

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

**A Validation of the
Rehabilitation Skills Inventory
in four Australasian
Rehabilitation Organisations
and its relationship with
Occupational Measures**

**A thesis presented in partial fulfilment
of the requirements for the degree
of Doctor of Philosophy in Psychology
at Massey University**

HERBERT CHARLES BIGGS

1996

ACKNOWLEDGEMENTS

This thesis, I am sure, is no more or less remarkable in conception and planning than that legion of doctoral theses before it. Like its predecessors the research concepts were readily accessible from prior scholarship, the research design and methodologies were immediately apparent, respondents willing and keen to play their part, and editors of scholarly journals much polite in enquiring as to when manuscripts may be to hand and to please keep their journals in mind!

I quite prefer to entertain such a fiction as a psychological buffer against the realities of completing this research which, in twice the length of time originally planned, I am now relieved and very pleased to present. Personal effort aside, there are several individuals who deserve mention without whose support I would have neither commenced nor completed this academic journey.

First and unequivocally foremost, I acknowledge the unstinting support of my wife Sandra and my children Joshua and Sarah. This thesis has been a well travelled companion around which my family have made a great deal of personal sacrifice. I am deeply grateful for this support.

Second, my primary supervisor, Professor Nigel Long, has been an exceptional supervisor and an inspiration in both accepting a position at Massey and undertaking this research. His experience, scholarship, and friendship were generously available to me throughout the entire extended period of this research. His assistance was invaluable and to Nigel go my sincere thanks. In addition, my colleague Dr Ross Flett was variously a source of expert research advice, a splendid co-researcher in a range of research projects, and just as importantly, a friend. His support across all levels was an enduring feature throughout this research. I could not wish for a more valuable colleague and friend and I look forward to this happy circumstance continuing indefinitely.

Third, a number of academic and professional colleagues deserve special mention. Professor Steven LaGrow of Massey University, my second supervisor, provided sound advice and support, particularly in the early stages of the research. Professor Marita Danek of Gallaudet University provided helpful advice and academic comment on aspects of the Rehabilitation Skills Inventory for which I am most grateful. Professor David Hershenson of the University of Maryland, College Park, provided the inspiration for the possibility of an emerging profession of rehabilitation counselling in the Australasian region and deserves great credit for its current potential for growth. Dr Fiona Alpass of Massey University was a valued contributor on several shared publications much of which helped clarify my thinking on the structure of this present research, and my thanks are extended for these insights. Thanks also to Dr Tudor Caradoc-Davies, Ms Anne Hawker, Ms Carol Searle, Mr Steve Poole, Mr Paul Curry, and Ms Carol D'Audney, for the support and valuable comment provided to me over the period of this research. In their various professional capacities and as individuals, all are significant contributors towards the quality of life for persons with disabilities in New Zealand. Many thanks also to Mrs Jenny Burns of the Department of Rehabilitation Studies who provided timely and valuable assistance in both administration of the questionnaires and in word processing.

Sincere thanks go to the staff of the Accident Compensation Corporation, Workbridge Inc., the Multiple Sclerosis Society, and in Australia, the Commonwealth Rehabilitation Service, for providing the time and energy as respondents in this research. Thanks also to the senior executives who supported the research and arranged my access to their staff. I sincerely hope that the results of this research will go some way toward understanding the demanding and challenging nature of the work undertaken by rehabilitation professionals, and that this in turn will provide better services for persons with a disability.

Finally, I am privileged indeed to have received abundant educational and growth opportunities in my childhood and youth from parents who were dedicated to a better life for their children - more often than not at considerable self sacrifice. I have not forgotten this generosity and never will. To my father, Bert, and my mother, Joan, I thank you profoundly. This thesis is for you.

