



<http://researchspace.auckland.ac.nz>

### *ResearchSpace@Auckland*

#### **Copyright Statement**

The digital copy of this thesis is protected by the Copyright Act 1994 (New Zealand).

This thesis may be consulted by you, provided you comply with the provisions of the Act and the following conditions of use:

- Any use you make of these documents or images must be for research or private study purposes only, and you may not make them available to any other person.
- Authors control the copyright of their thesis. You will recognise the author's right to be identified as the author of this thesis, and due acknowledgement will be made to the author where appropriate.
- You will obtain the author's permission before publishing any material from their thesis.

To request permissions please use the Feedback form on our webpage.

<http://researchspace.auckland.ac.nz/feedback>

#### **General copyright and disclaimer**

In addition to the above conditions, authors give their consent for the digital copy of their work to be used subject to the conditions specified on the Library Thesis Consent Form.

# Psychological Investigations of the Experience of Chronic Pain

Frances Ruth James

A thesis

submitted in partial fulfilment of the

requirements for the degree of

Doctor of Philosophy

in

Psychiatry and Behavioural Science,

University of Auckland,

1991

"For every complicated question there is a simple answer,  
and it is usually wrong"

(Fred Frankel, personal communication, 7 September, 1989)

## ABSTRACT

This thesis is based on two theoretical models of chronic illness: Large, Butler, James, and Peters (1990) introduced a systems model of musculo-skeletal pain which incorporated many of the variables believed to be important in the development and maintenance of pain. Feldman's model (1974) addressed the difficulties of adapting to chronic illness. Five studies evaluated specific aspects of these models.

The epidemiology of pain in New Zealand (NZ) was derived from a psychiatric epidemiology project. Approximately 80% of NZ adults had experienced a life disrupting episode of pain which had required medical consultation. Subjects who reported episodes of pain were more likely to have psychiatric diagnoses of anxiety, depression, and phobia. They were more likely to describe their health as poor and were currently consulting their doctor more than people who did not report an experience of pain.

The estimated average cost of health consulting by people attending Auckland Hospital Pain Clinic (AHPC) for the previous year was \$1333(NZ). Most people had some subsidy of costs. The health consulting of the AHPC group was higher than that reported in the NZ health literature.

Self image and the experience of pain were assessed in two studies. The first asked subjects at AHPC to describe the typical thoughts, feelings, and behaviours, of someone with chronic pain. Subjects described loss of self esteem, alienation from family and friends, fear of the future, frustration and anger. The descriptions focused on psychological aspects of the experience of pain. The second study of self image used repertory grid technique. Two standardised Illness Self Construct Repertory Grids (ISCRG) were evaluated.

Issues in the use of standardised grids are discussed and some aspects of ISCRG application are explored. The two ISCRG indicated subjects often identified themselves as a physically ill person and felt isolated from others.

People with pain and their "closest other" (CO) completed the ISCRG(A) and

questionnaires on the quality of their relationship. Closest others overestimated the role of the physical illness in their partners' life and believed that they understood them better than the individual with pain thought they did.

The personality dimensions of alexithymia and hypnotisability have been hypothesised as pathways for the development of psychosomatic illness. Individuals with chronic pain were tested to establish whether they were more alexithymic and more hypnotisable than subjects in a general population control group. This was not verified. The constructs of alexithymia and hypnotisability require critical examination.

The experience of pain is common and is associated with psychological distress and high health service use. Self construct appears to be a major factor determining response to pain and to treatment programmes. Chronic pain appears to be a particular challenge for individuals who must accept alteration in their lifestyle with perhaps little understanding of what the future may hold.

## ACKNOWLEDGEMENTS

The honesty and openness of the people who participated in these projects has been the most important contribution to this thesis. I would like to thank the people who volunteered their time to be subjects in this study. Many were attending AHPC and spared their time or travelled specially to discuss their experiences with me. Some came from community pain care groups and from random community samples. I appreciate their honesty and commitment very much.

