ interview questions with personal bias, with the reflection in Section [4.6.5](#) providing an example of how imbuing an interview question with unintended bias could provoke a change in rapport with the participant. Each journal entry provided opportunity for engaging in critical self-reflection and developing skills.

In telling the research story through the findings section, verbatim quotes were used extensively as low inference descriptors to reduce the impact of researcher influence; however, the continued use of a reflective journal pinpointed areas of potential bias. One entry in particular, describes a moment of realisation when writing up the theme ‘Service Perceptions’ relating to a client’s description of how her teacher carried on providing lessons “even though she was on maternity leave and on holiday”. This statement,

“hit a nerve... I felt an emotional surge, and as I was writing about it I noticed how hard it was to choose neutral language when suggesting why she felt it so important to maintain regular sessions. I wanted to use the word ‘justification’. It fitted beautifully and told a story, but ‘justifying’ her requirements is not her story, but mine.”

In exploring the researcher’s emotional reaction, a bias was revealed, “I don’t feel it’s justifiable to demand someone works on their time off. To me, it demeans the teacher, likening them to the role of a servant”. Whilst this reflection provided awareness of researcher subjectivity ‘in the moment’, it must also be acknowledged that this emotional stance, rooted in the researcher’s own experience of the Pilates teacher-client relationship, may have influenced the ‘ending’ of the story. In considering the nature of the relationship between Pilates teachers and clients with persistent low back pain, various models were considered, including the consumer model, which resonates with the ‘role of a servant’. Whilst the findings demonstrate the value of the teacher’s authority within the relationship, suggestive of a deliberative relationship model, the influence of the researcher’s experience in interpreting these findings should also be considered.

## **7.4 Implications of research**

This study has presented novel data relating to the relationship between Pilates teachers and clients with persistent low back pain, adding to knowledge from previous studies by Allen (2014) and Scarpellini (2013), who considered the teacher-client relationship within the scope of wider research. Findings have provided preliminary evidence identifying components of the relationship, influences upon the relationship and the impact of the relationship, and therefore builds on existing knowledge. Additionally, a tentative proposal regarding the nature of the relationship has been proffered, advancing a conceptual understanding of the teacher-client relationship, in particular highlighting a seemingly distinctive feature of the Pilates relationship, the centrality of the teacher in facilitating the client's mastery of an exercise through a directive approach.

This study has generated implications in two main areas: the ways in which the findings from this study may influence the practice of Pilates teachers working with clients with persistent low back pain; and secondly, implications for areas of future research to generate further understanding of the teacher-client relationship in Pilates.

### **7.4.1 Implications for practice**

The findings from this study provide evidence suggesting the relationship between Pilates teachers and clients with persistent low back pain may be considered a therapeutic relationship, with the study believed to be the first to consider this relationship for any setting or condition. Given emerging evidence indicating that the therapeutic relationship may influence outcomes in musculoskeletal rehabilitation (Kinney et al. 2018; Taccolini Manzoni et al. 2018), these findings are important for Pilates teachers who may have clients attending Pilates primarily for the management of their persistent low back pain. A consideration of the components of the relationship may enhance understanding of the value of the teacher-client interaction, and the role of the teacher in reducing clients' anxieties surrounding their back pain, and enhancing confidence to move. Additionally, this research may afford further consideration of the influence of the relationship for other musculoskeletal conditions, providing the basis for future research.

Findings demonstrated the value of the teachers' authority in a directive relationship. This has implications for practice in a Pilates community that appears to be aligning itself with a healthcare paradigm where a collaborative relationship is considered optimal. Future re-contextualisation of the teachers' role may provide a relationship based more on mutuality; however, a question



remains whether this might dissolve the very heart of 'Mastery', so valued by participants. Moreover, whilst notions of back pain and the vulnerability of the spine based in cultural norms may provide a vehicle for providing meaning to the client, concern may be raised regarding possible implications in perpetuating unhelpful beliefs. The Pilates community may therefore need to evaluate whether continued use of concepts such as 'correct' and 'incorrect' alignment may require modification.

These implications may be placed more broadly within ambiguities relating to the professional identity of the Pilates teacher, with findings demonstrating uncertainty surrounding relationship boundaries that appeared to relate to the teachers' perceptions of status within a healthcare sphere. The Pilates community seems to be moving towards a greater degree of specialisation in back pain management, leading to consideration of whether the creation of a regulatory body and codified practice guidelines may benefit Pilates teachers, or whether this might impede the closeness of the relationship valued by participants.

In considering these implications, future research endeavours may usefully be employed to further understanding, and these implications will be considered below. However, one of the limitations of the current study pointed to Pilates teachers' reticence in taking part in formal research. This may, in part, be due to a lack of understanding related to the research field as a whole, how this may deepen understanding of the Pilates method, and how the research process works in practice. To this end, a suggestion is made that educational courses or workshops aimed at increasing teachers' knowledge in this area may be advantageous.

#### **7.4.2 Implications for future research**

The findings from this study have presented preliminary evidence for components of the teacher-client relationship, influences upon it and the impact of the relationship. However, limitations noted that this research was specific to persistent low back pain contexts within an affluent socio-economic demographic. Whilst the findings show some broad similarities with the wider physical therapy literature, further research considering the relationship with different client groups, and in different socio-economic settings, may enhance understanding of common factors within the teacher-client relationship. Further research encompassing a larger-scale design could consider whether these findings are generalisable to a wider Pilates population, and widening this enquiry to encompass comparison of the relationship within collective societies may also build on existing knowledge. Beyond Pilates-specific research, the findings from the current study may provide a

basis for further research to consider differences and similarities with other structured exercise methods used for the management of low back pain.

The proposal that Pilates may be seen as ritual-like activity is tentative, and generates a number of directions for future research. In order to expand this conceptualisation, research developing a ritual analysis may provide clarification for this assertion. If support is found, then research may further expand what meaning is gained by the participants from ritualised elements such as invariance and rules of governance within a Pilates context. The distinctive characteristic of 'Mastery' and the value placed on the teachers' authority might also be usefully explored from different theoretical perspectives, such as a Foucauldian power analysis.

Findings have also highlighted some similarity with a number of distinct but related concepts such as reassurance, empathy and trust associated with therapeutic relationships. Future research investigating the use of these concepts within Pilates practice may further understanding of how the relationship is created and maintained. Research considering the role of expectations would also add further understanding in this regard. Additionally, the nature of the current study did not allow a determination to be made on the nature of touch used by teachers during Pilates sessions, and therefore future research might usefully focus on this aspect. Furthermore, a limitation of this study was noted with regard to participant facial expressions during the interaction, and investigation in this area may illuminate aspects of the interaction related to communication styles more fully.

The assertion that the relationship between Pilates teachers and clients with persistent low back pain may represent a therapeutic relationship has practical relevance and creates opportunities for further research to consider how the relationship may impact outcomes not only in people with low back pain, but also other musculoskeletal pain. In particular, consideration of how descriptions of 'feeling good' depicted in the findings of the current study may relate to, and impact, longer term health goals such as health-related quality of life. In addition, research considering whether behaviour change takes place as a result of Pilates interactions would enhance understanding of factors that may influence outcome.

Uncertainty surrounding the teachers' 'Professional Identity' may be considered a direction for future research, in order to more fully understand the apparent juxtaposition between healthcare professional and non-healthcare professional approaches to navigating relationship boundaries, and how this may influence or interact with clients' perceptions of the relationship. As Smythe et

al. (2018) point out, research in this area may illuminate whether professional boundaries reduce trust.

Whilst this study has represented the nature of the relationship between Pilates teachers and clients with persistent low back pain as a therapeutic relationship, the discussions above suggest uncertainty in how this might be operationally defined. Consequently, a future research direction may consider examining a consensus for operationalising the term. In addition, further research might investigate the dominance of Bordin's (1979) conceptualisation within physical therapy settings, and whether the primacy given to tasks and goals is indeed pan-theoretical.

## 7.5 Dissemination of findings

Dissemination of findings is an integral part of health research, so that findings can be applied to improve outcomes in the broader community (Brownson et al. 2017). The National Institute for Health Research (2019) provide some principles for 'good' dissemination, and these points are shown below, with examples of how the research has been disseminated to date, and future plans:

- Public involvement – public involvement in dissemination of findings is considered important (INVOLVE 2012). A dissemination event, reporting findings and conclusions, will be held in May 2020 for participants and people who have expressed an interest in the research (see Figure 60).
- Stakeholder engagement – early engagement with a primary audience is encouraged. The early stages of this research were presented to 30 Body Control Pilates teacher trainers at a meeting in 2015. Future plans include presenting the research at Pilates conferences in the UK and worldwide.
- Format – adjusting writing and presentation style as appropriate to the event is recommended. For example, the presentation to Body Control Pilates teachers used audio-visual aids and plain English.
- Utilise opportunities – building partnerships and establishing networks is advised, using conferences and events to exchange knowledge and raise awareness. Attendance at Society for Back Pain Research conferences has provided the opportunity for knowledge exchange. Additionally, the researcher was part of a project developing a possible Pilates randomised controlled study and co-presented the proposed research at the Body Control

Pilates Development Weekend in 2015. Further opportunities will be sought, including submission of abstracts to appropriate conferences, such as BritSpine and the British Pain Society meeting.

- Context – understand the context of the research, and recruit opinion leaders to act as research champions. A number of leaders within the Pilates industry worldwide have expressed interest in championing the research, including Dr Brent Anderson, president of Polestar Pilates. Further champions will be approached.
- Timing – recommendations suggest dissemination should not be limited to the end of the study. A special poster presentation was given at the Society for Back Pain Research conference in October 2019, and a poster presentation at the Institute of Osteopathy annual conference in November 2019. Further publications will be sought upon successful completion of the PhD, detailed in Table 25.

Figure 60. Research presentation event

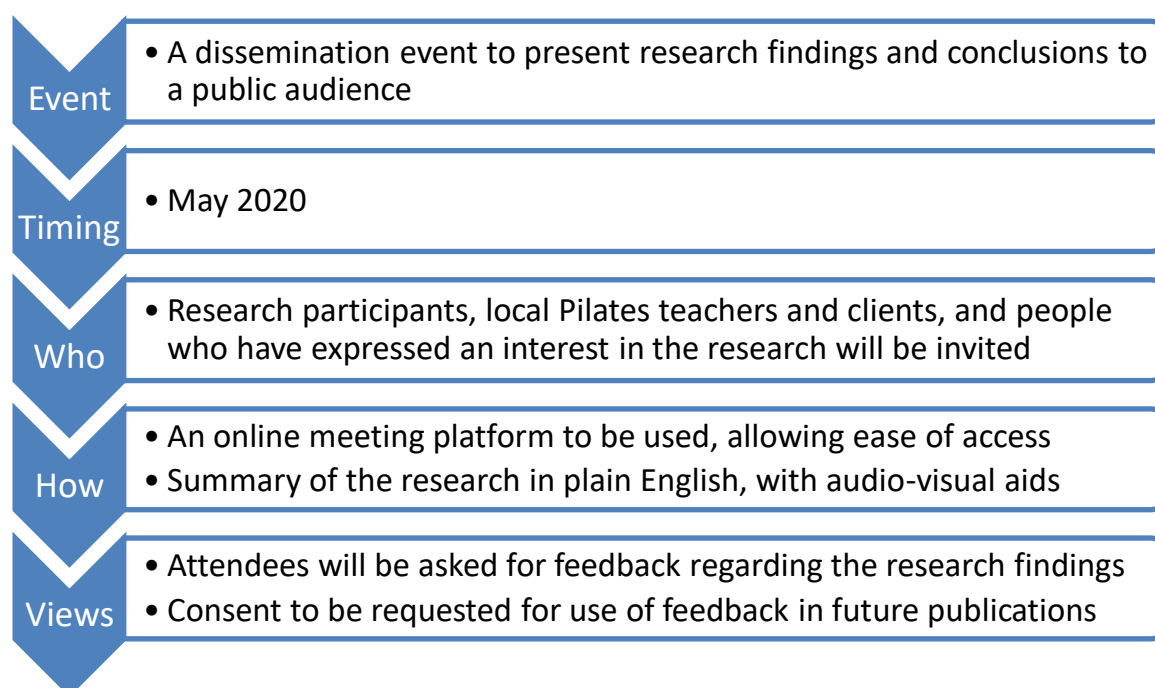


Table 25. Publication plan

Publication plan for dissemination of research		
<i>Target Journal</i>	<i>Proposed publication</i>	<i>Rationale</i>
Social Science and Medicine	<ul style="list-style-type: none"> <li>Comprehensive overview of study methodology, method and findings</li> </ul>	<ul style="list-style-type: none"> <li>Original research articles up to 9000 words</li> <li>Publishes health-related research from wide range of disciplines</li> </ul>
Musculoskeletal Science and Practice	<ul style="list-style-type: none"> <li>Clinician-focused summary, focusing on implications for practice</li> </ul>	<ul style="list-style-type: none"> <li>Publishes musculoskeletal-specific research</li> <li>Includes focus on therapeutic processes</li> </ul>
Journal of Bodywork and Movement Therapies	<ul style="list-style-type: none"> <li>Cultural and historical perspective of Pilates</li> </ul>	<ul style="list-style-type: none"> <li>Includes Pilates as a featured technique</li> </ul>

## 7.6 Autobiographical reflection

The notion of a PhD as a journey is a common metaphor (Stanley 2015), not least because “it involves the exploration of unknown territory... the experience is as much emotional as cognitive, and aspects of the journey may be exhilarating, frightening, puzzling, stimulating, exhausting or tedious” (Miller and Brimicombe 2003, p5). The personal aspects of this journey might therefore be of importance when considering the interaction between the researcher’s own position and the insights derived from a qualitative piece of research. Illuminating this interaction may be accomplished through a reflexive stance (Jootun et al. 2009), and as set out in Section 4.8, a reflective journal was used in the current study, made transparent within this thesis by the use of breakout boxes. Moreover, the use of a personal journal may also offer researchers “the opportunity to become participant/observers of their own learning” (Weisberg and Duffin 1995, p251), documenting periods of transition. This section aims to reflect on my personal PhD journey, focusing on episodes of transition.

## Embarcation

As detailed in Chapter 1, my motivation for undertaking a PhD was driven by a search for understanding, couched within an uncertainty of my own professional identity. Having trained as a Pilates teacher under the auspices of 'core stability', the challenge to the concept in the late 'noughties' left the anchor of justification for modern-day Pilates adrift, and with it, my own sense of what I actually did professionally. Thus, my aim at the beginning of my PhD journey in 2014 was to explore beyond the physiological effects of Pilates. My emotional stance was one of excitement for the journey ahead.

## Homesickness

The first period of transition became evident in 2016, with a journal entry noting an "overwhelming feeling of inadequacy" on attending a university post-graduate forum on Ethnography. The notes expand this feeling, "I didn't know enough compared to some of the other students whose sentences I barely understood, but also how impassioned everyone was about 'research'", whereas I simply wanted to "discover answers, explore meanings". Reflecting on this period, my professional identity was an experienced and knowledgeable Pilates teacher, but as I travelled further into my PhD journey this was being replaced with the identity of an inexperienced researcher, lacking in requisite skills and knowledge, resulting in feelings of inadequacy and detachment. In essence, I was homesick for the comfort and certainty of knowing who I was. In response to what felt like a backwards step, I threw myself in to the task of understanding 'research', epitomised by the quote from T.S. Eliot's poem Little Gidding (Eliot 2014, p63) that resides above my desk,

"We shall not cease from exploration,  
And the end of all our exploring  
Will be to arrive where we started  
And know the place for the first time."

## The wilderness

In 2017, another transition in the journey is evident in my puzzlement at the juxtaposition between knowledge and practice I observed during the data collection phase of research. A journal entry describes how a teacher was using a very biomechanical approach to work with a client with persistent low back pain, and I wrote, "how can a teacher justify using 'issues-in-the-tissues' as the main reasoning behind their exercise plan when they have just talked to me about

chronic pain being more to do with contextual factors?”. I reflect how this “reverberated” with me, wondering “if this reflects my own current struggle”. I described feeling “in the wilderness” about how to ‘be’ a Pilates teacher.

This personal challenge perhaps echoes contemporary issues, where the predominance of a biomedical perspective in the management of persistent low back pain has been challenged by the evidence base (Hartvigsen et al. 2018). Nonetheless, a gap between evidence and practice has been identified (Foster et al. 2018), leading to a ‘call for action’ requiring “recognition that the disability is inseparable from the social and economic context of people’s lives and is entwined with personal and cultural beliefs about back pain” (Buchbinder et al. 2018, p2384).

### Arriving where I started

The final transition is apparent in a reflection of ‘thoughts on pain’ from 2019, quoting the philosopher Wittgenstein (1953, p286),

“If someone has a pain in his hand, then the hand does not say so (unless it writes it), and one does not comfort the hand, but the sufferer: one looks into his eyes.”

I used the quotation to express how the findings of my research had influenced my views, in particular relating to a provider-of-help ‘comforting’ a person-in-pain, as oppose to treating ‘the hand’; in essence, the importance of the therapeutic relationship. This shift in perspective allowed me to shine a light on valued elements of my Pilates teacher identity, returning me to my point of embarkation, and ‘knowing the place for the first time’ from a researcher’s perspective.

In parallel, within the field of low back pain management, recent research points to an increased interest in understanding the significance and implications of the therapeutic relationship (Babatunde et al. 2017). My PhD research, motivated by a personal ‘call for action’, will hopefully add to existing knowledge, but has equally provided a personal point of departure for further exploration in my capacity as a researcher.

## 7.7 Conclusion

Pilates is used contemporaneously as an exercise modality for the management of persistent low back pain. Whilst guidelines recommend the use of exercise for low back pain (NICE 2016), research suggests that no one exercise is superior, creating a question over the mechanism of effect (Hayden et al. 2005; Middelkoop et al. 2011; Brumitt et al. 2013). Recent research suggests the therapist-patient relationship may be important in managing low back pain (Ferreira et al. 2013), although further research is needed to evaluate its influence on outcomes.

In order to investigate the potential influence of the therapeutic relationship, it is first necessary to understand the nature of the relationship itself, and the components which comprise it.

Pilates-specific research is limited, with Allen (2014) and Scarpellini (2013) using the term 'therapeutic alliance' to describe the relationship between teachers and clients within the wider scope of their studies, without defining the use of this term. Therefore, the purpose of this study was to identify the components of the relationship between Pilates teachers and clients with persistent low back pain, to explore key influences on the relationship, and to ascertain the nature of the relationship and whether it may represent a therapeutic relationship.

The study used a qualitative, ethnographically-informed methodology, embedded within a broad social constructionist epistemology. The research design comprised a multi-site study at eight sites across the South of England, encompassing 24 observations of Pilates group and individual sessions, utilising Pilates large equipment or matwork. Semi-structured interviews were carried out with nine Pilates teachers from varying training backgrounds and ten clients with persistent low back pain. Interview transcripts and fieldnote data were analysed thematically, and ten themes emerged. In order to identify components and influences, the findings were synthesised within the literature pertaining to Pilates-specific and wider physical therapy research relating to the therapeutic relationship. The resulting synthesis provided preliminary evidence for six themes relating to components of the relationship: (1) 'Being Known', (2) 'Encouragement', (3) 'Teacher Expertise', (4) 'Mastery' of exercises, (5) 'Trust', and (6) 'Professional Identity' of the teachers. Further, key influences on the relationship were identified as: (7) 'Health Perceptions', (8) 'Social Influences', and (9) 'Service Perceptions'. Additionally, one theme was considered to describe the impact of the relationship: (10) 'Feeling Good'.