TABLE OF CONTENTS

Acknowledgements	ii
Table of Contents	iv
List of Tables and Figures	xi
List of Appendices	xi
Thesis Abstract	1
1: Introduction	
1.1 Chapter overview	6
1.2 Historical development of rehabilitation services	
in New Zealand	7
1.2.1 Early development	7
1.2.2 Post second World War development	8
1.2.3 Accident and non-accident compensation	10
1.2.4 Current service environment	11
1.3 Historical development of rehabilitation services	
in Australia	13
1.3.1 Early development	13
1.3.2 Post second world war development	14
1.3.3 Critical development 1970-1976	15
1.3.4 Critical development 1977-1984	17

1.3.5	Current service environment - CRS	18
1.4	Rehabilitation services in large organisations	19
1.5	Conclusion	20
1.6	Chapter summary	21
2:	Development of Skills and Competency Measures	
2.1	Chapter overview	24
2.2	Early development	24
2.3	Rehabilitation counselling	26
2.4	Vocational evaluation	31
2.5	Job placement	34
2.6	Instrument development in rehabilitation counselling	37
2.7	Chapter summary	46
3:	Development of the Rehabilitation Skills Inventory	
3.1	Chapter overview	49
3.2	Method, procedure, and results	49
3.2.1	Participants	49
3.2.2	Instrument development	50
3.2.3	Description of final instrument	52
3.2.4	Instrument reliability and validity	53
3.2.5	Response rate	53
3.2.6	Results	56
3.3	Discussion	60

3.4	Chapter summary .....	.61
4:	Validation of the RSI for Australasia	
4.1	Chapter overview .....	.63
4.2	Validation of the RSI (Amended I) pilot instrument for Australasia .....	.64
4.3	Method .....	.67
4.3.1	Participants .....	.67
4.3.2	Measure .....	.67
4.3.3	Background information .....	.68
4.4	Procedure .....	.68
4.5	Expert panel .....	.69
4.6	Results .....	.74
4.7	Discussion .....	.79
4.8	Validation of the RSI (Amended II) for Australasia .....	.81
4.8	Principal components analysis: RSI (Amended II) .....	.87
4.8.1	Component 1: Vocational counselling .....	.91
4.8.2	Component 2: Personal counselling .....	.91
4.8.3	Component 3: Professional practice .....	.92
4.8.4	Component 4: Case management .....	.92
4.9	Chapter summary .....	.93
5:	Additional Variables considered in this Study	

5.1	Chapter overview	96
5.2	Rehabilitation services within large organisations	96
5.3	Organisational commitment	98
5.4	Occupational commitment	100
5.5	Occupational stress	104
5.6	Job satisfaction	113
5.7	Intention to quit	116
5.7	Chapter summary	118
6:	Research Goals	
6.1	Chapter overview	120
6.2	Stressor-strain concepts	120
6.3	Person-environment fit	123
6.4	Dawis and Lofquist Minnesota Theory of Work Adjustment	124
6.4.1	Tenure (Box 1)	126
6.4.2	Satisfaction, mental health and well-being (Box 2)	126
6.4.3	Satisfactory and safe performance (Box 3)	126
6.4.4	The individual (Box 4a/4b)	127
6.4.5	The environment (Box 5a/5b)	127
6.5	Research goals	131
6.6.1	First research goal	132

6.6.2	Second research goal	133
6.6.3	Third research goal	134
6.7	Chapter Summary	134

7: Method

7.1	Chapter overview	137
7.2	Respondents	137
7.3	New Zealand Samples	138
7.3.1	Group 1 - ACC rehabilitation coordinators	138
7.3.2	Group 2 - MS field officers	139
7.3.3	Group 3 - Workbridge placement coordinators	140
7.4	Australian sample	141
7.4.1	Group 4 - CRS professional officers	141
7.5	Measures	140
7.5.1	Demographic items	143
7.5.2	Occupational stress scale	143
7.5.3	Rehabilitation skills inventory	144
7.5.4	Job satisfaction	145
7.5.5	Occupational commitment	146
7.5.6	Organisational commitment	146
7.5.7	Intention to quit	147
7.6	Procedure	147
7.6.1	New Zealand samples	148
7.6.2	Australian sample	150