In my MSc thesis I thanked Dr Bob Large for his inspiration and dedication. After several more years working together I have become even more aware of these special qualities. Bob Large has been a very generous supervisor, I have learnt much from him, and I will always have fond memories of these times.

Associate Professor John Raeburn was my second supervisor for this project and I appreciate the commitment this required, particularly with my somewhat uncertain initial research goals. I hope that I have fulfilled his trust of me.

The Department of Psychiatry and Behavioural Science have contributed to my education in a way which is unique to this diverse collection of individuals. They have been subjects, advisors, and friends. The staff room conversations, both political and culinary, have contributed hugely to my enjoyment of this task.

The Pain Clinic staff have also participated as supportive colleagues and as subjects in my studies. Their dedication to learning about pain and conducting research is outstanding given the demands of the clinical work which they conduct at such high standards. They are a unit with whom I am honoured to be associated.

The Medical Research Council of New Zealand (now the Health Research Council) provided a Postgraduate Scholarship to support this project. They also awarded me the Young Investigators Travel Award so that I could attend the 1990 VI World Congress on Pain

in Adelaide. The Social Science Research Foundation provided funds so that I could use the Christchurch epidemiology data to evaluate the lifetime prevalence of pain in New Zealand. The NZ Pain Society subsidised my attendance at the 7th NZ Pain Conference in Invercargill and made this, and other NZ Pain Society Meetings, an extremely enjoyable occasion.

The Christchurch Psychiatric epidemiology project group were helpful and encouraging in my further exploration of their data. The study was remarkably well constructed and executed and I enjoyed the opportunity to meet and talk with this group. I would especially like to thank John Bushnell and Elisabeth Wells for their time and careful explanations.

The repertory grid analysis package INGRID was modified for use on IBM PC and made more "approachable" (a remarkable task) by John West and Alex Sergejew. Many attempts have been made to obtain the perfect grid output; Rob Edkins finally achieved the beautiful grids published here with great perseverance at some obscure hours of the day. For their effort and understanding in a field where no sensible person would venture, I thank them.

Very few people ever read a completed PhD thesis. This thesis has been read during the process of preparation by several dedicated colleagues and I thank Bob Large, Janet Peters, Mary O'Brien, Rain Lamdin, Keith Petrie, Denise Reynolds, and Marina Vamos for their endurance and encouragement. Advice and practical aid on statistics for several of these projects were enthusiastically offered by Gail Elkind and Sarah Turbott. Many thanks.

There are many friends without whose support I would not have completed this document. I would like to thank once again; Janet Peters who shared my office and my crises, both good and bad; Teresa Fleming whose postcards and drawings decorated my walls, reminding me of life beyond this project and of the need to finish; and Rain Lamdin who distracted me just the right amount and at just the right moments. There were many friends who fed me and entertained me with letters from afar. I would especially like to mention;

Nerilee Ceatha, Matthew Chappory, dylan horrocks, Gillian Sherwen, and Malcolm Ting.

My family has now survived two daughters completing PhD theses. They are familiar with the nightmares, odd humour, and obscure knowledge which accompany this process. I would like to thank my parents for encouraging me and providing refuge. My family taught me to recognise and laugh at the ridiculous and this had been an important skill during the past few years. I suspect our family will never have a dull conversation. I would particularly like to thank Sue and Graeme whose presence in Auckland during the past 18 months has been a delight. Their intimate knowledge of the effects of PhD writing has helped both Rob and myself to survive.

Finally I would like to thank Rob Edkins who has constantly reminded me that pain is only one aspect of life. His support and understanding have been remarkable.



