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.
The Role of Hope
In Adjustment to Acquired Hearing Loss

A thesis presented in fulfilment of the requirements for the degree of the Doctor of Philosophy in Health Science.

Massey University
Palmerston North
Aotearoa/New Zealand

Bruce Kent
2005
Abstract

This study investigates the extent and nature of the relationship between individual and disability characteristics (age, sex, degree of hearing loss, age at onset of hearing loss, time since onset of hearing loss, use of technology, and use of services), and adjustment to acquired hearing loss, and the role hope has in that relationship. A sample of 114 adults with hearing loss who had accessed hearing therapy services participated in the study. It was hypothesised that hope would interact with the individual and disability characteristics and therefore function as a moderating variable. The second hypothesis was that hope may be related to individual and disability characteristics as well as adjustment but actually provides the only significant pathway to adjustment; more simply, hope may be a mediator of adjustment.

The results indicate that the degree of loss was the only statistically significant individual and disability characteristic related to adjustment. The trait of hope did not produce an interaction effect of statistical significance in the moderation model. However, the study does provide support for the hypothesis that the trait of hope serves is a mechanism by which the degree of loss affects adjustment. Hearing loss affects hope which in turn affects adjustment. In other words, hope was found to act as a mediating variable. The extent of this mediating role was substantial as hope was found to account for 45% of the relationship between the degree of loss and adjustment. Additionally, the study found that self-efficacy and personal meaning may influence hope and despair dimensions in different ways. The perception of one's ability to influence events is a major contributor to hopefulness while the construction of meaning appears to be related to lower levels of despair.

Current research in the area of positive psychology indicates that individual
traits are modifiable and therefore hope finding, hope bonding, hope enhancement, and hope reminding can instil and increase hope. The implication of these findings is that hearing rehabilitation programmes need to consider the role of hope in intervention strategies.

The study suggests possibilities for future research including the investigation of more complex mediational chains, refining individual and disability variables, and assessing the effect of hope-focussed intervention strategies.
Acknowledgements

Professor S.J. La Grow provided stimulating, rigorous, and valued supervision throughout the development of this study. The resultant learning experience extended far beyond the production of a thesis.

This project has been woven through years of a life shared by my wife. Her participation in the process of constructing this piece of work is immeasurable. My children have patiently survived restrictions imposed by the discipline of study.

Dr A. Hogan provided stimulus at the initiation of the research and Dr R. Pernice contributed intelligent observations through the work.

A number of friends, fellow students and colleagues have contributed in numerous ways, particularly Dr Karen McBride, Brian Moreton, Jessica Lissaman, Christine Carr, and Dr Erica Hill.

In different ways and at different times a number of organisations have supported my activities including: the National Foundation for the Deaf; LIFE Trust; the Lottery Grants Commission; the Oticon Foundation; the Ministry of Education (Special Education); the National Audiology Centre.

This project has been reviewed and approved by the Human Ethics Committee, Massey University Human Ethics Committee, PN Protocol 01/29. It was also endorsed by the National Foundation for the Deaf (NFD) (see Appendix 1). Ethical considerations of the New Zealand Psychological Society Code of Ethics (1986) were observed.

For all the above support to complete this research I am grateful.
Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>i</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>iii</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>iv</td>
</tr>
<tr>
<td>List of Tables</td>
<td>viii</td>
</tr>
<tr>
<td>List of Figures</td>
<td>ix</td>
</tr>
<tr>
<td>Abbreviations</td>
<td>x</td>
</tr>
<tr>
<td>Glossary of Terms</td>
<td>xii</td>
</tr>
<tr>
<td>Table of Contents</td>
<td></td>
</tr>
<tr>
<td>1. Introduction</td>
<td>1</td>
</tr>
<tr>
<td>2. Acquired Hearing Loss: A Becoming Issue</td>
<td>9</td>
</tr>
<tr>
<td>2.1. Introduction</td>
<td>9</td>
</tr>
<tr>
<td>2.2. The Challenge of Becoming</td>
<td>13</td>
</tr>
<tr>
<td>2.3. Risks of Becoming</td>
<td>16</td>
</tr>
<tr>
<td>2.4. Undesirable Becoming</td>
<td>19</td>
</tr>
<tr>
<td>2.5. Conclusion</td>
<td>27</td>
</tr>
<tr>
<td>3. Adjustment: Acceptable Being</td>
<td>29</td>
</tr>
<tr>
<td>3.1. Introduction</td>
<td>29</td>
</tr>
<tr>
<td>3.2. Defining Adjustment</td>
<td>30</td>
</tr>
<tr>
<td>3.3. Studies in Adjustment</td>
<td>41</td>
</tr>
<tr>
<td>3.4. Measurement of Adjustment</td>
<td>57</td>
</tr>
<tr>
<td>3.5. Disability, Individual Characteristics and Adjustment</td>
<td>64</td>
</tr>
<tr>
<td>3.6. Conclusion</td>
<td>68</td>
</tr>
</tbody>
</table>
7. Results........................................................................................................122