7.6.3	Combined samples	151
7.7	Chapter Summary	152
8:	Results	
8.1	Chapter overview	154
8.2	Demographic variables: Descriptive statistics	154
8.3	Demographic variables: Differences between groups	158
8.4	RSI factors: Descriptive statistics	162
8.5	RSI factors: Differences between groups	164
8.6	Job stress sub-scales: Descriptive statistics	166
8.7	Job stress sub-scales: Differences between groups	168
8.8	Outcome measures: Descriptive statistics	170
8.9	Outcome measures: Differences between groups	172
8.10	Relationships between demographic and outcome variables	175
8.11	Relationships between occupational stress and outcomes: The Moderating effects of rehabilitation skills	178
8.11.1	Job satisfaction	179
8.11.2	Intention to quit the organisation	182
8.11.3	Intention to quit the profession	185
8.11.4	Affective occupational commitment	188
8.11.5	Continuance occupational commitment	191
8.11.6	Normative occupational commitment	193
8.11.7	Affective organisational commitment	196
8.11.8	Continuance organisational commitment	198

8.11.9	Normative organisational commitment	200
8.12	Relationships between occupational stress and outcomes: The Mediating effects of rehabilitation skills	202
8.12.1	Job satisfaction	203
8.12.2	Intention to quit the organisation	204
8.12.3	Intention to quit the profession	205
8.12.4	Affective occupational commitment	205
8.12.5	Continuance occupational commitment	206
8.12.6	Normative occupational commitment	206
8.12.7	Affective organisational commitment	207
8.12.8	Continuance organisational commitment	207
8.12.9	Normative organisational commitment	208
8.13	Chapter Summary	218
9:	Discussion	
9.1	Validation of the Rehabilitation Skills Inventory	223
9.2	First research goal	229
9.3	Second research goal	233
9.4	Third research goal	238
9.5	General limitations: Methodology	245
9.6	General limitations: Research design	247
9.7	The validation process and issues arising	248
9.8	Debate on role and competency research in rehabilitation	250
9.9	Future directions: Stress, skills, outcomes	254

9.10 Concluding remarks258

References260

List of Appendices

Appendix A: Simple Pearson r inter-correlations between RSI (Amended I) items

Appendix B: Research questionnaire (New Zealand)

Appendix C: Research questionnaire (Australia)

Appendix D: Ethics approval and Agency support correspondence

Appendix E: Respondent reminder

LIST OF TABLES AND FIGURES

Table	Page
2.1 Significant rehabilitation counselling competency research reported from 1969-1994	28
3.1 Respondents by specialization and setting	54
3.2 RSI clusters, items, and item importance (mean, SD)	57
4.1 Expert panel (n=9) importance rating of skill by employing agency and national importance	71
4.2 Comparison of factors/clusters of RSI data	75
4.3 Varimax rotated factor matrix of RSI items for rehabilitation coordinators (n=82)	76
4.4 Descriptive statistics for individual rehabilitation skills items. Means, standard deviations, and skewness	82
4.5 Component loadings and communalities for principal components extraction and varimax rotation on RSI items (n=224)	89
8.1 Summary of Biographical Information (Gender, Ethnicity, Job Status, Educational Qualifications)	156
8.2 Summary of Biographical Information (hours worked per week, income, years with current employer, years in rehabilitation and disability fields, age, number of workplace colleagues)	157
8.3 Current Job Titles by Group	157
8.4 Additional Job Titles: All Groups	158