Findings were further contextualised using a social constructionist lens and it is tentatively suggested the relationship between Pilates teachers and clients with persistent low back pain may



be considered to be a therapeutic relationship, based on the client-in-pain seeking a teacher-as-expert who guides the client through ritual-like practices of control, based in cultural norms associated with the vulnerability of the spine and the requirement to correct posture. The impact of the relationship may be viewed as reducing the clients' anxieties surrounding the uncertainty of the body by providing culturally-based meaning to their back pain through control of alignment and movement.

This conceptualisation demonstrates a multi-faceted interaction where socio-cultural influences afford a foundation for the construction of a relationship, where the teachers' role as an authority figure concerned with the moral judgement of 'correct' alignment and movement was considered fundamental. Whilst this evaluation may seem to present a paternalistic relationship model, with consequent disempowerment of the client, the findings show in contrast, the client actively choosing this relationship, and placing value in the teachers' authority to guide them through structured exercises. This novel perspective affords an intriguing divergence to research findings in physical therapy modalities used in the management of persistent low back pain, and may provide an avenue for further research.



## Appendices

### Appendix A - Online Screening Questionnaire (Teacher)

#### Online Screening Questionnaire - Teacher

- How long have you been a Pilates teacher?
- How many clients a week on average do you see?
- What percentage of your clients have / have had persistent low back pain (defined as pain or stiffness between the lower ribs and the crease of the buttocks persisting for longer than 12 weeks duration)?
- Do you teach:
  - Matwork class
  - Equipment class (e.g. Reformer) PLEASE TICK ALL THAT APPLY
  - 121 (mat or equipment)
- Where do you teach?
  - Pilates studio
  - Village hall PLEASE TICK ALL THAT APPLY
  - Own home
  - Client home
- What organisation did you train with to become a Pilates teacher?

## Appendix B - Screening Questionnaire (Client)

### Screening Questionnaire - Client

#### ABOUT PILATES

- How long have you been doing Pilates with your current teacher?
- Do you attend:
  - Matwork class
  - Equipment class (e.g. Reformer) PLEASE TICK ALL THAT APPLY
  - 121 (mat or equipment)
- How many times a week do you come to Pilates?

#### ABOUT YOU

- Do you have low back pain currently? (Low back pain is defined as pain or stiffness between the bottom of the ribs and the crease of the buttocks) YES / NO
  - If YES:
    - Have you had this episode of back pain for longer than 12 weeks?
    - Have you had back pain for longer than 12 weeks duration in the past 2 years?
  - If NO:
    - Have you had back pain for longer than 12 weeks duration in the past 2 years?
  - Have you had a diagnosis for your back pain? If yes, please provide details
- Is your back pain the primary reason that you started Pilates? YES / NO
- Do you have any communication difficulty (e.g. hearing impairment that requires the use of sign language; language barrier that requires the use of an interpreter to communicate in English)? YES / NO
- If you would potentially like to be involved with the research, please provide your name, telephone number and email

## Appendix C - Pilot Interview Evaluation Questionnaire

### Pilot Interview Evaluation Questionnaire

- Do you feel I included any questions that were unnecessary? YES / NO
  - If YES, please describe what you felt was unnecessary
- Do you feel there was anything I did not include and should have? YES / NO
  - If YES, please describe what you felt was not included
- Do you think there is anything I should change? YES / NO
  - If YES, please describe what you feel should be changed

## Appendix D - Interview Topic Guide (Teacher)

### Interview Guide – Teacher

#### Descriptive questions

1. Can you tell me what prompted / inspired you to train as a Pilates teacher?  
*Probes:*  
*What influenced your decision to train?*  
*Describe your training?*
2. Can you explain to me how your teaching has changed since you first trained?  
*Probes:*  
*What / who has influenced you?*
3. Can you describe to me a typical session with a client?  
*Probes:*  
*Describe the space / the person / the activity / the feelings*

#### Experience questions

4. Can you describe a recent experience of working with a client with persistent low back pain?  
*Probes:*  
*What factors were of importance? Was there anything that influenced the experience?*  
*What was your role? Do you set goals? How do you go about setting goals?*  
*What was your perception of the outcome?*

#### Structural questions

5. I'd like us to think about the relationship teachers have with clients with low back pain. What can you tell me about that?  
*Probes:*  
*What is important in the relationship?*  
*What influences the relationship?*  
*How does the relationship change over time?*  
*What challenges are there?*  
*Collaboration on forming goals, tasks, affective bond, empathy, positive regard, trust, client-centred, expertness, genuineness*

#### Native language questions

6. Can you describe how you get across to the client what you want them to do?  
*Probes:*  
*Describe the language you use? (Style / tone / imagery / praise / critique)*  
*Explain the non-verbal communication that you use? (touch / demonstration / non-verbal utterance)*

#### Contrast questions

7. Could you give me an example of the differences between an easier and more challenging relationship with clients with low back pain?

*Probes:*

*What influences whether a relationship is easier or more challenging?*

*What factors are important in the outcome? Teaching style / client engagement / emotion*

*How did you feel about each of the clients?*

8. Can you tell me about any differences in tailoring your teaching for different groups of people such as older clients, men / women, low back features?

*Probes:*

*Do you use different communication strategies? (language / touch / imagery / praise / critique)*

*What influences these differences? (social convention, cultural influence)*

## Appendix E - Interview Topic Guide (Client)

### Interview Guide – Client

#### Descriptive questions

1. Can you tell me about your decision to start doing Pilates?  
*Probes:*  
*Tell me about your back pain?*  
*What influenced your decision to start Pilates?*  
*Why did you choose this teacher?*  
*What did you want to achieve by coming to Pilates? (What are their goals?)*
2. Can you describe to me a typical Pilates class / session?  
*Probes:*  
*Describe the space / the people / the activity / the feelings*

#### Experience questions

3. Can you describe your experience of a recent class / session?  
*Probes:*  
*Was your back hurting when they came to the last class / session?*  
*What was your expectation?*  
*What was your perception of outcome?*  
*What factors were of importance? Was there anything that influenced the experience?*
4. If a friend had low back pain and was wondering if Pilates might help, what would you say?  
*Probes:*  
*Perception of Pilates outcomes for low back pain*  
*What was the overall perception of Pilates experience?*

#### Contrast questions

5. If your back is hurting / not hurting (dependent on answer to Q. 3) when you come to Pilates, can you describe to me the difference in your class / session?  
*Probes:*  
*Are you given different exercises to your usual session / different exercises to the rest of the class?*  
*Does your teacher treat you differently?*  
*How does that make you feel?*

#### Example questions

6. Is there anything that you do in the Pilates class / session that is particularly helpful when your back is hurting?  
*Probes:*  
*Give an example of something that helps your back*  
*Positive influences on perception of back pain (movement / relationship / language / social connection)*



7. Is there anything that you have found particularly difficult or unhelpful in your Pilates class / session?

*Probes:*

*Negative influences on perception of back pain (movement / relationship / language / social connection)*

#### Native language question

8. Can you explain to me how your teacher communicates to you how to do the exercise in the right way?

*Probes:*

*Describe the language the teacher uses? (Style / tone / imagery / praise / critique)*

*Explain other ways they might show you? (Non-verbal – demonstration / touch / non-verbal utterance)*

#### Structural questions

9. Can you tell me about your teacher's role in your Pilates practice?

*Probes:*

*What is important to you about having a teacher teach you Pilates?*

*How does having a teacher add to your experience of Pilates?*

*How has your relationship changed over time?*

*What influences the relationship?*

*Is there anything extra / different that you would like your teacher to do?*

10. You mentioned the goals you had when you first started Pilates, can you describe how you have worked with your teacher to achieve these goals?

*Probes:*

*Did your teacher ask what your goals were when you started Pilates?*

*Have the goals been revisited, and by whom?*

*What tasks have been set specifically to achieve your goals?*

*How have you measured success? Activities of daily living etc.*

#### Contrast questions

11. We've talked about how your current Pilates teacher works with you, can you describe to me your experiences of doing Pilates with previous Pilates teachers you have had?

*Probes:*

*What differences were there between your old teacher and your current teacher?*

*Exercises / environment / style of teaching / status of relationship*

*How did the other teacher make you feel?*

12. We've talked about the role that your teacher has in your Pilates class / session, I'd like us to think about the other people who attend class with you. What can you tell me about that?

*Probes:*

*Is there a social / supportive element?*

*Can other people be disruptive / a negative influence?*

*How does the class environment influence the relationship with the teacher?*

13. Having talked about your teacher and other people have a role in your experience of Pilates, can you tell me about anything else that you feel has an influence on your experience?

*Probes:*

*Environment / Pilates equipment / time of class*

## Appendix F - Participant Information Sheet (Pilot)

### Participant Information Sheet – PILOT

**Study Title:** Understanding Pilates Approaches to Low Back Pain – Pilot Interview

**Researcher:** Nikky Godfrey

**Ethics number:** 24796

**Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form.**

#### **What is the research about?**

I am a Health Sciences PhD student at the University of Southampton, conducting a study to explore a range of Pilates practices for people with back pain, to understand what happens during a Pilates class or one-to-one. Research has shown that Pilates may be beneficial for people with back pain, but to date, there is little research looking at Pilates approaches for people with back pain. I am interested in investigating how Pilates is taught, and how clients with back pain feel about their Pilates experience; such as environment, style of Pilates (such as matwork or Pilates equipment), class content and delivery.

The study has received ethical approval from the Faculty of Health Science Research and Ethics Committee at the University of Southampton.

#### **Why have I been invited to take part?**

This study aims to explore different Pilates approaches in order to gain understanding of what happens during a Pilates class or one-to-one for people with back pain. As part of the research, participants will be interviewed about their experience of Pilates.

You have been invited to participate in the Pilot trial of the interview to assist the researcher refine the interview process by providing feedback on the interview questions.

#### **What will happen to me if I take part?**

If you decide to take part, you would be asked to sign a consent form agreeing to allow the researcher to interview you. You will be asked to participate in an interview with the researcher, to talk about your experiences of Pilates. This would be at a time and place of your convenience (during office hours) and would take approximately 1 hour. The interview would be recorded on a digital voice recorder.

After the interview, you will be asked to complete a short questionnaire evaluating the interview questions you have been asked, and to identify any areas you feel could be improved.

The data from your interview may be used in the main study, but your name and other identifying details will be changed.

#### **Are there any benefits in my taking part?**

Information from the Pilot interview questionnaires will be used to refine the interview process for the main study and enhance the quality of information collected. The data from your interview may be used in the main study, and the findings of this study may add to current knowledge to help Pilates teachers choose the most helpful approaches for clients with back pain, in order to maximise the desired effect.

#### **Are there any risks involved?**

It is considered that any potential risks are very low risk. When talking about your experience of Pilates, if you feel emotional or upset, you are free to take a break or stop at any time.

**Will my participation be confidential?**

All data collected during the interview will be handled in compliance with the Data Protection Act and University of Southampton Data Management Policy. During visits to interviewees, the researcher's notes, research paperwork and audio-recording device will be kept in a locked bag and kept with the researcher at all times when not in use. Data will be stored on a password-protected computer or in a locked file for hard copies.

If the data from your interview is used in the main study, your name and other identifying details about yourself or the Pilates setting will be changed and every effort made to provide anonymity, but absolute anonymity cannot be guaranteed.

**What happens if I change my mind?**

You have the right to withdraw from the research at any time, without your legal rights or your care being affected. To withdraw from the research you can contact the researcher:

Nikky Godfrey

Email: [ncg1e14@soton.ac.uk](mailto:ncg1e14@soton.ac.uk)

Tel: 07962 621917

**What happens if something goes wrong?**

If you have any concerns about this study, your rights as a participant, or if you feel you been placed at risk, you may contact:

Research Integrity & Governance Manager

University Research Office

Building 37

Highfield

Southampton

SO17 1BJ

Email: [rgoinfo@soton.ac.uk](mailto:rgoinfo@soton.ac.uk)

Phone: 02380 595058

**Where can I get more information?**

If you have any further queries about this study, you can contact the researcher:

Nikky Godfrey

Email: [ncg1e14@soton.ac.uk](mailto:ncg1e14@soton.ac.uk)

Tel: 07962 621917

## Appendix G - Participant Information Sheet – Teacher

### Participant Information Sheet – TEACHER

**Study Title:** Understanding Pilates Approaches to Low Back Pain – Phase 1

**Researcher:** Nikky Godfrey

**Ethics number:** 24796

**Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form.**

**What is the research about?**

I am a Health Sciences PhD student at the University of Southampton, conducting a study to explore a range of Pilates practices for people with back pain, to understand what happens during a Pilates class or one-to-one. Research has shown that Pilates may be beneficial for people with back pain, but to date, there is little research looking at Pilates approaches for people with back pain. I am interested in investigating how Pilates is taught, and what may influence how clients with back pain feel about their Pilates experience; such as environment, style of Pilates (such as matwork or Pilates equipment), class content and delivery.

The study has received ethical approval from the Faculty of Health Science Research and Ethics Committee at the University of Southampton.

**Why have I been invited to take part?**

Pilates teachers with a wide range of backgrounds and teaching styles, who currently teach clients with back pain have been chosen. This will enable the research to explore different Pilates approaches in order to gain understanding of what happens during a Pilates class or one-to-one for people with persistent low back pain (defined as pain or stiffness between the lower ribs and the crease of the buttocks persisting for longer than 12 weeks duration).

**What will happen to me if I take part?**

If you decide to take part, you would be agreeing to allow a researcher to observe some of your classes and one-to-one sessions where clients with back pain attend. Observations will take place on up to 2 visits, and would include the researcher watching your classes, and taking notes about what happens. You can view these notes at any time during the visits.

Initially, the researcher would schedule a meeting with you, at a time convenient for you, to give you an opportunity to ask any questions you may have. If you agree to take part, you would be asked to sign a consent form, and dates would be agreed with you for observation visits, on days when you are teaching classes and / or one-to-one sessions where some clients with persistent low back pain attend.

You would be given 'Client Information Packs', and asked to hand out / email to all clients attending the agreed classes / one-to-ones which will provide them with information about the research, and would allow the client to decide if they would like to participate in the research or not. Prior to observing the classes / one-to-one session, the researcher would gain signed consent forms from clients willing to participate. For class clients who do not want to participate, no information would be recorded about their participation in the class.

You would also be asked to participate in an interview with the researcher, to talk about your experiences of teaching clients with persistent low back pain. This would be at a time and place of your convenience (during office hours) and would take approximately 1 hour. The interview would be recorded on a digital voice recorder.

You would also be asked to assist the researcher to invite some of your current clients with persistent low back pain who may be willing to participate in an informal interview with the researcher, to talk about their experiences of Pilates. To aid the researcher, you would be asked to allow the researcher time to explain to clients in the agreed classes / one-to-ones that the research includes interviewing clients with low back pain about their experience of Pilates, and to invite the clients to participate. The researcher will leave 'Interview Packs' in the room where the Pilates session has taken place and your clients are free to take a pack if they are interested in participating. If the client decides to take part, they would contact the researcher directly to arrange a meeting. There will also be a follow-up study to carry out more in-depth research after the initial Phase 1 study. You would be asked if you may be interested in participating in Phase 2 and are free to agree / disagree to being approached to take part in the follow-up study.

**Are there any benefits in my taking part?**

The findings of this study may add to current knowledge to help Pilates teachers choose the most helpful approaches for clients with back pain, in order to maximise the desired effect.

**Are there any risks involved?**

It is considered that any potential risks are very low risk. If you feel uncomfortable about being observed, you are free to take a break from the observation or stop at any time. When talking about your experiences of teaching Pilates to clients with back pain, should you feel uncomfortable or emotional, you are free to take a break or stop at any time.

**Will my participation be confidential?**

All data collected during the observations and interview will be handled in compliance with the Data Protection Act and University of Southampton Data Management Policy. During visits to observe and interview, the researcher's notes, research paperwork and audio-recording device will be kept in a locked bag and kept with the researcher at all times when not in use. Data will be stored on a password-protected computer or in a locked file for hard copies.

Your name and other identifying details about yourself or the Pilates setting will be changed and every effort made to provide anonymity, but absolute anonymity cannot be guaranteed.

**What happens if I change my mind?**

You have the right to withdraw from the research at any time, without your legal rights being affected. To withdraw from the research you can contact the researcher:

Nikky Godfrey

Email: [ncg1e14@soton.ac.uk](mailto:ncg1e14@soton.ac.uk)

Tel: 07962 621917

**What happens if something goes wrong?**

If you have any concerns about this study, your rights as a participant, or if you feel you been placed at risk, you may contact:

Research Integrity & Governance Manager

University Research Office

Building 37

Highfield

Southampton

SO17 1BJ

Email: [rgoinfo@soton.ac.uk](mailto:rgoinfo@soton.ac.uk)

Phone: 02380 595058

**Where can I get more information?**

If you have any further queries about this study, you can contact the researcher:

Nikky Godfrey  
Email: [ncg1e14@soton.ac.uk](mailto:ncg1e14@soton.ac.uk)  
Tel: 07962 621917

## **Appendix H     - Participant Information Sheet (Client - Observation)**

### **Participant Information Sheet – CLIENT**

**Study Title:** Understanding Pilates Approaches to Low Back Pain – Phase 1

**Researcher:**        Nikky Godfrey

**Ethics number:** 24796

**Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form.**

#### **What is the research about?**

I am a Health Sciences PhD student at the University of Southampton, conducting a study to explore a range of Pilates practices for people with back pain, to understand what happens during a Pilates class or one-to-one. Research has shown that Pilates may be beneficial for people with back pain, but to date, there is little research looking at Pilates approaches for people with back pain. I am interested in investigating how Pilates is taught, and how clients with back pain feel about their Pilates experience; such as environment, style of Pilates (such as matwork or Pilates equipment), class content and delivery.

The study has received ethical approval from the Faculty of Health Science Research and Ethics Committee at the University of Southampton.

#### **Why have I been invited to take part?**

This study aims to explore different Pilates approaches in order to gain understanding of what happens during a Pilates class or one-to-one for people with back pain. You have been invited to participate as a client attending a class or one-to-one with a Pilates teacher who teaches clients with back pain.

#### **What will happen to me if I take part?**

If you decide to take part, you would be asked to sign a consent form agreeing to allow a researcher to observe up to 2 of your Pilates classes or one-to-one sessions. Observations would include the researcher watching your class, and taking notes about what happens. You can view these notes at any time during the visits to your Pilates teacher.

#### **Are there any benefits in my taking part?**

The findings of this study may add to current knowledge to help Pilates teachers choose the most helpful approaches for clients with back pain, in order to maximise the desired effect.

#### **Are there any risks involved?**

It is considered that any potential risks are very low risk. If you feel uncomfortable about being observed, you are free to take a break from the observation or stop at any time.

#### **Will my participation be confidential?**

All data collected during observations will be handled in compliance with the Data Protection Act and University of Southampton Data Management Policy. During visits, the researcher's notes and research paperwork will be kept in a locked bag and kept with the researcher at all times when not in use. Data will be stored on a password-protected computer, on university servers or in a locked file for hard copies. Your name and other



identifying details about yourself or the Pilates setting will be changed and every effort made to provide anonymity, but absolute anonymity cannot be guaranteed.