TABLE OF CONTENTS

ABSTRACT .....	iii
ACKNOWLEDGEMENTS .....	v
TABLE OF CONTENTS .....	viii
LIST OF TABLES .....	xii
LIST OF FIGURES .....	xiv
LIST OF GRIDS .....	xv
LIST OF ABBREVIATIONS .....	xviii
I. INTRODUCTION .....	1
A systems model of chronic musculo-skeletal pain .....	2
First pathway - conversion .....	5
Second pathway - dysponesis .....	5
Third pathway- Fibromyalgia .....	6
Adaptation to chronic illness .....	7
Description of this project .....	9
SECTION I .....	11
II. EPIDEMIOLOGY OF PAIN IN NEW ZEALAND .....	12
Introduction .....	12
Epidemiology of pain .....	13
International Literature .....	13
New Zealand Literature .....	16
Pain and psychiatric diagnoses .....	17
Method .....	19
Results .....	23

Discussion .....	43
III. LITERATURE REVIEW: THE PSYCHOLOGY AND PSYCHIATRY OF PAIN .....	48
IV. "THE MEANING OF PAIN" .....	60
Introduction .....	60
Method .....	62
Results .....	63
Discussion .....	70
V. HEALTH SERVICE UTILISATION .....	73
Introduction .....	73
New Zealand health system .....	73
Orthodox medicine and pain .....	76
Complementary therapies .....	78
Method .....	84
Results .....	85
Discussion .....	91
SECTION II .....	94
VI. PERSONAL CONSTRUCT THEORY AND REPERTORY GRID TECHNIQUE .....	95
Introduction .....	95
Personal construct theory .....	95
Repertory grid technique .....	97
Psychometric issues .....	98
Personal construct theory and Physical illness .....	100
Method .....	102
Interpretation of grids .....	106
Results .....	107
ISCRG Form A .....	107

ISCRG Form B .....	117
Comparing the ISCRG Forms A & B .....	126
Evaluation of elements 'Doctor' and 'Other' .....	127
Comparison of Elicited Grids and the ISCRG(A&B) .....	131
Discussion .....	160
VII. CLOSEST OTHERS AND THE ISCRG(A) .....	170
Introduction .....	170
Method .....	173
Results .....	174
Discussion .....	204
SECTION III .....	209
VIII. ALEXITHYMIA AND HYPNOTISABILITY IN CHRONIC PAIN .....	210
Introduction .....	210
Alexithymia .....	210
Hypnosis .....	229
Hypnosis and alexithymia .....	240
Method .....	243
Results .....	245
Discussion .....	251
IX. DISCUSSION .....	267
Epidemiology of Pain in New Zealand .....	268
Pain narratives .....	270
Health Service Utilisation .....	271
Illness Self Construct Repertory Grid .....	273
Closest Others and the ISCRG(A) .....	274
Alexithymia and hypnotisability .....	276

Systems model of chronic musculo-skeletal pain .....	279
Feldman model .....	281
Future chronic pain research .....	289
Summary .....	293
APPENDIX A: DIS PAIN QUESTIONS .....	295
APPENDIX B: PAIN NARRATIVE QUESTIONNAIRE .....	302
APPENDIX C: HSU QUESTIONNAIRE .....	306
APPENDIX D: ISCRG(A&B) .....	312
APPENDIX E: CLOSEST OTHER QUESTIONNAIRE .....	327
APPENDIX F: PUBLICATIONS FROM THIS THESIS .....	337
REFERENCES .....	362

*LIST OF TABLES*

1.	Age and sex distribution of epidemiological sample .....	21
2.	Frequency of subjects with pain complaints by age and sex .....	24
3.	Lifetime prevalence of pain by subject's understanding of diagnosis .....	26
4.	Lifetime prevalence of pain by sex .....	27
5.	Lifetime prevalence of pain by sex and by diagnostic category .....	28
6.	Lifetime prevalence of pain by age .....	30
7.	Lifetime prevalence of DIS/DSMIII diagnoses of depression and anxiety by pain site	31
8.	Lifetime prevalence of DIS/DSMIII diagnoses of phobia and alcohol abuse by pain site .....	32
9.	Percentage of the overall population and subjects with headache responding positively to depression questions .....	34
10.	Percentage of subjects who had felt life was hopeless by pain site .....	35
11.	General health by pain site .....	36
12.	Visits to health professionals in the last six months by pain site .....	37
13.	Off work for several weeks by site of pain .....	38
14.	Subjects currently receiving a benefit by pain site .....	39
15.	Arthritis and pain .....	40
16.	Injury / Deformity and pain .....	40
17.	Heart disease by pain and anxiety symptom .....	41
18.	Loss of pleasure in sexual activity by pain site .....	42
19.	Number of responses per pain description category by group .....	64
20.	Number of private and public visits to each medical speciality .....	86
21.	Number of private and public visits to each health professional speciality .....	87