8.5	Significant Group Differences on Demographic Variables	161
8.6	Descriptive Statistics for the R.S.I. Factor	162
8.7	Descriptive Statistics (Means, SD's) for RSI Factor Scores across 4 Professional Groups: Commonwealth Rehabilitation Service (CRS), Multiple Sclerosis Society (MS), Workbridge (WB), and Accident Compensation Corporation (ACC)	163
8.8	Significant Group Differences on RSI Factors	165
8.9	Descriptive Statistics for the Job Stress Sub-Scales	166
8.10	Descriptive Statistics (Means, SD's) for Job Stress Sub-Scales across 4 Professional Groups: Commonwealth Rehabilitation Service (CRS), Multiple Sclerosis Society (MS), Workbridge (WB), and Accident Compensation Corporation (ACC)	167
8.11	Significant Group Differences on Job Stress Sub-Scales	169
8.12	Descriptive Statistics for outcome measures (commitment, intention to quit, job satisfaction)	170
8.13	Descriptive Statistics (Means, SD's) for Outcome Measures (commitment, intention to quit, job satisfaction) across 4 Professional Groups: Commonwealth Rehabilitation Service (CRS), Multiple Sclerosis Society (MS), Workbridge (WB), and Accident Compensation Corporation (ACC)	171

8.14 Significant Group Differences on Outcome Measures173

8.15 Correlations of Demographic Measures (educational qualifications, hours worked per week, income, time in the job, time in the profession, age, number of workplace colleagues) with outcome measures (commitment, intention to quit, job satisfaction) (N=301) 177

8.16 Hierarchical multiple regression of demographic variables, job stress sub-scale scores, and R.S.I. factors on job satisfaction showing standardised regression coefficient, R, R², adjusted R² and R² change for all subjects (N=301) 180

8.17 Hierarchical multiple regression of demographic variables, job stress sub-scale scores, and R.S.I. factors on intention to quit organisation showing standardised regression coefficients, R, R², adjusted R² and R² change for all subjects (N=301) 183

8.18 Hierarchical multiple regression of demographic variables, job stress sub-scale scores, and R.S.I. factors on intention to quit profession showing standardised regression coefficients, R, R², adjusted R² and R² change for all subjects (N=301) 187

**8.19 Hierarchical multiple regression of demographic variables,
job stress sub-scale scores and R.S.I. factors on
affective occupational commitment showing standardised regression
coefficients, R, R², adjusted R² and R² change
for all subjects (N=301) 190**

**8.20 Hierarchical multiple regression of demographic variables,
job stress sub-scale scores and R.S.I. factors on
continuance occupational commitment showing standardised regression
coefficients, R, R², adjusted R² and R² change
for all subjects (N=301) 192**

**8.21 Hierarchical multiple regression of demographic variables,
job stress sub-scale scores and R.S.I. factors on
normative occupational commitment showing standardised regression
coefficient, R, R², adjusted R² and R² change
for all subjects (N=301) 195**

**8.22 Hierarchical multiple regression of demographic variables,
job stress sub-scale scores and R.S.I. factors on
affective organisational commitment showing standardised regression
coefficient, R, R², adjusted R² and R² change
for all subjects (N=301) 197**

8.23	Hierarchical multiple regression of demographic variables, job stress sub-scale scores and R.S.I. factors on continuance organisational commitment showing standardised regression coefficients, R, R ² , adjusted R ² and R ² change for all subjects (N=301)	199
8.24	Hierarchical multiple regression of demographic variables, job stress sub-scale scores and R.S.I. factors on normative organisational commitment showing standardised regression coefficient, R, R ² , adjusted R ² and R ² change for all subjects (N=301)	201
8.25	Hierarchical multiple regression of demographic variables, job stress sub-scale scores, and R.S.I. factors on job satisfaction showing standardised regression coefficient, R, R ² , adjusted R ² and R ² change for all subjects (N=301)	209
8.26	Hierarchical multiple regression of demographic variables, job stress sub-scale scores, and R.S.I. factors on intention to quit organisation showing standardised regression coefficients, R, R ² , adjusted R ² and R ² change for all subjects (N=301)	210
8.27	Hierarchical multiple regression of demographic variables, job stress sub-scale scores, and R.S.I. factors on intention to quit profession showing standardised regression coefficients, R, R ² , adjusted R ² and R ² change	