**What happens if I change my mind?**

You have the right to withdraw from the research at any time, without your legal rights or your care being affected. To withdraw from the research you can contact the researcher:

Nikky Godfrey  
Email: [ncg1e14@soton.ac.uk](mailto:ncg1e14@soton.ac.uk)  
Tel: 07962 621917

**What happens if something goes wrong?**

If you have any concerns about this study, your rights as a participant, or if you feel you been placed at risk, you may contact:

Research Integrity & Governance Manager  
University Research Office  
Building 37  
Highfield  
Southampton  
SO17 1BJ  
Email: [rgoinfo@soton.ac.uk](mailto:rgoinfo@soton.ac.uk)  
Phone: 02380 595058

**Where can I get more information?**

If you have any further queries about this study, you can contact the researcher:

Nikky Godfrey  
Email: [ncg1e14@soton.ac.uk](mailto:ncg1e14@soton.ac.uk)  
Tel: 07962 621917

# **Appendix I      - Participant Information Sheet (Interview Client)**

## **Participant Information Sheet - INTERVIEW**

**Study Title:** Understanding Pilates Approaches to Low Back Pain – Phase 1

**Researcher:**      Nikky Godfrey

**Ethics number:** 24796

**Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form.**

### **What is the research about?**

I am a Health Sciences PhD student at the University of Southampton, conducting a study to explore a range of Pilates practices for people with back pain, to understand what happens during a Pilates class or one-to-one. Research has shown that Pilates may be beneficial for people with back pain, but to date, there is little research looking at Pilates approaches for people with back pain. I am interested in investigating how Pilates is taught, and how clients with back pain feel about their Pilates experience; such as environment, style of Pilates (such as matwork or Pilates equipment), class content and delivery.

The study has received ethical approval from the Faculty of Health Science Research and Ethics Committee at the University of Southampton.

### **Why have I been invited to take part?**

You have been invited to take part as a Pilates client who has experienced back pain either in the past, or currently, in order for the research to explore clients' experiences of Pilates.

### **What will happen to me if I take part?**

If you decide to take part, you would be asked to participate in an interview with the researcher, to talk about your experiences of Pilates. This would be at a time and place of your convenience (during office hours) and would take approximately 1 hour.

There will also be a follow-up study to carry out more in-depth research after the initial Phase 1 study. You would be asked if you may be interested in participating in Phase 2 and are free to agree / disagree to being approached to take part in the follow-up study.

### **Are there any benefits in my taking part?**

The findings of this study may add to current knowledge to help Pilates teachers choose the most helpful approaches for clients with back pain, in order to maximise the desired effect.

### **Are there any risks involved?**

It is considered that any potential risks are very low risk. When talking about your back pain during the interview, if you feel emotional or upset, you are free to take a break or stop at any time.

### **Will my participation be confidential?**

All data collected during the interview will be handled in compliance with the Data Protection Act and University of Southampton Data Management Policy. During visits to

interviewees, the researcher's notes, research paperwork and audio-recording device will be kept in a locked bag and kept with the researcher at all times when not in use. Data will be stored on a password-protected computer or in a locked file for hard copies.

Your name and other identifying details about yourself or the Pilates setting will be changed and every effort made to provide anonymity, but absolute anonymity cannot be guaranteed.

In the event that during the interview you tell the researcher about symptoms that may indicate more serious pathology, the researcher is bound by a duty of care to explain their concerns to you, and to advise that you seek advice from your GP. The researcher would also seek your permission at this time to speak to your Pilates teachers about their concerns.

**What happens if I change my mind?**

You have the right to withdraw from the research at any time, without your legal rights or your care being affected. To withdraw from the research you can contact the researcher:

Nikky Godfrey  
Email: [ncg1e14@soton.ac.uk](mailto:ncg1e14@soton.ac.uk)  
Tel: 07962 621917

**What happens if something goes wrong?**

If you have any concerns about this study, your rights as a participant, or if you feel you been placed at risk, you may contact:

Research Integrity & Governance Manager  
University Research Office  
Building 37  
Highfield  
Southampton  
SO17 1BJ  
Email: [rgoinfo@soton.ac.uk](mailto:rgoinfo@soton.ac.uk)  
Phone: 02380 595058

**Where can I get more information?**

If you have any further queries about this study, you can contact the researcher:

Nikky Godfrey  
Email: [ncg1e14@soton.ac.uk](mailto:ncg1e14@soton.ac.uk)  
Tel: 07962 621917

## Appendix J - Consent Form (Pilot)

### CONSENT FORM (*Pilot Interview*)

**Study title:** Understanding Pilates Approaches to Low Back Pain – Phase 1

**Researcher name:** Nikky Godfrey

**Ethics reference:** 24796

*Please initial the box(es) if you agree with the statement(s):*

I have read and understood the information sheet (Feb2017 PIS Pilot vs2) and have had the opportunity to ask questions about the study.

☐

I agree to take part in this research project and agree for my data to be used for the purpose of this study. I understand that my name will not be identifiable in any written reports or papers arising from

☐

I agree that the information collected can be used for teaching health professionals, specifically by the researcher / supervisors

☐

I understand my participation is voluntary and I may withdraw at any time without my legal rights or Pilates care being affected

☐

I agree to take part in an interview

☐

I agree for the interview to be audio-recorded

☐

I agree to complete a questionnaire evaluating the interview

☐

Name of participant (print name).....

Signature of participant..... Date.....

Signature of researcher..... Date.....

## Appendix K - Consent Form (Teacher)

### CONSENT FORM (*Pilates teachers*)

**Study title:** Understanding Pilates Approaches to Low Back Pain – Phase 1

**Researcher name:** Nikky Godfrey

**Ethics reference:** 24796

*Please initial the box(es) if you agree with the statement(s):*

I have read and understood the information sheet (Feb2017 PIS Teacher vs2) and have had the opportunity to ask questions about the study.

☐

I agree to take part in this research project and agree for my data to be used for the purpose of this study. I understand that my name will not be identifiable in any written reports or papers arising from this research

☐

I agree that the information collected can be used for teaching health professionals, specifically by the researcher / supervisors

☐

I understand my participation is voluntary and I may withdraw at any time without my legal rights being affected

☐

I agree to take part in this study

☐

I agree for the interview to be audio-recorded

☐

I agree to be approached to participate in Phase 2 of this research

☐

Name of participant (print name).....

Signature of participant..... Date.....

Signature of researcher..... Date.....

## Appendix L - Consent Form (Client – Observation)

### CONSENT FORM (*Clients*)

**Study title:** Understanding Pilates Approaches to Low Back Pain – Phase 1

**Researcher name:** Nikky Godfrey

**Ethics reference:** 24796

*Please initial the box(es) if you agree with the statement(s):*

I have read and understood the information sheet (Feb2017 PIS Client vs3) and have had the opportunity to ask questions about the study.

☐

I agree to take part in this research project and agree for my data to be used for the purpose of this study. I understand that my name will not be identifiable in any written reports or papers arising from this research

☐

I agree that the information collected can be used for teaching health professionals, specifically by the researcher / supervisors

☐

I understand my participation is voluntary and I may withdraw at any

☐

I agree to allow a researcher to observe my Pilates session(s)

☐

Name of participant (print name).....

Signature of participant..... Date.....

Signature of researcher..... Date.....

## Appendix M - Consent Form (Client – Interview)

### CONSENT FORM (*Interview Clients*)

**Study title:** Understanding Pilates Approaches to Low Back Pain – Phase 1

**Researcher name:** Nikky Godfrey

**Ethics reference:** 24796

*Please initial the box(es) if you agree with the statement(s):*

I have read and understood the information sheet (Feb2017 PIS Interview vs2) and have had the opportunity to ask questions about the study.

☐

I agree to take part in this research project and agree for my data to be used for the purpose of this study. I understand that my name will not be identifiable in any written reports or papers arising from this research

☐

I agree that the information collected can be used for teaching health professionals, specifically by the researcher / supervisors

☐

I understand my participation is voluntary and I may withdraw at any time without my legal rights or Pilates care being affected

☐

I agree to take part in an interview

☐

I agree for the interview to be audio-recorded

☐

I agree to be approached to participate in Phase 2 of this research

☐

Name of participant (print name).....

Signature of participant..... Date.....

Signature of researcher..... Date.....

## Appendix N - Pilot Invitation Letter

### Invitation to participate in a Pilates research study

My name is Nikky Godfrey, and I am a Health Sciences PhD student at the University of Southampton conducting a study to explore a range of Pilates practices for people with back pain, to understand what happens during a Pilates class or one-to-one.

As part of my research I will be interviewing people about their experience of Pilates, and in order to refine the interview questions I will be carrying out an initial Pilot trial of the interviews to assess the interview process and make improvements, before conducting the main study.

I would like to invite you to participate in a Pilot Interview. This would be to talk about your experience of Pilates, at a time and location convenient to you, and would be up to 1 hour. I would then ask you to complete a questionnaire evaluating the interview questions and if you think they could be improved.

Participation is entirely voluntary, but if you would like to be involved with my PhD study, I have enclosed more information in a Participant Information Sheet.

If, having read this information, you would like to take part, please contact me:

Email: [ncg1e14@soton.ac.uk](mailto:ncg1e14@soton.ac.uk)

Phone: 07962 621917

Many thanks for your time,

Yours sincerely,

Nikky Godfrey



## Appendix O - Teacher Invitation Letter

### Invitation to participate in a Pilates research study

Dear X,

My name is Nikky Godfrey, and I am a Health Sciences PhD student at the University of Southampton conducting a study to explore a range of Pilates practices for people with back pain, to understand what happens during a Pilates class or one-to-one. Research has shown that Pilates may be beneficial for people with back pain, but to date, there is little research looking at what influences Pilates approaches for people with back pain.

I am interested in investigating factors that influence how Pilates is taught, and that may also influence how clients with back pain feel about their Pilates experience; such as environment, style of Pilates (such as matwork or Pilates equipment), communication between client and teacher.

My research will be based on observations of classes and one-to-one sessions, accompanied by interviews with teachers and clients with persistent low back pain (defined as pain or stiffness between the lower ribs and the crease of the buttocks persisting for longer than 12 weeks duration). I am looking for Pilates teachers with a wide range of backgrounds and teaching styles, who currently teach clients with persistent back pain. This broad perspective will help me understand how Pilates teachers work with people with back pain.

I have attached a Participant Information Sheet with more information, and if, having read this sheet you would like to help me with my PhD research, please complete the short online questionnaire by clicking the button below.

Many thanks for your time,

Yours sincerely,

Nikky Godfrey

## Appendix P - Teacher Follow-up Letter

### Invitation to participate in a Pilates research study

Dear X,

My name is Nikky Godfrey, and I am a Health Sciences PhD student at the University of Southampton. A few weeks ago I emailed you regarding a study I am conducting to explore a range of Pilates practices for people with back pain, to help understand what happens during a Pilates class or one-to-one.

As I hadn't heard from you, I wanted to follow-up with you to see if you were interested in participating in the research? If you are interested in participating, then I have included some more information below and would ask that you click the button below to register your interest by completing a short online questionnaire (this should take no more than 10 minutes).

If you do not wish to participate, I thank you for your time in considering your participation.

#### Background to the Research

Research has shown that Pilates may be beneficial for people with back pain, but to date, there is little research looking at what influences Pilates approaches for people with back pain.

I am interested in investigating factors that influence how Pilates is taught, and that may also influence how clients with back pain feel about their Pilates experience; such as environment, style of Pilates (such as matwork or Pilates equipment), communication between client and teacher.

My research will be based on observations of classes and one-to-one sessions, accompanied by interviews with teachers and clients with persistent low back pain (defined as pain or stiffness between the lower ribs and the crease of the buttocks persisting for longer than 12 weeks duration). I am looking for Pilates teachers with a wide range of backgrounds and teaching styles, who currently teach clients with persistent back pain. This broad perspective will help me understand how Pilates teachers work with people with back pain.

I have attached a Participant Information Sheet with more information, and if, having read this sheet you would like to help me with my PhD research, please complete the short online questionnaire by clicking the button below.

Many thanks for your time,

Yours sincerely,

Nikky Godfrey

## **Appendix Q - Observation Client Invitation Letter**

### Invitation to participate in a Pilates research study

My name is Nikky Godfrey, and I am a Health Sciences PhD student at the University of Southampton conducting a study to explore a range of Pilates practices for people with back pain, to understand what happens during a Pilates class or one-to-one.

Your Pilates teacher has agreed to participate in the research, and I would also like to invite you to participate in the research.

My research will be based on observations of classes and one-to-one sessions, so I will be coming to up to 2 of your classes / one-to-one sessions to observe what happens during class. I will not be involved with the class, so my observation should not detract from your usual class.

Participation is entirely voluntary, but if you would like to be involved with my PhD study, I have enclosed more information in a Participant Information Sheet.

Many thanks for your time,

Yours sincerely,

Nikky Godfrey

## **Appendix R     - Interview Client Invitation Letter**

### **Invitation to participate in a Pilates research study**

My name is Nikky Godfrey, and I am a Health Sciences PhD student at the University of Southampton conducting a study to explore a range of Pilates practices for people with back pain, to understand what happens during a Pilates class or one-to-one.

Your Pilates teacher has agreed to participate in the research, and I would also like to invite you to participate.

As part of my research, I would like to talk to Pilates clients who have experienced back pain either in the past, or currently, in order to explore clients' experiences of Pilates as it relates to their back pain. This would be an interview, at a time and location convenient to you, and would be up to 1 hour.

Participation is entirely voluntary, but if you would like to be involved with my PhD study, I have enclosed more information in a Participant Information Sheet.

If, having read this information, you would like to take part, please contact me:

Email: [ncg1e14@soton.ac.uk](mailto:ncg1e14@soton.ac.uk)

Phone: 07962 621917

Many thanks for your time,

Yours sincerely,

Nikky Godfrey

## **Appendix S     - Selected Teacher Letter**

Thank you!

Dear X,

Thank you for offering to participate in my PhD research project. You have been selected as a participant, and I attach another copy of the Participant Information Sheet to give you more information about your involvement.

I will be in contact by telephone in the next few days to arrange a meeting at a time and location of your convenience, so that I can answer any questions you may have. If you are happy to proceed with participating in the study, I will ask you to sign a Consent Form, and we can then schedule a start date.

Your time and help are much appreciated.

Yours sincerely,

Nikky Godfrey

## **Appendix T     - Selected Interview Client Letter**

Thank you!

Dear X,

Thank you for offering to participate in my PhD research project. You have been selected as a participant, and I attach another copy of the Participant Information Sheet and a Consent Form to give you more information about your involvement.

I will be in contact by telephone in the next few days so I can answer any questions you may have. If you are happy to proceed with participating in the study, I will ask you to sign the Consent Form, and return in the Self Addressed Envelope. We can then schedule a meeting at a time and location of your convenience to talk about your experience of Pilates.

Your time and help are much appreciated.

Yours sincerely,

Nikky Godfrey

## **Appendix U    - Non-selected participant letter**

Thank you!

Dear X,

Thank you for offering to participate in my PhD research project. At this time, I have enough participants for my study and so will not be able to include your contribution on this occasion. I am very grateful for your time, without which, the project would not have been able to progress.

Yours sincerely,

Nikky Godfrey

## Appendix V – Spradley’s Descriptive Question Matrix

Descriptive question matrix : Spradley, J. (1980). *Participant observation*. New York : Holt, Rinehart & Winston.

	SPACE	OBJECT	ACT	ACTIVITY	EVENT	TIME	ACTOR	GOAL	FEELINGS
<b>SPACE</b> The physical place or places	Can you describe in detail all the places?	What are all the ways space is organized by objects?	What are all the ways that space are organized by actions?	What are all the ways space is organized by activities?	What are all the ways space is organized by events?	What spatial changes occur over time?	What are all the ways space is used by actors?	What are all the ways space is related to goals?	What places are associated with feelings?
<b>OBJECT</b> The physical things that are present	Where are objects located?	Can you describe in detail all the objects? ?	What are all the ways objects are used in acts?	What are all the ways objects are used in activities?	What are all the ways objects are used in events?	What are all the ways objects are used in activities?	What are all the ways objects are used by actors?	How are objects used in seeking goals?	What are all the ways objects evoke feelings?
<b>ACT</b> Single actions that people do	What are all the places acts occur?	What are all the ways acts incorporate objects?	Can you describe in detail all the acts?	What are all the ways that acts are involved in activities?	What are all the ways that acts are involved in events?	How do acts vary at different times?	What are all the ways acts incorporate actors?	What are all the ways acts involve goals?	How do acts involve feelings?
<b>ACTIVITY</b> A set of related acts people do	What are all the places activities occur?	What are all the ways activities incorporate objects?	What are all the ways activities incorporate acts?	Can you describe in detail all the activities?	What are all the ways that activities are involved in events?	How do activities vary at different times?	What are all the ways activities incorporate actors?	What are all the ways activities involve goals?	How do activities involve feelings??
<b>EVENT</b> A set of related activities that people carry out	What are all the places events occur?	What are all the ways events incorporate objects?	What are all the ways events incorporate acts?	What are all the ways events incorporate activities?	Can you describe in detail all the events?	How do events occur over time? Is there an order of events?	What are all the ways events incorporate actors?	What are all the ways events involve goals?	How do events involve feelings?
<b>TIME</b> The sequencing that takes place over time	Where do time periods occur?	What are all the ways time affects objects?	How do acts fall into time periods?	How do activities fall into time periods?	How do events fall into time periods?	Can you describe in detail all the time periods?	When are all the times actors are "on stage"?	How are goals related to time periods?	When are feelings evoked?



<b>ACTOR</b> The people involved	Where do actors place themselves??	What are all the ways actors use objects?	How are actors involved in acts?	How are actors involved in activities?	How are actors involved in events?	How do actors change over time or at different times?	Can you describe in detail all the actors?	Which actors are linked to which goals?	What are the feelings experienced by actors?
<b>GOAL</b> The things people are trying to accomplish	Where are goals sought and achieved?	What are all the ways goals involve use of objects?	What are all the ways goals involve acts?	What activities are goal seeking or linked to goals?	What are all the ways goals involve events?	Which goals are scheduled for which times?	How do the various goals affect the various actors?	Can you describe in detail all the goals?	What are all the ways goals evoke feelings?
<b>FEELINGS</b> The emotions felt and expressed	Where do the various feeling states occur?	What feelings lead to the use of what objects?	What are all the ways feelings affect acts?	What are all the ways feelings affect activities?	What are all the ways feelings affect events?	How are feelings related to various time periods?	What are all the ways feelings involve actors?	What are the ways feelings influence goals?	Can you describe in detail all the feelings?