22.	Number of private and public visits to each complementary speciality . . . . .	87
23.	Number of investigations . . . . .	88
24.	Total number of visits to each category of specialist, diagnostic procedure and prescriptions . . . . .	88
25.	Cost of visits for specialist groups and procedures . . . . .	89
26.	Financial support and GP visits . . . . .	90
27.	Elicited constructs, Subject 1, initial assessment, <b>Grid 20</b> . . . . .	133
28.	Elicited constructs, Subject 1, final assessment, <b>Grid 21</b> . . . . .	133
29.	Elicited constructs, Subject 2, initial assessment, <b>Grid 26</b> . . . . .	140
30.	Elicited constructs, Subject 2, final assessment, <b>Grid 27</b> . . . . .	141
31.	Elicited constructs, Subject 3, initial assessment, <b>Grid 32</b> . . . . .	147
32.	Elicited constructs, Subject 3, final assessment, <b>Grid 33</b> . . . . .	148
33.	Elicited constructs, Subject 4, initial assessment, <b>Grid 38</b> . . . . .	154
34.	Elicited constructs, Subject 4, final assessment, <b>Grid 39</b> . . . . .	155
35.	Employment status by subject group . . . . .	246
36.	Report of pain site and average number of pain symptoms by subject group .	247
37.	Alexithymia scores for each group . . . . .	248
38.	Percentage of alexithymic subjects in each group . . . . .	249
39.	Distribution of SHCS scores for each group . . . . .	250
40.	Stated reactions to the introduction of hypnosis . . . . .	261

*LIST OF FIGURES*

1.	Systems model of chronic musculo-skeletal pain .....	3
2.	SAT <sub>9</sub> response A .....	256
3.	SAT <sub>9</sub> response B .....	257
4.	SAT <sub>9</sub> response C .....	258
5.	SAT <sub>9</sub> response D .....	259
6.	SAT <sub>9</sub> response E .....	260

*LIST OF REPERTORY GRIDS*

1.	Pain subject ISCRG(A) .....	110
2.	Pain subject ISCRG(A) .....	110
3.	Pain subject ISCRG(A) .....	112
4.	Pain subject ISCRG(A) .....	112
5.	Pain subject ISCRG(A) .....	114
6.	Control subject ISCRG(A) .....	114
7.	Control subject ISCRG(A) Initial Assessment .....	116
8.	Control subject ISCRG(A) Final Assessment .....	116
9.	Pain subject ISCRG(B) .....	120
10.	Pain subject ISCRG(B) .....	120
11.	Pain subject ISCRG(B) .....	122
12.	Pain subject ISCRG(B) .....	122
13.	Pain subject ISCRG(B) .....	124
14.	Control subject ISCRG(B) .....	124
15.	Control subject ISCRG(B) Initial Assessment .....	125
16.	Control subject ISCRG(B) Final Assessment .....	125
17.	Pain subject combined ISCRG(A) and ISCRG(B) constructs .....	128
18.	Pain subject combined ISCRG(A) and ISCRG(B) constructs .....	128
19.	Pain subject expanded Doctor and Other elements .....	130
20.	Elicited Grid, Subject 1, Initial assessment .....	135
21.	Elicited Grid, Subject 1, Final assessment .....	135
22.	ISCRG(A), Subject 1, Initial assessment .....	136
23.	ISCRG(A), Subject 1, Final assessment .....	136
24.	ISCRG(B), Subject 1, Initial assessment .....	138