	for all subjects (N=301)	211
8.28	Hierarchical multiple regression of demographic variables, job stress sub-scale scores and R.S.I. factors on affective occupational commitment showing standardised regression coefficients, R, R ² , adjusted R ² and R ² change for all subjects (N=301)	212
8.29	Hierarchical multiple regression of demographic variables, job stress sub-scale scores and R.S.I. factors on continuance occupational commitment showing standardised regression coefficients, R, R ² , adjusted R ² and R ² change for all subjects (N=301)	213
8.30	Hierarchical multiple regression of demographic variables, job stress sub-scale scores and R.S.I. factors on normative occupational commitment showing standardised regression coefficient, R, R ² , adjusted R ² and R ² change for all subjects (N=301)	214
8.31	Hierarchical multiple regression of demographic variables, job stress sub-scale scores and R.S.I. factors on affective organisational commitment showing standardised regression coefficient, R, R ² , adjusted R ² and R ² change for all subjects (N=301)	215

8.32	Hierarchical multiple regression of demographic variables, job stress sub-scale scores and R.S.I. factors on continuance organisational commitment showing standardised regression coefficients, R, R ² , adjusted R ² and R ² change for all subjects (N=301)	216
8.33	Hierarchical multiple regression of demographic variables, job stress sub-scale scores and R.S.I. factors on normative organisational commitment showing standardised regression coefficient, R, R ² , adjusted R ² and R ² change for all subjects (N=301)	217

Figure		Page
6.1	A diagrammatic representation of the Minnesota Theory of Work Adjustment	125
6.2	A schematic representation of a proposed model of interaction between stressful stimuli and surrogate measures of tenure	131

ABSTRACT

Although relatively new to the range of human health providers, rehabilitation services and programmes have developed in response to rapidly changing societal and individual needs and in partnership with technological innovations. In identifying the key historical developments in both New Zealand and Australia arguments are made for the clear identification of rehabilitation skills.

A central theme of this thesis research is to describe and document these differences in rehabilitation practitioner skills. Thomas (1990) argues that an important rationale behind this type of research is "...to reveal what practising rehabilitation [professionals] do so that they can eventually be helped to do it better"(p.75). Skills in modern rehabilitation settings cannot be studied in isolation from other occupational variables which operate in multi-disciplinary organisations and due regard needs to be given to these interactions. Thus a description of the relationship between practitioner skills and other job-related stressors such as workload, job vs non-job, responsibility pressure, quality concern and role conflict and job related strains such as commitment, intention to quit and job satisfaction, is a second important theme of this thesis research.

The development of skills and competency measures in the rehabilitation profession has a firm basis in the United States. The development of the Rehabilitation Skills Inventory (Leahy, Shapson and Wright, 1987a, 1987b), a 114 item self report measure, is reported in this thesis because it has potential as a research and management instrument to describe core skills.

An exploratory pilot use of the RSI on a sample of New Zealand rehabilitation professionals (n=82) was undertaken and subsequently reported as RSI (Amended I) (Biggs, Flett, & Voges, 1995; Biggs, Long, Flett, and Voges, 1994), providing evidence on this sample of a possible 7 component (64 item) amended solution. These components were personal and group counselling, vocational counselling, case management, vocational assessment, job placement, professional practice, and rules and regulations. Additional investigation of this instrument on a larger and more representative group of rehabilitation professionals was argued and a subsequent administration of the RSI (Amended I) to three

New Zealand groups and one Australian group of rehabilitation professionals (n=301) proceeded. The results of this administration (RSI Amended II) indicated a more parsimonious and robust 4 component (47 item) solution. The four components, accounting for 48% of variance, were labelled as vocational counselling, personal counselling, professional practice, and case management. The first three of these four were also identified by Leahy et al. (1987b) as core competencies across specialisations.