## List of References

- Great Britain *Data Protection Act 1998: Elizabeth II* (1998) London: HMSO
- Adam T (2013) New ways to write the history of Western Europe and the United States: the concept of intercultural transfer. *History Compass* 11(10): 880-892
- Adams M (2009) *Mr. America: How Muscular Millionaire Bernarr Macfadden Transformed the Nation Through Sex, Salad, and the Ultimate Starvation Diet*. New York: HarperCollins
- Airaksinen O, Brox JJ, Cedraschi C, Hildebrandt J, Klaber-Moffett J, Kovacs F, Mannion AF, Reis S, Staal JB, Ursin H and Zanoli G (2006) Chapter 4. European guidelines for the management of chronic nonspecific low back pain. *European Spine Journal* 15 (2): S192-S300
- Alexander LB and Luborsky L (1986) The Penn Helping Alliance Scales IN: Greenberg LS and Pinsof W (eds) *The psychotherapeutic process: A research handbook*. Hove: Guilford Press 325-366
- Alhowimel A, AlOtaibi M, Radford K and Coulson N (2018) Psychosocial factors associated with change in pain and disability outcomes in chronic low back pain patients treated by physiotherapist: A systematic review. *SAGE Open Medicine* 6: 1177/2050312118757387
- Allan DB and Waddell G (1989) An historical perspective on low back pain and disability. *Acta Orthopaedica Scandinavica* 60(234): 1-23
- Allen S (2014) *Establishing the scope of pilates through systematic evaluation: evidence and current practice*. Unpublished PhD thesis University of Ulster
- Allison GT and Morris SL (2008) Transversus abdominis and core stability: has the pendulum swung? *British Journal of Sports Medicine* 42(11): 930-931
- Allison GT, Morris SL and Lay B (2008) Feedforward responses of transversus abdominis are directionally specific and act asymmetrically: implications for core stability theories. *Journal of Orthopaedic and Sports Physical Therapy* 38(5): 228-37
- Almeida M, Saragiotto B, Richards B and Maher CG (2018) Primary care management of non-specific low back pain: key messages from recent clinical guidelines. *Medical Journal of Australia* 208(6): 272-275
- Alzahrani H, Mackey M, Stamatakis E, Pinheiro MB, Wicks M and Shirley D (2019) The effectiveness of incidental physical activity interventions compared to other interventions in the management of people with low back pain: A systematic review and meta-analysis of randomised controlled trials. *Physical Therapy in Sport* 36: 34-42
- Anderson BD and Spector A (2000) Introduction to Pilates-based rehabilitation. *Orthopaedic Physical Therapy Clinics of North America* 9(3): 395-410
- Appihealthgroup.com (2020) *About us*. Available from: <https://appihealthgroup.com/about/about-us/> [Accessed 18/10/2020]
- Ardito RB and Rabellino D (2011) Therapeutic alliance and outcome of psychotherapy: Historical excursus, measurements, and prospects for research. *Frontiers in Psychology* 2: 270

- Arksey H and O'Malley L (2005) Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology* 8(1): 19-32
- Armstrong T (1998) *Modernism, Technology, and the Body: A Cultural Study*. Cambridge: Cambridge University Press
- Arnold MH, Kerridge I and Lipworth W (2020) An ethical critique of person-centred healthcare. *European Journal for Person Centered Healthcare* 8(1): 34-44
- Artus M, van der Windt DA, Jordan KP and Hay EM (2010) Low back pain symptoms show a similar pattern of improvement following a wide range of primary care treatments: a systematic review of randomized clinical trials. *Rheumatology* 49(12): 2346-56
- Aujoulat I, d'Hoore W and Deccache A (2007) Patient empowerment in theory and practice: Polysemy or cacophony? *Patient Education and Counseling* 66(1): 13-20
- Austin W, Bergum V, Nuttgens S and Peternelj-Taylor C (2006) A re-visioning of boundaries in professional helping relationships: exploring other metaphors. *Ethics & Behavior* 16(2): 77-94
- Babatunde F, MacDermid J and MacIntyre N (2017) Characteristics of therapeutic alliance in musculoskeletal physiotherapy and occupational therapy practice: a scoping review of the literature. *BMC Health Services Research* 17(1): 375
- Bąbel P, Pieniżek L and Zarotyński D (2015) The effect of the type of pain on the accuracy of memory of pain and affect. *European Journal of Pain* 19(3): 358-368
- Bakan D (1996) Some Reflections about Narrative Research and Hurt and Harm IN: Josselson R (ed) *Ethics and Process in the Narrative Study of Lives*. London SAGE Publications 3-8
- Balagué F, Mannion AF, Pellisé F and Cedraschi C (2012) Non-specific low back pain. *The Lancet* 379(9814): 482-491
- Balint E (1969) The possibilities of patient-centered medicine. *The Journal of the Royal College of General Practitioners* 17(82): 269-276
- Balint M (1955) The doctor, his patient, and the illness. *The Lancet* 265(6866): 683-688
- Barbour RS (2001) Checklists for improving rigour in qualitative research: a case of the tail wagging the dog? *British Medical Journal* 322(7294): 1115-1117
- Batbaatar E, Dorjdagva J, Luvsannyam A and Amenta P (2015) Conceptualisation of patient satisfaction: a systematic narrative literature review. *Perspectives in Public Health* 135(5): 243-250
- Batbaatar E, Dorjdagva J, Luvsannyam A, Savino MM and Amenta P (2017) Determinants of patient satisfaction: a systematic review. *Perspectives in public health* 137(2): 89-101
- Bell C (1992) *Ritual Theory, Ritual Practice*. New York: Oxford University Press
- Bell C (1997) *Ritual: Perspectives and Dimensions*. New York: Oxford University Press
- Benedetti F (2010) *The Patient's Brain: The Neuroscience Behind the Doctor-Patient Relationship*. Oxford: Oxford University Press

- Benedetti F (2013) Placebo and the New Physiology of the Doctor-Patient Relationship. *Physiological Reviews* 93(3): 1207-1246
- Berenson BG and Carkhuff R (1977) *Beyond Counseling and Therapy*. New York: Holt, Rinehart and Winston
- Berger PL and Luckmann T (1967) *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. London: Penguin
- Berger R (2015) Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative Research* 15(2): 219-234
- Besley J, Kayes NM and McPherson KM (2010) Assessing therapeutic relationships in Physiotherapy: Literature review. *New Zealand Journal of Physiotherapy* 39(2): 81-91
- Bettie J (2014) *Women without class: Girls, race, and identity*. Oakland: University of California Press
- Bevan S, Quadrello T, McGee R, Mahdon M, Vavrovsky A and Barham L (2009) Fit for work. *Musculoskeletal disorders in the European workforce*. London: The work foundation 2009
- Birkhäuser J, Gaab J, Kossowsky J, Hasler S, Krummenacher P, Werner C and Gerger H (2017) Trust in the health care professional and health outcome: A meta-analysis. *PLOS ONE* 12(2): e0170988
- Birks M and Mills J (2015) *Grounded Theory: A Practical Guide*. London: SAGE Publications
- Bjorbækmo WS and Mengshoel AM (2016) "A touch of physiotherapy" - the significance and meaning of touch in the practice of physiotherapy. *Physiotherapy Theory and Practice* 32(1): 10-19
- Bleich SN, Özaltın E and Murray CJ (2009) How does satisfaction with the health-care system relate to patient experience? *Bulletin of the World Health Organization* 87: 271-278
- Bloom P (2017) Empathy and Its Discontents. *Trends in Cognitive Sciences* 21(1): 24-31
- Bloor M (2007) The Ethnography of Health and Medicine IN: Atkinson P, Coffey A, Delamont S, Lofland J and Lofland L (eds) *Handbook of Ethnography*. London: SAGE Publications
- Body Control Pilates (2019) *UK National Standard L4 Low Back Pain*. Available from: [www.bodycontrolpilates.com/shop/uk-national-standard-l4.html](http://www.bodycontrolpilates.com/shop/uk-national-standard-l4.html) [Accessed 06/12/2019]
- Bordin E (1975) The working alliance: basis for a general theory of psychotherapy. Paper presented at Annual Meeting of the Society for Psychotherapy Research Washington DC, USA September 1975
- Bordin ES (1979) The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy: Theory, Research & Practice* 16(3): 252-260
- Bourke J (2014) *The Story of Pain: From Prayer to Painkillers*. Oxford: Oxford University Press
- Braun V and Clarke V (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology* 3(2): 77-101
- Braun V and Clarke V (2012) Thematic analysis IN: Cooper H, Camic P, Long D and Panter A (eds) *APA handbook of research methods in psychology, Vol. 2. Research designs: Quantitative,*

*qualitative, neuropsychological, and biological*. Washington: American Psychological Association 57-71

Brewer JD (2000) *Ethnography*. Buckingham: Open University Press

Brocki JM and Wearden AJ (2006) A critical evaluation of the use of interpretative phenomenological analysis (IPA) in health psychology. *Psychology & Health* 21(1): 87-108

Brown JB, Stewart M and Ryan BL (2003) Outcomes of Patient-Provider Interaction IN: Thompson DL, Dorsey A, Parrott R and Miller K (eds) *Handbook of Health Communication*. Abingdon: Routledge 141-161

Brown P and Levinson SC (1979) Social Structure, Groups and Interaction IN: Scherer K and Giles H (eds) *Social Markers in Speech*. Cambridge: Cambridge University Press 291-341

Brown T (1828) On irritation of the spinal nerves. *Glasgow Medical Journal* 1(2): 131

Brownson RC, Colditz GA and Proctor EK (2017) *Dissemination and Implementation Research in Health: Translating Science to Practice*. Oxford: Oxford University Press

Brölde B (2001) The goals of medicine. Towards a unified theory. *Health Care Analysis* 9(1): 1-13

Brumitt J, Matheson JW and Meira EP (2013) Core stabilization exercise prescription, part 2: a systematic review of motor control and general (global) exercise rehabilitation approaches for patients with low back pain. *Sports Health* 5(6): 510-3

Brunner E, Dankaerts W, O'Sullivan K, Meichtry A, Bauer C and Probst M (2019) Associations between alliance, physiotherapists' confidence in managing the patient and patient-reported distress in chronic low back pain practice. *European Journal of Physiotherapy*: 1-5

Buchbinder R, van Tulder M, Öberg B, Costa LM, Woolf A, Schoene M, Croft P, Hartvigsen J, Cherkin D and Foster NE (2018) Low back pain: a call for action. *The Lancet* 391(10137): 2384-2388

Buchman DZ, Ho A and Goldberg DS (2017) Investigating trust, expertise, and epistemic injustice in chronic pain. *Journal of Bioethical Inquiry* 14(1): 31-42

Buckworth J and Tomporowski P (2013) *Exercise psychology* (2nd Edition). Leeds: Human Kinetics

Budd MA (1997) *The Sculpture Machine: Physical Culture and Body Politics in the Age of Empire*. New York: NYU Press

Bunzli S, McEvoy S, Dankaerts W, O'Sullivan P and O'Sullivan K (2016) Patient perspectives on participation in cognitive functional therapy for chronic low back pain. *Physical Therapy* 96(9): 1397-1407

Bunzli S, Watkins R, Smith A, Schütze R and O'Sullivan P (2013) Lives on hold: A qualitative synthesis exploring the experience of chronic low-back pain. *The Clinical Journal of Pain* 29(10): 907-916 10.1097/AJP.0b013e31827a6dd8

Burns JW, Higdon LJ, Mullen JT, Lansky D and Wei JM (1999) Relationships among patient hostility, anger expression, depression, and the working alliance in a work hardening program. *Annals of Behavioral Medicine* 21(1): 77-82

Burr V (2015) *Social Constructionism*. Hove: Routledge

- Bury MR (1986) Social constructionism and the development of medical sociology. *Sociology of Health & Illness* 8(2): 137-169
- Byrnes K, Wu P-J and Whillier S (2018) Is Pilates an effective rehabilitation tool? A systematic review. *Journal of Bodywork and Movement Therapies* 22(1): 192-202
- Cairney J, McGannon KR and Atkinson M (2018) Exercise is medicine: critical considerations in the qualitative research landscape. *Qualitative Research in Sport, Exercise and Health* 10(4): 391-399
- Calner T, Isaksson G and Michaelson P (2019) Physiotherapy treatment experiences of persons with persistent musculoskeletal pain: A qualitative study. *Physiotherapy Theory and Practice*: 1-10
- Cant SL and Sharma U (1996) Professionalization of complementary medicine in the United Kingdom. *Complementary Therapies in Medicine* 4(3): 157-162
- Carkhuff RR (1969) *Helping and Human Relations: A Primer for Lay and Professional Helpers*. New York: Holt, Rinehart and Winston
- Caspersen CJ, Powell KE and Christenson GM (1985) Physical activity, exercise, and physical fitness: Definitions and distinctions for health-related research. *Public Health Reports* 100(2): 126-131
- Castonguay LG, Constantino MJ and Holtforth MG (2006) The working alliance: Where are we and where should we go? *Psychotherapy: Theory, Research, Practice, Training* 43(3): 271-279
- Castro EM, Van Regenmortel T, Vanhaecht K, Sermeus W and Van Hecke A (2016) Patient empowerment, patient participation and patient-centeredness in hospital care: A concept analysis based on a literature review. *Patient Education and Counseling* 99(12): 1923-1939
- Centers for Disease Control and Prevention (2011) Vital signs: overdoses of prescription opioid pain relievers - United States, 1999 -2008. *Morbidity and mortality weekly report* 60(43): 1487-1492
- Charlton CR, Dearing KS, Berry JA and Johnson MJ (2008) Nurse practitioners' communication styles and their impact on patient outcomes: An integrated literature review. *Journal of the American Academy of Nurse Practitioners* 20(7): 382-388
- Charmaz K (2014) *Constructing grounded theory*. London: SAGE Publications
- Charmaz K (2017) Special Invited Paper: Continuities, contradictions, and critical inquiry in Grounded Theory. *International Journal of Qualitative Methods* 16(1): 1609406917719350
- Chartered Society of Physiotherapists (2019) *Code of Members' Professional Values and Behaviours*. London: Chartered Society of Physiotherapists
- Chartered Society of Physiotherapists (2020) *Our History*. Available from: <https://www.csp.org.uk/about-csp/who-we-are/our-history/csp-history> [Accessed 31/10/2020]
- Cheing G, Vong S, Chan F, Ditchman N, Brooks J and Chan C (2014) Testing a path-analytic mediation model of how motivational enhancement physiotherapy improves physical functioning in pain patients. *Journal of Occupational Rehabilitation* 24(4): 798-805

- Chen Q, Beal EW, Okunrintemi V, Cerier E, Paredes A, Sun S, Olsen G and Pawlik TM (2019) The association between patient satisfaction and patient-reported health outcomes. *Journal of Patient Experience* 6(3): 201-209
- Cherkin DC, Deyo RA, Street JH, Hunt M and Barlow W (1996) Pitfalls of patient education: Limited success of a program for back pain in primary care. *Spine* 21(3): 345-355
- Chew-Graham CA, May CR and Perry MS (2002) Qualitative research and the problem of judgement: lessons from interviewing fellow professionals. *Family Practice* 19(3): 285-289
- Chiapperino L and Tengland P-A (2015) Empowerment in healthcare policy making: three domains of substantive controversy. *Health Promotion Journal of Australia* 26(3): 210-215
- Chou L, Ranger TA, Peiris W, Cicuttini FM, Urquhart DM, Sullivan K, Seneviwickrama KLMD, Briggs AM and Wluka AE (2018) Patients' perceived needs of health care providers for low back pain management: a systematic scoping review. *The Spine Journal* 18(4): 691-711
- Cibangu SK and Hepworth M (2016) The uses of phenomenology and phenomenography: A critical review. *Library & Information Science Research* 38(2): 148-160
- Clarke S, Ells C, Thombs BD and Clarke D (2017) Defining elements of patient-centered care for therapeutic relationships: A literature review of common themes. *European Journal for Person Centered Healthcare* 5(3): 362-372
- Clarkson P (2003) *The Therapeutic Relationship* (2nd Edition). Chichester: Wiley-Blackwell
- Clifford J and Marcus GE (eds) (1986) *Writing Culture: The Poetics and Politics of Ethnography : a School of American Research Advanced Seminar*. London: University of California Press
- Coia P and Morley S (1998) Medical reassurance and patients' responses. *Journal of Psychosomatic Research* 45(5): 377-386
- Collins P (2005) Thirteen ways of looking at a 'ritual'. *Journal of Contemporary Religion* 20(3): 323-342
- Colquhoun HL, Levac D, O'Brien KK, Straus S, Tricco AC, Perrier L, Kastner M and Moher D (2014) Scoping reviews: time for clarity in definition, methods, and reporting. *Journal of Clinical Epidemiology* 67(12): 1291-1294
- Comaroff J (1978) Medicine and culture some anthropological perspectives. *Social Science & Medicine. Part B: Medical Anthropology* 12(0): 247-254
- Constand MK, MacDermid JC, Dal Bello-Haas V and Law M (2014) Scoping review of patient-centered care approaches in healthcare. *BMC Health Services Research* 14(1): 271
- Cooper K, Smith BH and Hancock E (2008) Patient-centredness in physiotherapy from the perspective of the chronic low back pain patient. *Physiotherapy* 94(3): 244-252
- Couldry N (2005) *Media Rituals: Beyond Functionalism* IN: Rothenbuhler E and Coman M (eds) *Media Anthropology*. Thousand Oaks: SAGE Publications 59-69
- Crawford R (2006) Health as a meaningful social practice. *Health* 10(4): 401-420
- Creswell JW (2013) *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. London: SAGE Publications



- Cromby J and Nightingale DJ (eds) (1999) *What's Wrong with Social Constructionism*. Buckingham: Open University Press
- Crotty M (1998) *The Foundations of Social Research: Meaning and Perspective in the Research Process*. London: SAGE Publications
- Cruz JC, Liberali R, Cruz TMFd and Netto MIA (2016) The Pilates method in the rehabilitation of musculoskeletal disorders: a systematic review. *Fisioterapia em Movimento* 29: 609-622
- Csordas TJ (1990) Embodiment as a paradigm for anthropology. *Ethos* 18(1): 5-47
- Cuddy P and Gaskell L (2020) "How do Pilates trained physiotherapists utilize and value Pilates exercise for MSK conditions? A qualitative study". *Musculoskeletal Care* 18(3): 315-329
- da Luz MA, Costa LOP, Fuhro FF, Manzoni ACT, de Oliveira NTB and Cabral CMN (2013) Effectiveness of mat Pilates or equipment-based Pilates in patients with chronic non-specific low back pain: a protocol of a randomised controlled trial. *BMC Musculoskeletal Disorders* 14(1): 16
- Darlow B (2016) Beliefs about back pain: the confluence of client, clinician and community. *International Journal of Osteopathic Medicine* 20: 53-61
- Darlow B, Dean S, Perry M, Mathieson F, Baxter GD and Dowell A (2015) Easy to harm, hard to heal: Patient views about the back. *Spine* 40(11): 842-850
- Dasso NA (2019) How is exercise different from physical activity? A concept analysis. *Nursing Forum* 54(1): 45-52
- Daudt HM, Van M and Scott SJ (2013) Enhancing the scoping study methodology: a large, inter-professional team's experience with Arksey and O'Malley's framework. *BMC Medical Research Methodology* 13(1): 48
- Davies D and Dodd J (2002) Qualitative research and the question of rigor. *Qualitative Health Research* 12(2): 279-289
- Dekkers W (1998) Hermeneutics and experiences of the body. The case of low back pain. *Theoretical Medicine and Bioethics* 19(3): 277-293
- Denscombe M (2014) *The Good Research Guide: For Small-Scale Social Research Projects*. New York: McGraw-Hill Education
- Denzin NK (1978) *The Research Act: A Theoretical Introduction to Sociological Methods* (2nd Edition). New York: McGraw-Hill
- Denzin NK and Lincoln YS (2011) *The SAGE Handbook of Qualitative Research*. London: SAGE Publications
- Department of Health (2000) *The NHS Plan: A Plan for Investment, a Plan for Reform*. London: HMSO
- Derksen F, Bensing J and Lagro-Janssen A (2013) Effectiveness of empathy in general practice: a systematic review. *British Journal of General Practice* 63(606): e76
- di Blasi Z, Harkness E, Ernst E, Georgiou A and Kleijnen J (2001) Influence of context effects on health outcomes: a systematic review. *The Lancet* 357(9258): 757-762