25.	ISCRG(B), Subject 1, Final assessment .....	138
26.	Elicited Grid, Subject 2, Initial assessment .....	142
27.	Elicited Grid, Subject 2, Final assessment .....	142
28.	ISCRG(A), Subject 2, Initial assessment .....	144
29.	ISCRG(A), Subject 2, Final assessment .....	144
30.	ISCRG(B), Subject 2, Initial assessment .....	146
31.	ISCRG(B), Subject 2, Final assessment .....	146
32.	Elicited Grid, Subject 3, Initial assessment .....	150
33.	Elicited Grid, Subject 3, Final assessment .....	150
34.	ISCRG(A), Subject 3, Initial assessment .....	151
35.	ISCRG(A), Subject 3, Final assessment .....	151
36.	ISCRG(B), Subject 3, Initial assessment .....	153
37.	ISCRG(B), Subject 3, Final assessment .....	153
38.	Elicited Grid, Subject 4, Initial assessment .....	156
39.	Elicited Grid, Subject 4, Final assessment .....	156
40.	ISCRG(A), Subject 4, Initial assessment .....	158
41.	ISCRG(A), Subject 4, Final assessment .....	158
42.	ISCRG(B), Subject 4, Initial assessment .....	159
43.	ISCRG(B), Subject 4, Final assessment .....	159
44.	Pain subject 1, ISCRG(A) .....	177
45.	Closest Other 1, ISCRG(A) .....	177
46.	Pain subject 2, ISCRG(A) .....	179
47.	Closest Other 2, ISCRG(A) .....	179
48.	Pain subject 3, ISCRG(A) .....	182
49.	Closest Other 3, ISCRG(A) .....	182
50.	Pain subject 4, ISCRG(A) .....	185

51.	Closest Other 4, ISCRG(A)	185
52.	Pain subject 5, ISCRG(A)	188
53.	Closest Other 5, ISCRG(A)	188
54.	Pain subject 6, ISCRG(A)	190
55.	Closest Other 6, ISCRG(A)	190
56.	Pain subject 7, ISCRG(A)	193
57.	Closest Other 7, ISCRG(A)	193
58.	Pain subject 8, ISCRG(A)	196
59.	Closest Other 8, ISCRG(A)	196
60.	Pain subject 9, ISCRG(A)	199
61.	Closest Other 9, ISCRG(A)	199
62.	Pain subject 10, ISCRG(A)	201

## *LIST OF ABBREVIATIONS*

ACC	Accident Compensation Corporation
AHPC	Auckland Hospital Pain Clinic
AT <sub>9</sub>	Alexithymia test with nine items
AVS	Affect vocabulary score
BDS	Beck Depression Scale
BIQ	Beth Israel Psychosomatic Questionnaire
CT	Complementary Therapy
GGs	Gottschalk-Gleser Scale
GP	General Practitioner
HGS	Harvard Group Scale
HIP	Hypnotic Induction Profile
HRS	Hamilton Rating Scale
HSU	Health Service Utilisation
IQ	Intelligence quotient
ISCRG(A)	Illness self construct repertory grid (Form A)
ISCRG(B)	Illness self construct repertory grid (Form B)
LOC	Locus of Control
MHLC	Multidimensional Health Locus of Control
MMPI	Minnesota Multidimensional Personality Inventory
MPQ	McGill Pain Questionnaire
NZ	New Zealand
PCT	Personal Construct Theory
PP	Private Parts
PRI	Pain rating index

QT	Quick test
SAT <sub>9</sub>	Scored Alexithymia test with nine items
SHCS	Stanford Hypnotic Clinical Scale
SHSS(A&B)	Stanford Hypnotic Susceptibility Scales
SSPS	Schalling Sifneos Personality Scale
TAS	Toronto Alexithymia Scale
TAT	Thematic Apperception Test
VAS	Visual analogue scale
WHYMPI	West-Haven Yale Multidimensional Pain Inventory