Roessler and Rubin (1992) contend that skills and competencies may buffer the rigours of life as a rehabilitation professional and this assertion was examined using a conceptual model of person-environment fit and its relationship with the Minnesota Theory of Work Adjustment (Dawis & Lofquist, 1984). A series of three research goals were proposed for this thesis. The first research goal was to consider the relationships between job related stress (here conceptualised as workload, job vs non-job conflict, responsibility pressure, quality concern and role conflict) and outcomes across a range of occupational groups of rehabilitation professionals. The second research goal was to examine the relationships between rehabilitation skills and outcomes across a range of occupational groups of rehabilitation professionals. The third research goal was to examine the potential moderating or mediating effects of rehabilitation skills (as measured by the Rehabilitation Skills Inventory - Amended II) on the relationship between occupational stress and the job related outcome measures of organisational commitment, occupational commitment, intention to quit, and job satisfaction.

A survey of a sample of human service workers in the disability and rehabilitation field in Australia and New Zealand (n=301) was undertaken. Respondents were drawn from professional staff in the Accident Compensation Corporation of New Zealand, the Multiple Sclerosis Society of New Zealand, Workbridge NZ, and the Australian Commonwealth Rehabilitation Service.

There are a number of differences between groups in age, hours worked per week , and levels of education. Descriptive statistics and group differences on additional variables employed in the study are then provided in sequence as follows: RSI factor scores, job stress sub-scales, and outcome measures of commitment, intention to quit, and job satisfaction.

With regard to the RSI scores, there were marked group differences in all four measures (vocational counselling skills, personal counselling, professional practice, and case management) with the differences generally reflecting the professional orientations of the rehabilitation organisations. With regard to job stress variables, the ACC group scored highest on responsibility pressure and quality concern while the WB group scored lowest on job vs non-job conflict and the MS group (with its predominance of part timers) scored lowest on workload stress. There were a range of group differences on outcome measures but an overall pattern was less clear.

In order to assess the contribution of independent variables (job stress measures) to outcome measures (satisfaction, commitment, intent to quit) and to evaluate the potential moderating effects of rehabilitation practitioner skills, a series of hierarchical regression analyses were undertaken. While in all cases the overall regression models were significant, there was no clear or compelling evidence to suggest that rehabilitation practitioner skills might moderate the effects of stress on outcomes. In order to address the question of whether skills might mediate the relationship between stress and outcomes a further series of hierarchical regression analyses were conducted. Here a number of significant main effects emerged (e.g. job vs non-job conflict was a significant predictor for 4 of the 9 outcome measures while quality concern was significant for 6 of the 9 outcome measures) while, among the skills variables, professional practice skills tended to be the most consistent predictor of outcomes. There was some evidence also that skills mediated the effects of stress for the outcomes of intention to quit the organisation/profession, affective occupational commitment and affective organisational commitment.

The similarities in rehabilitation skills core competencies in the RSI Amended II with the RSI core competencies of the major study of Leahy et al. (1987b) in North America is encouraging and helpful in the process of validation of the scale. On the other hand the lack of differentiation and elaboration of skills evident in the local version of the scale perhaps reflects the lack of growth and specialisation of the Australasian rehabilitation environment into the various specialties and occupational settings that characterise the North American environment.

The mediating effect of skills on outcomes noted in this research is important for the areas of skill and competency acquisition, professional development training, and stress reduction. Understanding more fully how this mediation effect operates is an important question for the future and highlights a need for longitudinal research to identify causal sequences.

The need for ongoing research into rehabilitation skills and competencies has been argued variously as a means of ongoing definition of this professional activity (e.g. Wright et al., 1987; Leahy et al., 1987a, 1987b) and as a tool for professional certification (e.g. Leahy & Holt, 1993; Linkowski et al., 1993). Within this framework psychometric issues also arise as to whether the skill definitional process is best defined by measures of skill frequency of use (as in this research), skill attainment, skill preparedness, or a combination of such measures.

The research outlines in this thesis is intended to make a positive contribution to a fuller understanding of the skills required and the operating environment of rehabilitation professionals in the Australasian region. The profession is emerging in this region and the results of this research will arguably support these developments.