- Di Lorenzo CE (2011) Pilates: What is it? Should it be used in rehabilitation? *Sports Health* 3(4): 352-361
- Dionne CE, Dunn KM, Croft PR, Nachemson AL, Buchbinder R, Walker BF, Wyatt M, Cassidy JD, Rossignol M and Leboeuf-Yde C (2008) A consensus approach toward the standardization of back pain definitions for use in prevalence studies. *Spine* 33(1): 95-103
- Dishman RK, Sallis JF and Orenstein DR (1985) The determinants of physical activity and exercise. *Public Health Reports* 100(2): 158
- Donabedian A (1966) Evaluating the quality of medical care. *The Milbank Memorial Fund Quarterly* 44(3): 166-206
- Dovey C (2012) How Pilates can make your bad back worse: it can help reduce pain and improve posture, but as one woman's story shows, there are hidden dangers. *Daily Mail* [Online]. 19 June 2012. Available from: <https://www.dailymail.co.uk/health/article-2161301/Pilates-make-bad-worse-Experts-agree-help-reduce-pain-improve-posture-hidden-dangers.html> [Accessed 05/12/2019]
- Drisko JW (2004) Common factors in psychotherapy outcome: meta-analytic findings and their implications for practice and research. *Families in Society* 85(1): 81-90
- Due P, Holstein B, Lund R, Modvig J and Avlund K (1999) Social relations: network, support and relational strain. *Social Science & Medicine* 48(5): 661-673
- Dyreson M (1989) The emergence of consumer culture and the transformation of physical culture: American sport in the 1920s. *Journal of Sport History* 16(3): 261-81
- Eberle TS (2015) Exploring another's subjective life-world: a phenomenological approach. *Journal of Contemporary Ethnography* 44(5): 563-579
- Edwards D, Ashmore M and Potter J (1995) Death and furniture: the rhetoric, politics and theology of bottom line arguments against relativism. *History of the Human Sciences* 8(2): 25-49
- Eichberg H (2009) Body culture. *Physical Culture and Sport. Studies and Research* 46(1): 79-98
- Ekerholt K and Bergland A (2004) The first encounter with Norwegian psychomotor physiotherapy: patients' experiences, a basis for knowledge. *Scandinavian Journal of Public Health* 32(6): 403-410
- Ekkekakis P, Hartman ME and Ladwig MA (2020) Affective Responses to Exercise IN: Tenenbaum G and Eklund RC (eds) *Handbook of Sport Psychology*. Chichester: John Wiley & Sons 231-253
- Ekkekakis P, Parfitt G and Petruzzello SJ (2011) The pleasure and displeasure people feel when they exercise at different intensities. *Sports Medicine* 41(8): 641-671
- Elias N (1969) *The Civilising Process, Vol. 1: The History of Manners* (Reprint 1982 Edition). Translated E Jephcott. New York: Pantheon Books
- Eliot TS (2014) *Four Quartets*. Dublin: Houghton Mifflin Harcourt
- Elks ML (1996) Rituals and roles in medical practice. *Perspectives in Biology and Medicine* 39(4): 601-609

- Elvins R and Green J (2008) The conceptualization and measurement of therapeutic alliance: An empirical review. *Clinical Psychology Review* 28(7): 1167-1187
- Emanuel EJ and Emanuel LL (1992) Four models of the physician-patient relationship. *Journal of the American Medical Association* 267(16): 2221-2226
- Emerson RM, Fretz RI and Shaw LL (2007) Participant Observation and Fieldnotes IN: Atkinson P, Coffey A, Delamont S, Lofland J and Lofland L (eds) *Handbook of Ethnography*. London: SAGE Publications 352 - 368
- Engel GL (1977) The need for a new medical model: a challenge for biomedicine. *Science* 196(4286): 129-136
- Engers AJ, Jellema P, Wensing M, van der Windt D, Grol R and van Tulder MW (2008) Individual patient education for low back pain. *Cochrane Database of Systematic Reviews* (1)
- Erichsen JE (1866) *On Railway and Other Injuries of the Nervous System*. London: Walton and Maberly
- Etikan I, Musa SA and Alkassim RS (2016) Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics* 5(1): 1-4
- Eveleigh RM, Muskens E, van Ravesteijn H, van Dijk I, van Rijswijk E and Lucassen P (2012) An overview of 19 instruments assessing the doctor-patient relationship: different models or concepts are used. *Journal of Clinical Epidemiology* 65(1): 10-15
- Fabian A (1993) Making a Commodity of Truth: Speculations on the Career of Bernarr Macfadden. *American Literary History* 5(1): 51-76
- Fernandez AV and Zahavi D (2020) Basic empathy: Developing the concept of empathy from the ground up. *International Journal of Nursing Studies* 110: 103695
- Ferreira PH, Ferreira ML, Maher CG, Refshauge KM, Latimer J and Adams RD (2013) The therapeutic alliance between clinicians and patients predicts outcome in chronic low back pain. *Physical Therapy* 93(4): 470-478
- Fetterman DM (1998) *Ethnography: Step by Step*. London: SAGE Publications
- Finlay L (2012) Debating phenomenological methods IN: Friesen N, Henriksson C and Sævi T (eds) *Hermeneutic phenomenology in education*. Leiden: Brill Sense 15-37
- Flückiger C, Del Re AC, Wampold BE and Horvath AO (2018) The alliance in adult psychotherapy: A meta-analytic synthesis. *Psychotherapy* 55(4): 316-340
- Foster NE, Anema JR, Cherkin D, Chou R, Cohen SP, Gross DP, Ferreira PH, Fritz JM, Koes BW, Peul W, Turner JA, Maher CG, Buchbinder R, Hartvigsen J, Cherkin D, Foster NE, Maher CG, Underwood M, van Tulder M, Anema JR, Chou R, Cohen SP, Menezes Costa L, Croft P, Ferreira M, Ferreira PH, Fritz JM, Genevay S, Gross DP, Hancock MJ, Hoy D, Karppinen J, Koes BW, Kongsted A, Louw Q, Öberg B, Peul WC, Pransky G, Schoene M, Sieper J, Smeets RJ, Turner JA and Woolf A (2018) Prevention and treatment of low back pain: evidence, challenges, and promising directions. *The Lancet* 391(10137): 2368-2383
- Foucault M (1977) *Discipline & Punish: The Birth of the Prison*. Translated AM Sheridan. London: Penguin

- Foucault M (1988) *The History of Sexuality: The Care of the Self, Volume 3*. Translated R Hurley. New York: Vintage Books
- Foucault M (2002) *The Birth of the Clinic*. Translated AM Sheridan. Abingdon: Routledge
- Frank A (1991) For a sociology of the body: an analytical review. *The body: Social process and cultural theory* 5: 36-102
- Frank JD (1971) Therapeutic factors in psychotherapy. *American Journal of Psychotherapy* 25(3): 350-361
- Frank JD and Frank JB (1993) *Persuasion and Healing: A Comparative Study of Psychotherapy*. Baltimore: Johns Hopkins University Press
- Freeman MJ (1999) *Railways and the Victorian Imagination*. London: Yale University Press
- Freidson E (1988) *Profession of medicine: A study of the sociology of applied knowledge*. Chicago: University of Chicago Press
- Friedman F and Eisen G (1981) *The Pilates Method of Physical and Mental Conditioning*. New York: Warner Books
- Froud R, Patterson S, Eldridge S, Seale C, Pincus T, Rajendran D, Fossum C and Underwood M (2014) A systematic review and meta-synthesis of the impact of low back pain on people's lives. *BMC Musculoskeletal Disorders* 15(1): 50
- Fuentes J, Armijo-Olivo S, Funabashi M, Miciak M, Dick B, Warren S, Rashid S, Magee DJ and Gross DP (2014) Enhanced therapeutic alliance modulates pain intensity and muscle pain sensitivity in patients with chronic low back pain: an experimental controlled study. *Physical Therapy* 94(4): 477-489
- Fumagalli LP, Radaelli G, Lettieri E, Bertele P and Masella C (2015) Patient Empowerment and its neighbours: Clarifying the boundaries and their mutual relationships. *Health Policy* 119(3): 384-394
- Furedi F (2010) Celebrity culture. *Society* 47(6): 493-497
- Furlan AD, Pennick V, Bombardier C, van Tulder M and from the Editorial Board of the Cochrane Back Review G (2009) 2009 Updated Method Guidelines for Systematic Reviews in the Cochrane Back Review Group. *Spine* 34(18)
- Gadamer HG (1976) *Philosophical hermeneutics*. Berkeley: University of California Press
- Gaskell L, Williams A and Preece S (2019) Perceived benefits, rationale and preferences of exercises utilized within Pilates group exercise programmes for people with chronic musculoskeletal conditions: A questionnaire of Pilates-trained physiotherapists. *Musculoskeletal Care* 17(3): 206-214
- Gaskell L and Williams AE (2019) A qualitative study of the experiences and perceptions of adults with chronic musculoskeletal conditions following a 12-week Pilates exercise programme. *Musculoskeletal Care* 17(1): 54-62
- Gelso C (2014) A tripartite model of the therapeutic relationship: theory, research, and practice. *Psychotherapy Research* 24(2): 117-131

- Gelso CJ and Carter JA (1994) Components of the psychotherapy relationship: their interaction and unfolding during treatment. *Journal of Counseling Psychology* 41(3): 296-306
- Gergen KJ (1985) The social constructionist movement in modern psychology. *American Psychologist* 40(3): 266-275
- Gerteis M, Edgman-Levitan S, Daley J and Delbanco TL (1993) Introduction IN: Gerteis M, Edgman-Levitan S and Daley J (eds) *Through the patient's eyes: understanding and promoting patient-centered care*. San Francisco: Jossey-Bass
- Giannakou I and Gaskell L (2020) A qualitative systematic review of the views, experiences and perceptions of Pilates-trained physiotherapists and their patients. *Musculoskeletal Care* Available from: <https://doi.org/10.1002/msc.1511> [Accessed 2020/09/15]
- Giddens A (2008) *Modernity and Self-identity: Self and Society in the Late Modern Age*. Cambridge: Polity
- Gilman SL (2014) "Stand Up Straight": notes toward a history of posture. *Journal of Medical Humanities* 35(1): 57-83
- Glaser BG (2013) *No Preconceptions: The Grounded Theory Dictum*. Mill Valley, CA: Sociology Press
- Glaser BG and Strauss AL (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine Publishing
- Godfrey N (2019a) *Examples of 'graded' Pilates exercises* Digital Image.
- Godfrey N (2019b) *Examples of classical Pilates exercises* Digital Image.
- Godfrey N (2019c) *Reformers in a Pilates Studio* Digital Image.
- Goffman E (1983) The interaction order: American Sociological Association, 1982 presidential address. *American sociological review* 48(1): 1-17
- Gold RL (1958) Roles in Sociological Field Observations. *Social Forces* 36(3): 217-223
- Good BJ and Good M-JD (1981) The Meaning of Symptoms: A Cultural Hermeneutic Model for Clinical Practice IN: Eisberg L and Kleinman A (eds) *The Relevance of Social Science for Medicine. Culture, Illness, and Healing (Studies in Comparative Cross-Cultural Research)* Dordrecht: Springer 165-196
- Gorenberg M (2013) Instructional insights: continuing professional education to enhance therapeutic relationships in Occupational Therapy. *Occupational Therapy In Health Care* 27(4): 393-398
- Gorenberg MD and Taylor RR (2014) The intentional relationship model: a framework for teaching therapeutic use of self. *OT Practice* 19: CE1-6
- Grant MJ and Booth A (2009) A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Information & Libraries Journal* 26(2): 91-108
- Green HE (2014) Use of theoretical and conceptual frameworks in qualitative research. *Nurse Researcher* 21(6): 34-38
- Green J and Thorogood N (2018) *Qualitative Methods for Health Research*. London: SAGE Publications

- Greenfield BH (2006) The meaning of caring in five experienced physical therapists. *Physiotherapy Theory and Practice* 22(4): 175-187
- Greenhalgh T and Heath I (2010) *Measuring Quality in the Therapeutic Relationship*. London: King's Fund
- Greenhalgh T and Wessely S (2004) 'Health for me': a sociocultural analysis of healthism in the middle classes. *British Medical Bulletin* 69(1): 197-213
- Greenson RR (1967) *The Technique and Practice of Psychoanalysis*. Madison: International Universities Press
- Griffin SJ, Kinmonth A-L, Veltman MWM, Gillard S, Grant J and Stewart M (2004) Effect on health-related outcomes of interventions to alter the interaction between patients and practitioners: A systematic review of trials. *The Annals of Family Medicine* 2(6): 595-608
- Guest G, MacQueen KM and Namey EE (2012) Introduction to applied thematic analysis. *Applied thematic analysis* 3: 20
- Gyllensten AL, Gard G, Salford E and Ekdahl C (1999) Interaction between patient and physiotherapist: a qualitative study reflecting the physiotherapist's perspective. *Physiotherapy Research International* 4(2): 89-109
- Haas M, Nyiendo J and Aickin M (2002) One-year trend in pain and disability relief recall in acute and chronic ambulatory low back pain patients. *Pain* 95(1-2): 83-91
- Hadler N (2009) *Stabbed in the Back*. Chapel Hill: University of North Carolina Press
- Hall AM, Ferreira ML, Clemson L, Ferreira P, Latimer J and Maher CG (2012) Assessment of the therapeutic alliance in physical rehabilitation: a RASCH analysis. *Disability and Rehabilitation* 34(3): 257-266
- Hall AM, Ferreira PH, Maher CG, Latimer J and Ferreira ML (2010) The influence of the therapist-patient relationship on treatment outcome in physical rehabilitation: a systematic review. *Physical Therapy* 90(8): 1099 - 1110
- Hall MA, Dugan E, Zheng B and Mishra AK (2001) Trust in physicians and medical institutions: What is it, can it be measured, and does it matter? *The Milbank Quarterly* 79(4): 613-639
- Hallberg LRM (2006) The "core category" of grounded theory: Making constant comparisons. *International Journal of Qualitative Studies on Health and Well-being* 1(3): 141-148
- Halpern J (2001) *From detached concern to empathy: humanizing medical practice*. Oxford: Oxford University Press
- Hammersley M (1992) *What's Wrong with Ethnography?* London: Routledge
- Hammersley M and Atkinson P (1987) *Ethnography: Principles in Practice*. London: Tavistock Publications
- Hanssens LGM, Detollenaere J, Hardyns W and Willems SJT (2016) Access, treatment and outcomes of care: a study of ethnic minorities in Europe. *International Journal of Public Health* 61(4): 443-454
- Hardman D and Howick J (2019) The friendly relationship between therapeutic empathy and person-centred care. *European Journal for Person Centered Healthcare* 7(2): 351-357

- Harman K, Macrae M, Vallis M and Bassett R (2014) Working with people to make changes: a behavioural change approach used in chronic low back pain rehabilitation. *Physiotherapy Canada* 66(1): 82-90
- Harrington A (2008) *The Cure Within: A History of Mind-Body Medicine*. New York: WW Norton & Company
- Harrington R (2007) The railway accident: trains, trauma and technological crisis in nineteenth century Britain. *Working Papers* (id:1181) Available from: <https://ideas.repec.org/p/ess/wpaper/id1181.html> [Accessed 07/11/2019]
- Harrison K and Williams S (2000) Exploring the power balance in physiotherapy. *British Journal of Therapy and Rehabilitation* 7(8): 355-361
- Harrison N (2018) Regressing or progressing: what next for the doctor–patient relationship? *The Lancet Respiratory Medicine* 6(3): 178-180
- Hartling L, Featherstone R, Nuspl M, Shave K, Dryden DM and Vandermeer B (2017) Grey literature in systematic reviews: a cross-sectional study of the contribution of non-English reports, unpublished studies and dissertations to the results of meta-analyses in child-relevant reviews. *BMC Medical Research Methodology* 17: 64
- Hartvigsen J, Hancock MJ, Kongsted A, Louw Q, Ferreira ML, Genevay S, Hoy D, Karppinen J, Pransky G and Sieper J (2018) What low back pain is and why we need to pay attention. *The Lancet* 391(10137): 2356-2367
- Hasenbring MI and Pincus T (2015) Effective reassurance in primary care of low back pain: What messages from clinicians are most beneficial at early stages? *The Clinical Journal of Pain* 31(2): 133-136
- Haslam C, Jetten J, Cruwys T, Dingle G and Haslam A (2018) *The New Psychology of Health: Unlocking the Social Cure*. Abingdon: Routledge
- Hatcher RL and Barends AW (1996) Patients' view of the alliance in psychotherapy: Exploratory factor analysis of three alliance measures. *Journal of Consulting and Clinical Psychology* 64(6): 1326
- Hatcher RL and Barends AW (2006) How a return to theory could help alliance research. *Psychotherapy: Theory, Research, Practice, Training* 43(3): 292
- Hayden J, van Tulder Maurits W, Malmivaara A and Koes Bart W (2005) Exercise therapy for treatment of non-specific low back pain. *Cochrane Database of Systematic Reviews* (3)
- Hayden JA, Wilson MN, Riley RD, Iles R, Pincus T and Ogilvie R (2019) Individual recovery expectations and prognosis of outcomes in non-specific low back pain: prognostic factor review. *Cochrane Database of Systematic Reviews* (11)
- Heggie V (2016) Bodies, sport and science in the nineteenth century. *Past & Present* 231(1): 169-200
- Heidegger M (2010) *Being and Time*. Translated J Stambaugh. Albany: State University of New York Press
- Heise DR (1969) Problems in path analysis and causal inference. *Sociological Methodology* 1: 38-73

- Hennessy JL, Smythe L, Abbott M and Hughes FA (2017) Mental Health Support Workers: An Evolving Workforce IN: Smith M and Jury A (eds) *Workforce Development Theory and Practice in the Mental Health Sector*. Hershey: IGI Global 200-221
- Henschke N, Maher CG, Refshauge KM, Herbert RD, Cumming RG, Bleasel J, York J, Das A and McAuley JH (2009) Prevalence of and screening for serious spinal pathology in patients presenting to primary care settings with acute low back pain. *Arthritis & Rheumatism* 60(10): 3072-3080
- Heritage J and Maynard DW (2006) Problems and prospects in the study of physician-patient interaction: 30 years of research. *Annual Review of Sociology* 32: 351-374
- Heyl BS (2007) Ethnographic Interviewing IN: Atkinson P, Coffey A, Delamont S, Lofland J and Lofland L (eds) *Handbook of Ethnography*. London: SAGE Publications 369-383
- Higginbottom G, Pillay JJ and Boadu NY (2013) Guidance on performing focused ethnographies with an emphasis on healthcare research. *The Qualitative Report* 18(9): 1-6
- Higginbottom GMA (2004) Sampling issues in qualitative research. *Nurse Researcher* 12(1): 7-19
- Higgins T, Larson E and Schnall R (2017) Unraveling the meaning of patient engagement: A concept analysis. *Patient Education and Counseling* 100(1): 30-36
- Hodges PW (2003) Core stability exercise in chronic low back pain. *Orthopedic Clinics* 34(2): 245-254
- Hodges PW and Richardson CA (1996) Inefficient muscular stabilization of the lumbar spine associated with low back pain. A motor control evaluation of transversus abdominis. *Spine* 21(22): 2640-50
- Hodges PW and Richardson CA (1998) Delayed postural contraction of transversus abdominis in low back pain associated with movement of the lower limb. *Journal of Spinal Disorders & Techniques* 11(1): 46-56
- Hoff T and Collinson GE (2016) How Do We Talk About the Physician–Patient Relationship? What the Nonempirical Literature Tells Us. *Medical Care Research and Review* 74(3): 251-285
- Hojat M (2016) *Empathy in Health Professions Education and Patient Care*. New York: Springer
- Holmström I and Röing M (2010) The relation between patient-centeredness and patient empowerment: A discussion on concepts. *Patient Education and Counseling* 79(2): 167-172
- Holopainen R, Piirainen A, Heinonen A, Karppinen J and O'Sullivan P (2018) From “Non-encounters” to autonomic agency. Conceptions of patients with low back pain about their encounters in the health care system. *Musculoskeletal Care* 16(2): 269-277
- Holstein JA and Gubrium JF (2008a) Constructionist Impulses in Ethnographic Fieldwork IN: Holstein JA and Gubrium JF (eds) *Handbook of Constructionist Research*. New York: The Guilford Press 373-395
- Holstein JA and Gubrium JF (2008b) The Constructionist Mosaic IN: Holstein JA and Gubrium JF (eds) *Handbook of Constructionist Research*. New York: Guilford Publications 3 - 12



- Holt-Lunstad J, Smith TB and Layton JB (2010) Social relationships and mortality risk: A meta-analytic review. *PLOS Medicine* 7(7):e1000316 Available from: <https://doi.org/10.1371/journal.pmed.1000316> [Accessed 09/07/2017]
- Holt N and Pincus T (2016) Developing and testing a measure of consultation-based reassurance for people with low back pain in primary care: a cross-sectional study. *BMC Musculoskeletal Disorders* 17(1): 277
- Hong J, Reed C, Novick D and Happich M (2013) Costs associated with treatment of chronic low back pain: An analysis of the UK General Practice research database. *Spine* 38(1): 75-82
- Hopayian K and Notley C (2014) A systematic review of low back pain and sciatica patients' expectations and experiences of health care. *The Spine Journal* 14(8): 1769-1780
- Horvath AO (2001) The therapeutic alliance: concepts, research and training. *Australian Psychologist* 36(2): 170-176
- Horvath AO (2005) The therapeutic relationship: research and theory. An introduction to the special issue. *Psychotherapy Research* 15(1-2): 3-7
- Horvath AO (2018) Research on the alliance: knowledge in search of a theory. *Psychotherapy Research* 28(4): 499-516
- Horvath AO, Bedi R. P. (2002) The alliance IN: Norcross JC (ed) *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients*. New York: Oxford University Press 37-69
- Horvath AO, Del Re A, Flückiger C and Symonds D (2011) Alliance in individual psychotherapy. *Psychotherapy* 48(1): 9-16
- Horvath AO and Greenberg LS (1989) Development and validation of the Working Alliance Inventory. *Journal of counseling psychology* 36(2): 223
- Horvath AO and Greenberg LS (1994) *The Working Alliance: Theory, Research, and Practice*. Hoboken: John Wiley & Sons
- Horvath AO and Luborsky L (1993) The role of the therapeutic alliance in psychotherapy. *Journal of Consulting and Clinical Psychology* 61(4): 561-573
- Horvath AO and Symonds BD (1991) Relation between working alliance and outcome in psychotherapy: A meta-analysis. *Journal of Counseling Psychology* 38(2): 139-149
- House J, Umberson D and Landis K (1988) Structures and processes of social support. *Annual Review of Sociology* 14(1): 293-318
- Howick J, Moscrop A, Mebius A, Fanshawe TR, Lewith G, Bishop FL, Mistiaen P, Roberts NW, Dieninytė E, Hu X-Y, Aveyard P and Onakpoya IJ (2018) Effects of empathic and positive communication in healthcare consultations: a systematic review and meta-analysis. *Journal of the Royal Society of Medicine* 111(7): 240-252
- Hoy D, Bain C, Williams G, March L, Brooks P, Blyth F, Woolf A, Vos T and Buchbinder R (2012) A systematic review of the global prevalence of low back pain. *Arthritis & Rheumatism* 64(6): 2028-2037
- Humphreys L (1970) Tearoom trade. *Society* 7(3): 10-25

- Husserl E (1913) *Ideas*. Translated Gibson WB. New York: Macmillan
- INVOLVE (2012) *Briefing notes for researchers: public involvement in NHS, public health and social care research*. Eastleigh: INVOLVE
- Iphofen R (2013) *Research ethics in ethnography/anthropology*. Paris: European Commission
- Ishikawa H, Hashimoto H and Kiuchi T (2013) The evolving concept of “patient-centeredness” in patient–physician communication research. *Social Science & Medicine* 96: 147-153
- Johnson EG, Larsen A, Ozawa H, Wilson CA and Kennedy KL (2007) The effects of Pilates-based exercise on dynamic balance in healthy adults. *Journal of Bodywork and Movement Therapies* 11(3): 238-242
- Jootun D, McGhee G and Marland GR (2009) Reflexivity: promoting rigour in qualitative research. *Nursing Standard* 23(23): 42-46
- Junewicz A and Youngner SJ (2015) Patient-Satisfaction Surveys on a Scale of 0 to 10: Improving Health Care, or Leading It Astray? *Hastings Center Report* 45(3): 43-51
- Kaba R and Sooriakumaran P (2007) The evolution of the doctor-patient relationship. *International Journal of Surgery* 5(1): 57-65
- Kelley JM, Kraft-Todd G, Schapira L, Kossowsky J and Riess H (2014) The influence of the patient-clinician relationship on healthcare outcomes: A systematic review and meta-analysis of randomized controlled trials. *PLOS ONE* 9(4):e94207 Available from: <http://dx.doi.org/10.1371/journal.pone.0094207> [Accessed 09/07/2017]
- Khanna K and Diab M (2019) Patient satisfaction: Inception, impact, and correlation with outcomes. *The Journal of Bone and Joint Surgery* 101(21): e115
- Kinney M, Seider J, Beaty AF, Coughlin K, Dyal M and Clewley D (2018) The impact of therapeutic alliance in physical therapy for chronic musculoskeletal pain: a systematic review of the literature. *Physiotherapy Theory and Practice* 34(12): 1-13
- Kirk D (1999) Physical culture, physical education and relational analysis. *Sport, Education and Society* 4(1): 63-73
- Kivlighan DM, Jr. and Shaughnessy P (2000) Patterns of working alliance development: A typology of client's working alliance ratings. *Journal of Counseling Psychology* 47(3): 362-371
- Kleinman A (1993) What is Specific to Western Medicine IN: Bynum W and Porter R (eds) *Companion Encyclopedia of the History of Medicine*. London: Routledge 15-23
- Kleinman A, Eisenberg L and Good B (1978) Culture, illness, and care: clinical lessons from anthropologic and cross-cultural research. *Annals of Internal Medicine* 88(2): 251-258
- Knoblauch H (2005) Focused ethnography. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research* 6(3):20 Available from: <http://nbn-resolving.de/urn:nbn:de:0114-fqs0503440> [Accessed 13/08/17]
- Koppl R (2010) The social construction of expertise. *Society* 47(3): 220-226
- Korstjens I and Moser A (2018) Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice* 24(1): 120-124

- Kozart MF (1996) A sociological perspective on the therapeutic alliance: ethnomethodology and conversation analysis. *Psychotherapy: Theory, Research, Practice, Training* 33(3): 361
- Krause M, Altimir C and Horvath A (2011) Deconstructing the therapeutic alliance: reflections on the underlying dimensions of the concept *Clínica y Salud* 22(3): 267-283
- Krefting L (1991) Rigor in qualitative research: The assessment of trustworthiness. *American Journal of Occupational Therapy* 45(3): 214-222
- Krüger M (1996) Body culture and nation building: the history of gymnastics in germany in the period of its foundation as a nation-state. *The International Journal of the History of Sport* 13(3): 409-417
- La Touche R, Escalante K and Linares MT (2008) Treating non-specific chronic low back pain through the Pilates Method. *Journal of Bodywork and Movement Therapies* 12(4): 364-370
- Langberg EM, Dyhr L and Davidsen AS (2019) Development of the concept of patient-centredness – A systematic review. *Patient Education and Counseling* 102(7): 1228-1236
- Latey P (1996) Feelings, muscles and movement. *Journal of Bodywork and Movement Therapies* 1(1): 44-52
- Latey P (2001) The Pilates method: history and philosophy. *Journal of Bodywork and Movement Therapies* 5(4): 275-282
- Latimer T, Roscamp J and Papanikitas A (2017) Patient-centredness and consumerism in healthcare: an ideological mess. *Journal of the Royal Society of Medicine* 110(11): 425-427
- Laverty SM (2003) Hermeneutic Phenomenology and Phenomenology: A Comparison of Historical and Methodological Considerations. *International Journal of Qualitative Methods* 2(3): 21-35
- Lazarus ES (1988) Theoretical Considerations for the Study of the Doctor-Patient Relationship: Implications of a Perinatal Study. *Medical Anthropology Quarterly* 2(1): 34-58
- Leach MJ (2005) Rapport: a key to treatment success. *Complementary Therapies in Clinical Practice* 11(4): 262-265
- Lederman E (2010) The myth of core stability. *Journal of Bodywork and Movement Therapies* 14(1): 84-98
- Lederman E (2011) The fall of the postural-structural-biomechanical model in manual and physical therapies: Exemplified by lower back pain. *Journal of Bodywork and Movement Therapies* 15(2): 131-138
- Lévi-Strauss C (2000) The Effectiveness of Symbols (1949) IN: Littlewood R and Dein S (eds) *Cultural Psychiatry and Medical Anthropology: An Introduction and Reader*. London: The Athlone Press 162-178
- Levin J and Levin WC (1988) *The Human Puzzle: An Introduction to Social Psychology*. Belmont: Wadsworth Publishing
- Levinson W, Kao A, Kuby A and Thisted RA (2005) Not all patients want to participate in decision making. *Journal of General Internal Medicine* 20(6): 531-535

- Lewin S, Skea Z, Entwistle V, Zwarenstein M and Dick J (2001) Interventions for providers to promote a patient-centred approach in clinical consultations. *Cochrane Database of Systematic Review* (4)
- Lim EDW, Poh, R. L. C., Low, A. Y., Wong, W. P. (2011) Effects of pilates-based exercises on pain and disability in individuals with persistent nonspecific low back pain: A systematic review with meta-analysis. *Journal of Orthopaedic & Sports Physical Therapy* 41(2): 70-80
- Lincoln YS and Guba EG (1985) *Naturalistic Inquiry*. London: SAGE Publications
- Luborsky L Helping alliances in psychotherapy. IN: Cleghorn JL (ed) *Successful psychotherapy: Proceedings of the ninth annual symposium* Texas Research Institute of Medical Sciences November 19-21 Levittown: Brunner / Mazel Publishers 92-116
- Luborsky L, Singer B and Luborsky L (1975) Comparative studies of psychotherapies: is it true that everyone has won and all must have prizes? *Archives of General Psychiatry* 32(8): 995-1008
- Lupton D (2000) The Social Construction of Medicine and the Body IN: Albrecht GL, Fitzpatrick, R., Scrimshaw, S.C. (ed) *Handbook of Social Studies in Health and Medicine*. London: SAGE Publications 50-63
- Lupton D (2012) *Medicine as Culture: Illness, Disease and the Body*. London: SAGE Publications
- MacNeela P, Doyle C, O'Gorman D, Ruane N and McGuire BE (2015) Experiences of chronic low back pain: a meta-ethnography of qualitative research. *Health Psychology Review* 9(1): 63-82
- Maniadakis N and Gray A (2000) The economic burden of back pain in the UK. *Pain* 84(1): 95-103
- Maree DJF (2020) The Methodological Division: Quantitative and Qualitative Methods IN: Maree DJF (ed) *Realism and Psychological Science*. New York: Springer International Publishing 13-42
- Marmar CR, Horowitz MJ, Weiss DS and Marziali E (1986) The Development of the Therapeutic Alliance Rating System IN: Greenberg LS and Pinsof W (eds) *The psychotherapeutic process: A research handbook*. New York: Guilford Press 367-390
- Marshall DA (2002) Behavior, belonging, and belief: A theory of ritual practice. *Sociological Theory* 20(3): 360-380
- Martin DJ, Garske JP and Davis MK (2000) Relation of the therapeutic alliance with outcome and other variables: a meta-analytic review. *Journal of Consulting and Clinical Psychology* 68(3): 438-450
- May SJ (2001) Patient satisfaction with management of back pain main. *Physiotherapy* 87(1): 4-20
- Mays N and Pope C (1995) Rigour and qualitative research. *British Medical Journal* 311(6997): 109
- Mays N and Pope C (2000) Assessing quality in qualitative research. *British Medical Journal* 320(7226): 50
- McCreery JL (1979) Potential and effective meaning in therapeutic ritual. *Culture, Medicine and Psychiatry* 3(1): 53-72

- McWhinney I (1989) The need for a transformed clinical method IN: Stewart M and Roter D (eds) *Communicating with medical patients*. London: SAGE 25-40
- Mead N and Bower P (2000) Patient-centredness: a conceptual framework and review of the empirical literature. *Social Science & Medicine* 51(7): 1087-1110
- Mead N and Roland M (2009) Understanding why some ethnic minority patients evaluate medical care more negatively than white patients: a cross sectional analysis of a routine patient survey in English general practices. *British Medical Journal* 339: b3450
- Medina-Mirapeix F, Del Bano-Aledo M, Martinez-Paya JJ, Lillo-Navarro MC and Escolar-Reina P (2015) Development and validity of the questionnaire of patients' experiences in post-acute outpatient physical therapy settings. *Physical Therapy* 95(5): 767-777
- Mercer SW and Reynolds WJ (2002) Empathy and quality of care. *British Journal of General Practice* 52(Suppl): S9-12
- Merkel U (2013) *Power, Politics and International Events.: Socio-cultural Analyses of Festivals and Spectacles*. Abingdon: Taylor & Francis
- Merleau-Ponty M (1982) *Phenomenology of Perception*. Translated C Smith. Abingdon: Routledge
- Michie S, Miles J and Weinman J (2003) Patient-centredness in chronic illness: what is it and does it matter? *Patient Education and Counseling* 51(3): 197-206
- Miciak M, Mayan M, Brown C, Joyce AS and Gross DP (2018) A framework for establishing connections in physiotherapy practice. *Physiotherapy Theory and Practice* 35(1): 40-56
- Middelkoop M, Rubinstein S, Kuijpers T, Verhagen A, Ostelo R, Koes B and Tulder M (2011) A systematic review on the effectiveness of physical and rehabilitation interventions for chronic non-specific low back pain. *European Spine Journal* 20(1): 19-39
- Miller N and Brimicombe A (2003) Disciplinary divides: finding a common language to chart research journeys. Paper presented at Actas de la 33ª Annual Standing Conference on University Teaching and Research in the Education of Adults Conference Bangor, UK 1-3 July 2003
- Mirsky JE (2002) *Anger expression, working alliance, and treatment outcome following multidisciplinary chronic pain treatment*. Unpublished PhD thesis Illinois Institute of Technology
- Miyamoto GC, Costa LO, Galvanin T and Cabral CM (2013) Efficacy of the addition of modified Pilates exercises to a minimal intervention in patients with chronic low back pain: a randomized controlled trial. *Physical Therapy* 93(3): 310-20
- Moffett J and McLean S (2006) The role of physiotherapy in the management of non-specific back pain and neck pain. *Rheumatology* 45(4): 371-378
- Mohamed Mohamed WJ, Joseph L, Canby G, Paungmali A, Silitertpisan P and Pirunsan U (2020) Are patient expectations associated with treatment outcomes in individuals with chronic low back pain? A systematic review of randomised controlled trials. *International Journal of Clinical Practice* 74(11): e13680

- Moher D, Liberati A, Tetzlaff J, Altman DG and Group P (2009) Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS medicine* 6(7): e1000097-e1000097
- Moore JA (2021a) *Cadillac Digital Image*. Julie Ann Moore
- Moore JA (2021b) *Core Align Digital Image*. Julie Ann Moore
- Moore JA (2021c) *Teacher demonstration Digital Image*. Julie Ann Moore
- Moore JA (2021d) *Teacher tactile cueing Digital*. Julie Ann Moore
- Moore JA (2021e) *Wunda Chair Digital Image*. Julie Ann Moore
- Morgan W, Roberts J and Feinerman A (1971) Psychologic effect of acute physical activity. *Archives of Physical Medicine and Rehabilitation* 52(9): 422-425
- Morse JM (2000) Determining sample size. *Qualitative Health Research* 10(1): 3-5
- Morse JM, Anderson G, Bottorff JL, Yonge O, O'Brien B, Solberg SM and McIlveen KH (1992) Exploring empathy: A conceptual fit for nursing practice? *Image: the Journal of Nursing Scholarship* 24(4): 273-280
- Morse JM, Barrett M, Mayan M, Olson K and Spiers J (2002) Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods* 1(2): 13-22
- Morse JM, Mitcham C and van Der Steen WJ (1998) Compathy or Physical Empathy: Implications for the Caregiver Relationship. *Journal of Medical Humanities* 19(1): 51-65
- Morton L, de Bruin M, Krajewska M, Whibley D and Macfarlane GJ (2019) Beliefs about back pain and pain management behaviours, and their associations in the general population: A systematic review. *European Journal of Pain* 23(1): 15-30
- Moscoco J (2012) *Pain: A Cultural History*. Basingstoke: Palgrave Macmillan UK
- Muecke MA (1994) On the Evaluation of Ethnographies IN: Morse JM (ed) *Critical Issues in Qualitative Research Methods*. Thousand Oaks: SAGE Publications 187 - 211
- Munn Z, Peters MDJ, Stern C, Tufanaru C, McArthur A and Aromataris E (2018) Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Medical Research Methodology* 18(1): 143
- Munthe-Kaas H, Bohren MA, Glenton C, Lewin S, Noyes J, Tunçalp Ö, Booth A, Garside R, Colvin CJ, Wainwright M, Rashidian A, Flottorp S and Carlsen B (2018) Applying GRADE-CERQual to qualitative evidence synthesis findings—paper 3: how to assess methodological limitations. *Implementation Science* 13(1): 9
- Murphy E and Dingwall R (2007) The Ethics of Ethnography IN: Atkinson P, Coffey A, Delamont S, Lofland J and Lofland L (eds) *Handbook of Ethnography*. London: Sage Publications 337-351
- Murphy S (2008) At last, the cure for back pain? *The Guardian* [Online]. 21 August 2008. Available from: <https://www.theguardian.com/lifeandstyle/2008/aug/21/healthandwellbeing> [Accessed 05/12/2019]

- Murthy D (2008) Digital ethnography an examination of the use of new technologies for social research. *Sociology* 42(5): 837-855
- Muscolino JE and Cipriani S (2004) Pilates and the “powerhouse”—I. *Journal of Bodywork and Movement Therapies* 8(1): 15-24
- Nascimento PRCd (2011) *Relação entre aliança terapêutica e o recrutamento muscular do Transverso Abdominal e Oblíquo Interno em pacientes com lombalgia crônica não específica*. Unpublished Masters thesis Universidade Estadual Paulista
- Nascimento PRCd, Ferreira PH, Azevedo FMD and Negrão Filho RdF (2014) Relationship between therapeutic alliance and deep abdominal muscle recruitment in nonspecific low back pain sufferers. *Fisioterapia e Pesquisa* 21(4): 320-326
- National Institute for Health Research (2019) *How to disseminate your research*. National Institute for Health Research. Available from: <https://www.nihr.ac.uk/funding-and-support/documents/funding-for-research-studies/manage-my-study/How-to-disseminate-your-research/dissemination-guidance.pdf> [Accessed 05/04/2019]
- Natour J, Cazotti Lda, Ribeiro LH, Baptista AS and Jones A (2014) Pilates improves pain, function and quality of life in patients with chronic low back pain: a randomized controlled trial. *Clinical Rehabilitation* 29(1): 59-68
- Neumann M, Bensing J, Mercer S, Ernstmann N, Ommen O and Pfaff H (2009) Analyzing the “nature” and “specific effectiveness” of clinical empathy: a theoretical overview and contribution towards a theory-based research agenda. *Patient Education and Counseling* 74(3): 339-346
- NICE (2016) *Low back pain and sciatica in over 16's: assessment and management*. NICE public health guidance. Available from: <https://www.nice.org.uk/guidance/ng59> [Accessed 19/02/2017]
- Nicholls DA and Gibson BE (2010) The body and physiotherapy. *Physiotherapy Theory and Practice* 26(8): 497-509
- Noble H and Smith J (2015) Issues of validity and reliability in qualitative research. *Evidence Based Nursing* 18(2): 34
- Norcross JC and Wampold BE (2011) Evidence-based therapy relationships: Research conclusions and clinical practices. *Psychotherapy* 48(1): 98-102
- Norrby E and Bellner AL (1995) The helping encounter. Occupational therapists' perception of therapeutic relationships. *Scandinavian Journal of Caring Sciences* 9(1): 41-46
- O'Cathain A, Goode J, Luff D, Strangleman T, Hanlon G and Greatbatch D (2005) Does NHS Direct empower patients? *Social Science & Medicine* 61(8): 1761-1771
- O'Dwyer LM and Bernauer JA (2013) *Quantitative Research for the Qualitative Researcher*. London: SAGE Publications
- O'Keefe M, Cullinane P, Hurley J, Leahy I, Bunzli S, O'Sullivan PB and O'Sullivan K (2016) What influences patient-therapist interactions in musculoskeletal physical therapy? Qualitative systematic review and meta-synthesis. *Physical Therapy* 96(5): 609-622
- O'Reilly K (2009) *Key Concepts in Ethnography*. London: SAGE Publications

- Odden KM (2003) 'Able and intelligent medical men meeting together': the Victorian railway crash, medical jurisprudence, and the rise of medical authority. *Journal of Victorian Culture* 8(1): 33-54
- Onwuegbuzie AJ and Byers VT (2014) An exemplar for combining the collection, analysis, and interpretations of verbal and nonverbal data in qualitative research. *International Journal of Education* 6(1): 183
- Paley J (2016) *Phenomenology as Qualitative Research: A Critical Analysis of Meaning Attribution*. London: Taylor & Francis
- Parahoo K (2014) *Nursing Research: Principles, Process and Issues* (3rd Edition). Basingstoke: Palgrave Macmillan
- Parsons S, Harding G, Breen A, Foster N, Pincus T, Vogel S and Underwood M (2007) The influence of patients' and primary care practitioners' beliefs and expectations about chronic musculoskeletal pain on the process of care: A systematic review of qualitative studies. *The Clinical Journal of Pain* 23(1): 91-98
- Parsons T (1951) Illness and the role of the physician: A sociological perspective. *American Journal of Orthopsychiatry* 21(3): 452-460
- Paterson M (2007) *The senses of touch: Haptics, affects and technologies*. Oxford: Berg
- Pellegrini CA (2017) Trust: The keystone of the patient-physician relationship. *Journal of the American College of Surgeons* 224(2): 95-102
- Peredaryenko MS and Krauss SE (2013) Calibrating the human instrument: Understanding the interviewing experience of novice qualitative researchers. *The Qualitative Report* 18(85): 1-17
- Perraud S, Delaney KR, Carlson-Sabelli L, Johnson ME, Shephard R and Paun O (2006) Advanced practice psychiatric mental health nursing, finding our core: The therapeutic relationship in 21st century. *Perspectives in Psychiatric Care* 42(4): 215-226
- Pfister G (2003) Cultural confrontations: German Turnen, swedish gymnastics and english sport – European diversity in physical activities from a historical perspective. *Culture, Sport, Society* 6(1): 61-91
- Pham MT, Rajić A, Greig JD, Sargeant JM, Papadopoulos A and McEwen SA (2014) A scoping review of scoping reviews: advancing the approach and enhancing the consistency. *Research Synthesis Methods* 5(4): 371-385
- Piccolo LD, Mead N, Gask L, Mazzi MA, Goss C, Rimondini M and Zimmermann C (2005) The English version of the Verona medical interview classification system (VR-MICS): An assessment of its reliability and a comparative cross-cultural test of its validity. *Patient Education and Counseling* 58(3): 252-264
- Pilates JH and Miller WJ (1945) *Pilates' Return to Life Through Contrology* (Reprint 2005 Edition). New York: Bodymind Publishing Inc
- Pincus T, Holt N, Vogel S, Underwood M, Savage R, Walsh DA and Taylor SJC (2013) Cognitive and affective reassurance and patient outcomes in primary care: A systematic review. *PAIN* 154(11): 2407-2416



- Pinto RZ, Ferreira ML, Oliveira VC, Franco MR, Adams R, Maher CG and Ferreira PH (2012) Patient-centred communication is associated with positive therapeutic alliance: a systematic review. *Journal of Physiotherapy* 58(2): 77-87
- Polestar Pilates (2019) *Higher Education*. Available from: <https://legacy.polestarpilates.com/en/higher-education/> [Accessed 06/12/2019]
- Polestar Pilates (2020) *History*. Available from: <https://polestarpilates.com/history/> [Accessed 18/10/2020]
- Pope C, van Royen P and Baker R (2002) Qualitative methods in research on healthcare quality. *Quality and Safety in Health Care* 11(2): 148-152
- Potter M, Gordon S and Hamer P (2003) The physiotherapy experience in private practice: The patients' perspective. *Australian Journal of Physiotherapy* 49(3): 195-202
- Price D, Damien G, Finniss DG and Benedetti F (2008) A comprehensive review of the placebo effect: Recent advances and current thought. *Annual Review of Psychology* 59(1): 565-590
- Price JH and Murnan J (2004) Research limitations and the necessity of reporting them. *American Journal of Health Education* 35(2): 66-67
- Ramond A, Bouton C, Richard I, Roquelaure Y, Baufreton C, Legrand E and Huez J-F (2011) Psychosocial risk factors for chronic low back pain in primary care—a systematic review. *Family Practice* 28(1): 12-21
- Rathert C, Williams ES, McCaughey D and Ishqaidif G (2015) Patient perceptions of patient-centred care: empirical test of a theoretical model. *Health Expectations* 18(2): 199-209
- Rathert C, Wyrwich MD and Boren SA (2013) Patient-centered care and outcomes: A systematic review of the literature. *Medical Care Research and Review* 70(4): 351-379
- Reeves NP, Cholewicki J, Van Dieën JH, Kawchuk G and Hodges PW (2019) Are stability and instability relevant concepts for back pain? *Journal of Orthopaedic & Sports Physical Therapy* 49(6): 415-424
- Richards HM and Schwartz LJ (2002) Ethics of qualitative research: are there special issues for health services research? *Family Practice* 19(2): 135-139
- Riedl D and Schüßler G (2017) The Influence of Doctor-Patient Communication on Health Outcomes: A Systematic Review. *Zeitschrift für Psychosomatische Medizin und Psychotherapie* 63(2): 131-150
- Roberts L and Bucksey SJ (2007) Communicating with patients: What happens in practice? *Physical Therapy* 87(5): 586-594
- Robinson L (2010) The role of Pilates teachers and other exercise practitioners in the management of low back pain. *BackCare Journal*: 13-15
- Robinson L, Fisher H and Massey P (2002) *Pilates Back Book*. London: Pan
- Robinson L, Fisher H and Massey P (2004) *The Pilates Prescription for Back Pain: A Comprehensive Program for Developing and Maintaining a Healthy Back*. Berkeley: Ulysses Press
- Roger J, Darfour D, Dham A, Hickman O, Shaubach L and Shepard K (2002) Physiotherapists' use of touch in inpatient settings. *Physiotherapy Research International* 7(3): 170-186

- Rogers CR (1951) *Client-centred therapy*. Boston: Houghton-Mifflin
- Rogers CR (1957) The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting Psychology* 21(2): 95-103
- Rogers CR and Truax CB (1967) The therapeutic conditions antecedent to change: a theoretical view IN: Rogers CR (ed) *The therapeutic relationship and its impact. A study of psychotherapy with schizophrenics*. Oxford: Wisconsin Press 97-108
- Rolfe G (2006) Validity, trustworthiness and rigour: quality and the idea of qualitative research. *Journal of Advanced Nursing* 53(3): 304-310
- Roper JM and Shapira J (2000) *Ethnography in Nursing Research*. London: SAGE Publications
- Rose N (2007) *The Politics of Life Itself: Biomedicine, Power and Subjectivity in the Twenty-First Century*. Princeton: Princeton University Press
- Rosenhan DL (1973) On being sane in insane places. *Science* 179(4070): 250-258
- Rossettini G, Latini TM, Palese A, Jack SM, Ristori D, Gonzatto S and Testa M (2020) Determinants of patient satisfaction in outpatient musculoskeletal physiotherapy: a systematic, qualitative meta-summary, and meta-synthesis. *Disability and Rehabilitation* 42(4): 460-472
- Roter D (2000) The enduring and evolving nature of the patient–physician relationship. *Patient Education and Counseling* 39(1): 5-15
- Safran JD and Muran JC (2006) Has the concept of the therapeutic alliance outlived its usefulness? *Psychotherapy: Theory, Research, Practice, Training* 43(3): 286
- Sala GA (1860) Poetry on the Railway. *Household Words* 11: 414-18
- Saldaña J (2015) *The Coding Manual for Qualitative Researchers*. London: SAGE Publications
- Sánchez-Piedra C, Prado-Galbarro F, García-Pérez S and Santamera A (2014) Factors associated with patient satisfaction with primary care in Europe: results from the EUprimecare project. *Quality in Primary Care* 22(3): 147
- Sandelowski M (1986) The problem of rigor in qualitative research. *Advances in Nursing Science* 8(3): 27-37
- Sandelowski M (1993) Rigor or rigor mortis: The problem of rigor in qualitative research revisited. *Advances in Nursing Science* 16(2): 1-8
- Saragiotto BT, Maher CG, Yamato TP, Costa LOP, Menezes Costa LC, Ostelo R and Macedo LG (2016) Motor control exercise for chronic non-specific low-back pain. *Cochrane Database of Systematic Reviews* (1)
- Savage J (2006) Ethnographic evidence the value of applied ethnography in healthcare. *Journal of Research in Nursing* 11(5): 383-393
- Scarpellini DA (2013) *Becoming multidimensional: an interpretative phenomenological analysis of client's experiences of transformation with teacher-led Pilates*. Unpublished PhD thesis London Metropolitan University

- Scarry E (1985) *The Body in Pain: The Making and Unmaking of the World*. Oxford: Oxford University Press
- Schandl A, Falk A-C and Frank C (2017) Patient participation in the intensive care unit. *Intensive and Critical Care Nursing* 42: 105-109
- Scheper-Hughes N and Lock MM (1986) Speaking "truth" to illness: metaphors, reification, and a pedagogy for patients. *Medical Anthropology Quarterly* 17(5): 137-140
- Scheper-Hughes N and Lock MM (1987) The mindful body: a prolegomenon to future work in medical anthropology. *Medical Anthropology Quarterly*: 6-41
- Schofield DJ, Callander EJ, Shrestha RN, Passey ME, Kelly SJ and Percival R (2015) Back problems, comorbidities, and their association with wealth. *The Spine Journal* 15(1): 34-41
- Schofield DJ, Shrestha RN, Passey ME, Earnest A and Fletcher SL (2008) Chronic disease and labour force participation among older Australians. *Medical Journal of Australia* 189(8): 447-450
- Schofield DJ, Shrestha RN, Percival R, Callander EJ, Kelly SJ and Passey ME (2011) Early retirement and the financial assets of individuals with back problems. *European Spine Journal* 20(5): 731-736
- Schoster B, Callahan LF, Meier A, Mielenz T and DiMartino L (2005) The People with Arthritis Can Exercise (PACE) program: a qualitative evaluation of participant satisfaction. *Prev Chronic Dis* 2(3): A11
- Schulz PJ and Nakamoto K (2013) Health literacy and patient empowerment in health communication: The importance of separating conjoined twins. *Patient Education and Counseling* 90(1): 4-11
- Searle A, Spink M, Ho A and Chuter V (2015) Exercise interventions for the treatment of chronic low back pain: a systematic review and meta-analysis of randomised controlled trials. *Clinical Rehabilitation* 29(12): 1155-1167
- Segel HB (1998) *Body Ascendant: Modernism and the Physical Imperative*. Baltimore: Johns Hopkins University Press
- Shea S and Moriello G (2014) Feasibility and outcomes of a classical Pilates program on lower extremity strength, posture, balance, gait, and quality of life in someone with impairments due to a stroke. *Journal of Bodywork and Movement Therapies* 18(3): 332-360
- Shilling C (2012) *The Body and Social Theory*. London: SAGE Publications
- Silverman D (2006) *Interpreting Qualitative Data: Methods for Analyzing Talk, Text and Interaction*. London: SAGE Publications
- Silverman D (2013) *Doing Qualitative Research* (4th Edition). London: SAGE Publications
- Sites BD, Harrison J, Herrick MD, Masaracchia MM, Beach ML and Davis MA (2018) Prescription opioid use and satisfaction with care among adults with musculoskeletal conditions. *The Annals of Family Medicine* 16(1): 6-13

- SkillsActive (2019) *SkillsActive's National Occupations Standards*. Available from: <https://www.skillsactive.com/standards-quals/skillsactive-s-national-occupational-standards> [Accessed 06/12/2019]
- Slade SC, Patel S, Underwood M and Keating JL (2014) What are patient beliefs and perceptions about exercise for nonspecific chronic low back pain?: A systematic review of qualitative studies. *The Clinical Journal of Pain* 30(11): 995-1005
- Smith ML and Glass GV (1977) Meta-analysis of psychotherapy outcome studies. *American Psychologist* 32(9): 752
- Smythe E, Hennessy J, Abbott M and Hughes F (2018) Do professional boundaries limit trust? *International Journal of Mental Health Nursing* 27(1): 287-295
- Spencer J (2007) Ethnography after Postmodernism IN: Atkinson P, Coffey A, Delamont S, Lofland J and Lofland L (eds) *Handbook of Ethnography*. London: SAGE Publications 443-452
- Spradley JP (1980) *Participant Observation*. New York: Holt, Rhinehart & Winston
- Spradley JP (2016) *The Ethnographic Interview*. Long Grove: Waveland Press
- Squier RW (1990) A model of empathic understanding and adherence to treatment regimens in practitioner-patient relationships. *Social Science & Medicine* 30(3): 325-339
- Stahlke Wall S (2014) Focused ethnography: A methodological adaption for social research in emerging contexts. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research* 16(1):2182 Available from: <http://www.qualitative-research.net/index.php/fqs/article/view/2182/3728> [Accessed 03/12/2018]
- Stanley P (2015) Writing the PhD journey(s): an autoethnography of zine-writing, angst, embodiment, and backpacker travels. *Journal of Contemporary Ethnography* 44(2): 143-168
- Steffens D, Maher CG, Pereira LM, Stevens ML, Oliveira VC, Chapple M, Teixeira-Salmela LF and Hancock MJ (2016) Prevention of low back pain: a systematic review and meta-analysis. *JAMA Internal Medicine* 176(2): 199-208
- Steiger F, Wirth B, Bruin ED and Mannion AF (2012) Is a positive clinical outcome after exercise therapy for chronic non-specific low back pain contingent upon a corresponding improvement in the targeted aspect(s) of performance? A systematic review. *European Spine Journal* 21(4): 575-598
- Stenfors-Hayes T, Hult H and Dahlgren MA (2013) A phenomenographic approach to research in medical education. *Medical Education* 47(3): 261-270
- Sternheimer K (2011) *Celebrity Culture and the American Dream: Stardom and Social Mobility*. New York: Routledge
- Stevenson A (ed) (2010) *Oxford Dictionary of English*. Oxford: Oxford University Press Available from: <https://books.google.co.uk/books?id=anecAQAAQBAJ>
- Stewart M, Brown JB, Donner A, McWhinney IR, Oates J, Weston WW and Jordan J (2000) The impact of patient-centered care on outcomes. *Journal of Family Practice* 49(9): 796-804

- Stewart M, Brown, J.B. W, W.W., McWhinney IR, McWilliam CL and Freeman TR (1995) *Patient-centred medicine transforming the clinical method*. Thousand Oaks: SAGE Publications
- Stewart MA (1995) Effective physician-patient communication and health outcomes: a review. *Canadian Medical Association Journal* 152(9): 1423-1433
- Stewart MA, McWhinney IR and Buck CW (1979) The doctor/patient relationship and its effect upon outcome. *The Journal of the Royal College of General Practitioners* 29(199): 77
- Still AT (1902) *The Philosophy and Mechanical Principles of Osteopathy*. Kansas City: Hudson-Kimberley
- Stone AL, Tai-Seale M, Stults CD, Luiz JM and Frankel RM (2012) Three types of ambiguity in coding empathic interactions in primary care visits: Implications for research and practice. *Patient Education and Counseling* 89(1): 63-68
- Stone L (1962) The psychoanalytic situation: An examination of its development and essential nature. *The Quarterly Review of Biology* 37(3): 276-277
- Strathern A and Stewart PJ (1998) Embodiment and communication: Two frames for the analysis of ritual. *Social Anthropology* 6: 237-51
- Strauss A and Corbin J (1990) *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Newbury Park: SAGE
- Suchman MC (1995) Managing legitimacy: Strategic and institutional approaches. *The Academy of Management Review* 20(3): 571-610
- Suh CS, Strupp HH and O'Malley SS (1986) The Vanderbilt Process Measures: The Psychotherapy Process Scale (VPPS) and the Negative Indicators Scale (VNIS) IN: Greenberg LS and Pinsof W (eds) *The Psychotherapeutic Process: A Research Handbook*. New York: Guilford Press 285-323
- Szasz TS and Hollender MH (1997) The basic models of the doctor-patient relationship IN: Henderson G, King NMP, Strauss RP, Churchill LR and Estroff SE (eds) *The Social Medicine Reader*. London: Duke University Press 278-286
- Szybek K, Gard G and Lindén J (2000) The physiotherapist-patient relationship: applying a psychotherapy model. *Physiotherapy Theory and Practice* 16(4): 181-193
- Taccolini Manzoni AC, Bastos de Oliveira NT, Nunes Cabral CM and Aquaroni Ricci N (2018) The role of the therapeutic alliance on pain relief in musculoskeletal rehabilitation: A systematic review. *Physiotherapy Theory and Practice* 34(12): 901-915
- Taylor RR (2008) *The intentional relationship: Outpatient therapy and use of self*. Philadelphia: FA Davis
- Taylor S and Field D (2007) *Sociology of Health and Health Care* (4th Edition). Oxford: Blackwell Publishing
- Tengland P-A (2006) The goals of health work: Quality of life, health and welfare. *Medicine, Health Care and Philosophy* 9(2): 155-167
- Thoits PA (2011) Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behavior* 52(2): 145-161

- Thomas DR (2017) Feedback from research participants: are member checks useful in qualitative research? *Qualitative Research in Psychology* 14(1): 23-41
- Thorne S (2016) Metasynthetic madness: What kind of monster have we created? *Qualitative Health Research* 27(1): 3-12
- Tilling K, Peters T and Sterne J (2005) *Key Issues in the Statistical Analysis of Quantitative Data in Research on Health and Health Services*. New York: McGraw-Hill Education
- Toepfer KE (1997) *Empire of Ecstasy: Nudity and Movement in German Body Culture, 1910-1935*. San Diego: University of California Press
- Tonna M, Marchesi C and Parmigiani S (2019) The biological origins of rituals: An interdisciplinary perspective. *Neuroscience & Biobehavioral Reviews* 98: 95-106
- Turner B (1984) *The Body and Society: Explorations in Social Theory*. Oxford: Blackwell Publishers
- Turner BS (1995) *Medical Power and Social Knowledge*. London: SAGE Publications
- Tyler TR (2006) Psychological perspectives on legitimacy and legitimation. *Annual Review of Psychology* 57: 375-400
- Tyremen S (2015) Trust and truth: Uncertainty in health care practice. *Journal of Evaluation in Clinical Practice* 21(3): 470-478
- University of Southampton (2012) *Policy on the Ethical Conduct of Research and Studies involving Human Participants* UOS. Available from: <http://www.southampton.ac.uk/about/governance/policies/ethics.page> [Accessed 15/07/2016]
- University of Southampton (2015a) *Data Protection Policy*. Available from: <http://www.calendar.soton.ac.uk/sectionIV/data-protection.html> [Accessed 15/07/2016]
- University of Southampton (2015b) *Research Data Management Policy*. Available from: <http://www.calendar.soton.ac.uk/sectionIV/research-data-management.html> [Accessed 15/07/2016]
- Vaismoradi M, Turunen H and Bondas T (2013) Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & Health Sciences* 15(3): 398-405
- van der Geest S (2014) Medical Anthropology IN: WC Cockerham RD, S Quah (ed) *The Wiley Blackwell Encyclopedia of Health, Illness, Behavior, and Society*. Hoboken: John Wiley & Sons
- Van Manen M (2016) *Researching Lived Experience: Human Science for an Action Sensitive Pedagogy*. Abingdon: Routledge
- van Middelkoop M, Rubinstein SM, Kuijpers T, Verhagen A, Ostelo R, Koes BW and Tulder M (2011) A systematic review on the effectiveness of physical and rehabilitation interventions for chronic non-specific low back pain. *European Spine Journal* 20(1): 19-39
- van Middelkoop M, Rubinstein SM, Verhagen AP, Ostelo RW, Koes BW and van Tulder MW (2010) Exercise therapy for chronic nonspecific low-back pain. *Best Practice & Research Clinical Rheumatology* 24(2): 193-204

- Varcarolis EM (2014) Developing Therapeutic Relationships IN: Halter MJ (ed) *Varcarolis' Foundations of Psychiatric Mental Health Nursing: A Clinical Approach* (7th Edition). St Louis: Elsevier Saunders 131-146
- Venetis MK, Robinson JD, Turkiewicz KL and Allen M (2009) An evidence base for patient-centered cancer care: A meta-analysis of studies of observed communication between cancer specialists and their patients. *Patient Education and Counseling* 77(3): 379-383
- Verhulst J, Kramer D, Swann AC, Hale-Richlen B and Beahrs J (2013) The medical alliance: from placebo response to alliance effect. *The Journal of Nervous and Mental Disease* 201(7): 546-552
- Viswanathan M, Patnode CD, Berkman ND, Bass EB, Chang S, Hartling L, Murad MH, Treadwell JR and Kane RL (2018) Recommendations for assessing the risk of bias in systematic reviews of health-care interventions. *Journal of Clinical Epidemiology* 97: 26-34
- von Sperling de Souza M and Brum Vieira C (2006) Who are the people looking for the Pilates method? *Journal of Bodywork and Movement Therapies* 10(4): 328-334
- Vong SK, Cheing GL, Chan F, So EM and Chan CC (2011) Motivational Enhancement Therapy in addition to physical therapy improves motivational factors and treatment outcomes in people with low back pain: A randomized controlled trial. *Archives of Physical Medicine and Rehabilitation* 92(2): 176-183
- Vos T, Abajobir AA, Abbafati C, Abbas KM, Abate KH, Abd-Allah F, Abdulle AM, Abebo TA, Abera SF, Aboyans V, Abu-Raddad LJ, Ackerman IN, Adamu AA, Adetokunboh O, Afarideh M, Afshin A, Agarwal SK, Aggarwal R, Agrawal A, Agrawal S, Ahmad Kiadaliri A, Ahmadiéh H, Ahmed MB, Aichour AN, Aichour I, Aichour MTE, Aiyar S, Akinyemi RO, Akseer N, Al Lami FH, Alahdab F, Al-Aly Z, Alam K, Alam N, Alam T, Alasfoor D, Alene KA, Ali R, Alizadeh-Navaei R, Alkerwi A, Alla F, Allebeck P, Allen C, Al-Maskari F, Al-Raddadi R, Alsharif U, Alsowaidi S, Altirkawi KA, Amare AT, Amini E, Ammar W, Amoako YA, Andersen HH, Antonio CAT, Anwari P, Ärnlöv J, Artaman A, Aryal KK, Asayesh H, Asgedom SW, Assadi R, Atey TM, Atnafo NT, Atre SR, Avila-Burgos L, Avokpaho EFGA, Awasthi A, Ayala Quintanilla BP, Ba Saleem HO, Bacha U, Badawi A, Balakrishnan K, Banerjee A, Bannick MS, Barac A, Barber RM, Barker-Collo SL, Bärnighausen T, Barquera S, Barregard L, Barrero LH, Basu S, Battista B, Battle KE, Baune BT, Bazargan-Hejazi S, Beardsley J, Bedi N, Beghi E, Béjot Y, Bekele BB, Bell ML, Bennett DA, Bensenor IM, Benson J, Berhane A, Berhe DF, Bernabé E, Betsu BD, Beuran M, Beyene AS, Bhala N, Bhansali A, Bhatt S, Bhutta ZA, Biadgilign S, Bienhoff K, Bikbov B, Birungi C, Biryukov S, Bisanzio D, Bizuayehu HM, Boneya DJ, Boufous S, Bourne RRA, Brazinova A, Brugha TS, Buchbinder R, Bulto LNB, Bumgarner BR, Butt ZA, Cahuana-Hurtado L, Cameron E, Car M, Carabin H, Carapetis JR, Cárdenas R, Carpenter DO, Carrero JJ, Carter A, Carvalho F, Casey DC, Caso V, Castañeda-Orjuela CA, Castle CD, Catalá-López F, Chang HY, Chang JC, Charlson FJ, Chen H, Chibalabala M, Chibueze CE, Chisumpa VH, Chittheer AA, Christopher DJ, Ciobanu LG, Cirillo M, Colombara D, Cooper C, Cortesi PA, Criqui MH, Crump JA, Dadi AF, Dalal K, Dandona L, Dandona R, Das Neves J, Davitoiu DV, De Courten B, De Leo D, Degenhardt L, Deiparine S, Dellavalle RP, Deribe K, Des Jarlais DC, Dey S, Dharmaratne SD, Dhillon PK, Dicker D, Ding EL, Djalalinia S, Do HP, Dorsey ER, Dos Santos KPB, Douwes-Schultz D, Doyle KE, Driscoll TR, Dubey M, Duncan BB, El-Khatib ZZ, Ellerstrand J, Enayati A, Endries AY, Ermakov SP, Erskine HE, Eshrati B, Eskandarieh S, Esteghamati A, Estep K, Fanuel FBB, Farinha CSES, Faro A, Farzadfar F, Fazeli MS, Feigin VL, Fereshtehnejad SM, Fernandes JC, Ferrari AJ, Feyissa TR, Filip I, Fischer F, Fitzmaurice C, Flaxman AD, Flor LS, Foigt N, Foreman KJ, Franklin RC, Fullman N, Fürst T, Furtado JM, Futran ND, Gakidou E, Ganji M, Garcia-Basteiro AL, Gebre T,

Gebrehiwot TT, Geleto A, Gemechu BL, Gesesew HA, Gething PW, Ghajar A, Gibney KB, Gill PS, Gillum RF, Ginawi IAM, Giref AZ, Gishu MD, Giussani G, Godwin WW, Gold AL, Goldberg EM, Gona PN, Goodridge A, Gopalani SV, Goto A, Goulart AC, Griswold M, Gugnani HC, Gupta R, Gupta R, Gupta T, Gupta V, Hafezi-Nejad N, Hailu AD, Hailu GB, Hamadeh RR, Hamidi S, Handal AJ, Hankey GJ, Hao Y, Harb HL, Hareri HA, Haro JM, Harvey J, Hassanvand MS, Havmoeller R, Hawley C, Hay RJ, Hay SI, Henry NJ, Heredia-Pi IB, Heydarpour P, Hoek HW, Hoffman HJ, Horita N, Hosgood HD, Hostiuc S, Hotez PJ, Hoy DG, Htet AS, Hu G, Huang H, Huynh C, Iburg KM, Igumbor EU, Ikeda C, Irvine CMS, Jacobsen KH, Jahanmehr N, Jakovljevic MB, Jassal SK, Javanbakht M, Jayaraman SP, Jeemon P, Jensen PN, Jha V, Jiang G, John D, Johnson CO, Johnson SC, Jonas JB, Jürisson M, Kabir Z, Kadel R, Kahsay A, Kamal R, Kan H, Karam NE, Karch A, Karema CK, Kasaeian A, Kassa GM, Kassaw NA, Kassebaum NJ, Kastor A, Katikireddi SV, Kaul A, Kawakami N, Keiyoro PN, Kengne AP, Keren A, Khader YS, Khalil IA, Khan EA, Khang YH, Khosravi A, Khubchandani J, Kielsing C, Kim D, Kim P, Kim YJ, Kimokoti RW, Kinfu Y, Kisa A, Kissimova-Skarbek KA, Kivimaki M, Knudsen AK, Kokubo Y, Kolte D, Kopec JA, Kosen S, Koul PA, Koyanagi A, Kravchenko M, Krishnaswami S, Krohn KJ, Kuate Defo B, Kucuk Bicer B, Kumar GA, Kumar P, Kumar S, Kyu HH, Lal DK, Lalloo R, Lambert N, Lan Q, Larsson A, Lavados PM, Leasher JL, Lee JT, Lee PH, Leigh J, Leshargie CT, Leung J, Leung R, Levi M, Li Y, Li Y, Li Kappe D, Liang X, Liben ML, Lim SS, Linn S, Liu A, Liu PY, Liu S, Liu Y, Lodha R, Logroscino G, London SJ, Looker KJ, Lopez AD, Lorkowski S, Lotufo PA, Low N, Lozano R, Lucas TCD, Macarayan ERK, Magdy Abd El Razek H, Magdy Abd El Razek M, Mahdavi M, Majdan M, Majdzadeh R, Majeed A, Malekzadeh R, Malhotra R, Malta DC, Mamun AA, Manguerra H, Manhertz T, Mantilla A, Mantovani LG, Mapoma CC, Marczak LB, Martinez-Raga J, Martins-Melo FR, Martopullo I, März W, Mathur MR, Mazidi M, McAlinden C, McGaughey M, McGrath JJ, McKee M, McNellan C, Mehata S, Mehndiratta MM, Mekonnen TC, Memiah P, Memish ZA, Mendoza W, Mengistie MA, Mengistu DT, Mensah GA, Meretoja A, Meretoja TJ, Mezgebe HB, Micha R, Millea A, Miller TR, Mills EJ, Mirarefin M, Mirakhorimov EM, Misganaw A, Mishra SR, Mitchell PB, Mohammad KA, Mohammadi A, Mohammed KE, Mohammed S, Mohanty SK, Mokdad AH, Mollenkopf SK, Monasta L, Hernandez JM, Montico M, Moradi-Lakeh M, Moraga P, Mori R, Morozoff C, Morrison SD, Moses M, Mountjoy-Venning C, Mruts KB, Mueller UO, Muller K, Murdoch ME, Murthy GVS, Musa KI, Nachega JB, Nagel G, Naghavi M, Naheed A, Naidoo KS, Naldi L, Nangia V, Natarajan G, Negasa DE, Negoi I, Negoi RI, Newton CR, Ngunjiri JW, Nguyen CT, Nguyen G, Nguyen M, Nguyen QL, Nguyen TH, Nichols E, Ningrum DNA, Nolte S, Nong VM, Norrving B, Noubiap JJN, O'Donnell MJ, Ogbo FA, Oh IH, Okoro A, Oladimeji O, Olagunju AT, Olagunju TO, Olsen HE, Olusanya BO, Olusanya JO, Ong K, Opio JN, Oren E, Ortiz A, Osgood-Zimmerman A, Osman M, Owolabi MO, Pa M, Pacella RE, Pana A, Panda BK, Papachristou C, Park EK, Parry CD, Parsaeian M, Patten SB, Patton GC, Paulson K, Pearce N, Pereira DM, Perico N, Pesudovs K, Peterson CB, Petzold M, Phillips MR, Pigott DM, Pillay JD, Pinho C, Plass D, Pletcher MA, Popova S, Poulton RG, Pourmalek F, Prabhakaran D, Prasad N, Prasad NM, Purcell C, Qorbani M, Quansah R, Rabiee RHS, Radfar A, Rafay A, Rahimi K, Rahimi-Movaghar A, Rahimi-Movaghar V, Rahman M, Rahman MHU, Rai RK, Rajsic S, Ram U, Ranabhat CL, Rankin Z, Rao PV, Rao PC, Rawaf S, Ray SE, Reiner RC, Reinig N, Reitsma MB, Remuzzi G, Renzaho AMN, Resnikoff S, Rezaei S, Ribeiro AL, Ronfani L, Roshandel G, Roth GA, Roy A, Rubagotti E, Ruhago GM, Saadat S, Sadat N, Safdarian M, Safi S, Safiri S, Sagar R, Sahathevan R, Salama J, Salomon JA, Salvi SS, Samy AM, Sanabria JR, Santomauro D, Santos IS, Santos JV, Santric Milicevic MM, Sartorius B, Satpathy M, Sawhney M, Saxena S, Schmidt MI, Schneider IJC, Schöttker B, Schwebel DC, Schwendicke F, Seedat S, Sepanlou SG, Servan-Mori EE, Setegn T, Shackelford KA, Shaheen A, Shaikh MA, Shamsipour M, Shariful Islam SM, Sharma J, Sharma R, She J, Shi P, Shields C, Shigematsu M, Shinohara Y, Shiri R, Shirkoobi R, Shirude S, Shishani K, Shrimme MG, Sibai AM, Sigfusdottir ID, Silva DAS,



- Silva JP, Silveira DGA, Singh JA, Singh NP, Sinha DN, Skiadaresi E, Skirbekk V, Slepak EL, Sligar A, Smith DL, Smith M, Sobaih BHA, Sobngwi E, Sorensen RJD, Sousa TCM, Sposato LA, Sreeramareddy CT, Srinivasan V, Stanaway JD, Stathopoulou V, Steel N, Stein DJ, Stein MB, Steiner C, Steiner TJ, Steinke S, Stokes MA, Stovner LJ, Strub B, Subart M, Sufiyan MB, Suliankatchi Abdulkader R, Sunguya BF, Sur PJ, Swaminathan S, Sykes BL, Sylte DO, Tabarés-Seisdedos R, Taffere GR, Takala JS, Tandon N, Tavakkoli M, Taveira N, Taylor HR, Tehrani-Banihashemi A, Tekelab T, Temam Shifa G, Terkawi AS, Tesfaye DJ, Tessaema B, Thamsuwan O, Thomas KE, Thrift AG, Tiruye TY, Tobe-Gai R, Tollanes MC, Tonelli M, Topor-Madry R, Tortajada M, Touvier M, Tran BX, Tripathi S, Troeger C, Truelsen T, Tsoi D, Tuem KB, Tuzcu EM, Tyrovolas S, Ukwaja KN, Undurraga EA, Uneke CJ, Updike R, Uthman OA, Uzochukwu BSC, Van Boven JFM, Varughese S, Vasankari T, Venkatesh S, Venketasubramanian N, Vidavalur R, Violante FS, Vladimirov SK, Vlassov VV, Vollset SE, Wadilo F, Wakayo T, Wang YP, Weaver M, Weichenthal S, Weiderpass E, Weintraub RG, Werdecker A, Westerman R, Whiteford HA, Wijeratne T, Wiysonge CS, Wolfe CDA, Woodbrook R, Woolf AD, Workicho A, Wulf Hanson S, Xavier D, Xu G, Yadgir S, Yaghoubi M, Yakob B, Yan LL, Yano Y, Ye P, Yimam HH, Yip P, Yonemoto N, Yoon SJ, Yotebieng M, Younis MZ, Zaidi Z, Zaki MES, Zegeye EA, Zenebe ZM, Zhang X, Zhou M, Zipkin B, Zodpey S, Zuhlke LJ, Murray CJL, Disease GBD, Injury I and Prevalence C (2017) Global, regional, and national incidence, prevalence, and years lived with disability for 328 diseases and injuries for 195 countries, 1990-2016: A systematic analysis for the Global Burden of Disease Study 2016. *The Lancet* 390(10100): 1211-1259
- Vowles KE and Thompson M (2012) The patient-provider relationship in chronic pain. *Current Pain and Headache Reports* 16(2): 133-138
- Waddell G (1987) 1987 Volvo award in clinical sciences. A new clinical model for the treatment of low-back pain. *Spine* 12(7): 632-644
- Waddell G (1996) Low back pain: A twentieth century health care enigma. *Spine* 21(24): 2820-2825
- Waddell G and Burton AK (2005) Concepts of rehabilitation for the management of low back pain. *Best Practice & Research. Clinical Rheumatology* 19(4): 655-670
- Waller D (2011) *The Perfect Man: The Muscular Life and Times of Eugen Sandow, Victorian Strongman*. Brighton: Victorian Secrets
- Wampold BE (2013) *The Great Psychotherapy Debate: Models, Methods, and Findings*. Abingdon: Routledge
- Wampold BE and Budge SL (2012) The 2011 Leona Tyler Award Address: The relationship - and its relationship to the common and specific factors of psychotherapy. *The Counseling Psychologist* 40(4): 601-623
- Watanuki S, Tracy MF and Lindquist R (2006) Therapeutic listening. *Complementary/Alternative Therapies in Nursing*: 45-56
- Weisberg M and Duffin J (1995) Evoking the moral imagination: using stories to teach ethics and professionalism to nursing, medical, and law students. *Journal of Medical Humanities* 16(4): 247-263
- Wells C, Kolt G, Marshall P, Hill B and Bialocerkowski A (2013) Effectiveness of Pilates exercise in treating people with chronic low back pain: a systematic review of systematic reviews. *BMC Medical Research Methodology* 13(7)

- Wells C, Kolt GS and Bialocerkowski A (2012) Defining Pilates exercise: A systematic review. *Complementary Therapies in Medicine* 20(4): 253-262
- Welsh E (2002) Dealing with Data: Using NVivo in the Qualitative Data Analysis Process. 3(2)  
Available from: <http://www.qualitative-research.net/index.php/fqs/article/view/865/1880> [Accessed 16/06/2016]
- Williamson K (2006) Research in constructivist frameworks using ethnographic techniques. *Library Trends* 55(1): 83-101
- Wilson S, Chaloner N, Osborn M and Gauntlett-Gilbert J (2017) Psychologically informed physiotherapy for chronic pain: patient experiences of treatment and therapeutic process. *Physiotherapy* 103(1): 98-105
- Wittgenstein L (1953) *Philosophical Investigations*. Translated GEM Anscombe. Oxford: Blackwell
- Yamato TP, Maher CG, Saragiotto BT, Hancock MJ, Ostelo RWJG, Cabral CMN, Costa LCM and Costa LOP (2016) Pilates for low back pain: Complete republication of a Cochrane Review. *Spine* 41(12): 1013-1021
- Young A (1982) The anthropologies of illness and sickness. *Annual Review of Anthropology* 11: 257-285
- Zahavi D and Martiny KMM (2019) Phenomenology in nursing studies: New perspectives. *International Journal of Nursing Studies* 93: 155-162
- Zetzel ER (1956) Current concepts of transference. *International Journal of Psychoanalysis* 37(4-5): 369-76