7.1. Initial Analyses..........................................................................................122
   7.1.1. Individual and Disability Characteristics........................................122
   7.1.2. Adjustment......................................................................................124
   7.1.3. Stepwise Regression Analyses to Predict Adjustment....................128
   7.1.4. Hope...............................................................................................131

7.2. Moderation and Mediation Analyses......................................................135
   7.2.1. Hope as a Moderator.....................................................................136
   7.2.2. Hope as a Mediator.......................................................................139

8. Discussion....................................................................................................144

8.1. Limitations...............................................................................................153

8.2. Suggestions for Future Research..........................................................155

8.3. Conclusion...............................................................................................158

9. References...................................................................................................160

10. Appendices.................................................................................................182

10.1. Appendix 1
Ethics Approval and NFD Endorsement......................................................182

10.2. Appendix 2
Approaches to Adjustment.........................................................................185

10.3. Appendix 3
Questionnaire Information...........................................................................189

10.4. Appendix 4
Hearing Therapists’ Information.................................................................195

10.5. Appendix 5
Client Data..................................................................................................199

10.6. Appendix 6
Nottingham Adjustment Scale (NAS)..........................................................203
10.7. Appendix 7

HOPES Scale .................................................................210
List of Tables

Table 1
Participants’ individual and disability characteristics........................122

Table 2
NAS norms and sample data..............................................................125

Table 3
Pearson Product-Moment correlations among individual and disability and adjustment variables..................................................126

Table 4
Stepwise regression of individual and disability variables to predict adjustment.....129

Table 5
Pearson Product-Moment correlations among NAS subscales and degree of loss variables ..........................................................130

Table 6
HOPES norms and sample data..........................................................131

Table 7
Pearson Product-Moment Correlations between GPH and NAS subscales........132

Table 8
Pearson Product-Moment correlations between NAS, GPH and HOPES subscales.............................................................133

Table 9
Pearson Product-Moment Correlations between NAS and dimensions of HOPES subscales ..........................................................134

Table 10
Summary statistics of loss, hope and adjustment scores........................135

Table 11
Correlations between loss, hope, and adjustment...............................136

Table 12
Test of moderation: Degree of loss, hope and adjustment......................137

Table 13
Test of quadratic moderation: Degree of loss, hope scores and adjustment........138

Table 14
Test of mediation: Degree of loss, hope and adjustment ........................139
List of Figures

Figure 1.
Model of a moderation test ................................................................. 99

Figure 2.
Model of a mediation test ................................................................. 100

Figure 3.
Model combining moderation and mediation ................................. 142
Abbreviations

AD  Acceptance of Disability Scale
ADHS  Adult Dispositional Hope Scale
AHD  Assistive hearing device
AVL  Adaptation to Age-related Vision Loss
BAD  Beliefs About Deafness Scale
BDI  Beck Depression Inventory
CCS  Children’s Coping Strategies Checklist
CDI  Child Depression Inventory
CHS  Children’s Hope Scale
CI  Cochlear implant
CMAS-R  Revised Children’s Manifest Anxiety Scale
CMP  Code Muller Protocols
CPHI  Communication Profile for the Hearing Impaired
CSI  Coping Strategy Indicator
dB  Decibels
DS  Despair score on the NAS
DSHS  Domain Specific Hope Scale
FAD  Family Assessment Device
FIM  Functional Independence Measure
GHQ-12  General Health Questionnaire (short form)
GHQ-60  General Health Questionnaire (long form)
GIS  Goal Instability Scale
GPH  Global personal hopefulness on the NAS
HADR  Hospital Anxiety and Depression Rating Scale.
HHIA  Hearing Handicap Inventory for Adults
HOPES  Hunter Opinions and Personal Expectations Scale
HPI  Handicap Problems Inventory
HS  Hope score on the NAS
HSL  Hearing Services Limited
ICF  WHO International Classification of Functioning, Disability and Health
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDD</td>
<td>Inventory to Diagnose Depression</td>
</tr>
<tr>
<td>LIFE</td>
<td>Living Independently For Everyone (LIFE) Trust</td>
</tr>
<tr>
<td>MMPI</td>
<td>Minnesota Multiphasic Personality Inventory</td>
</tr>
<tr>
<td>NAS</td>
<td>Nottingham Adjustment Scale</td>
</tr>
<tr>
<td>NFD</td>
<td>National Foundation for the Deaf</td>
</tr>
<tr>
<td>NHS</td>
<td>Nowotny Hope Scale</td>
</tr>
<tr>
<td>NZ</td>
<td>New Zealand</td>
</tr>
<tr>
<td>NZSL</td>
<td>New Zealand Sign Language</td>
</tr>
<tr>
<td>PAI</td>
<td>Psychosocial Adjustment to Illness Scale</td>
</tr>
<tr>
<td>PDS</td>
<td>Posttraumatic Diagnostic Scale</td>
</tr>
<tr>
<td>PST</td>
<td>Psychosocial transition</td>
</tr>
<tr>
<td>PTS</td>
<td>Post Traumatic Stress disorder</td>
</tr>
<tr>
<td>SAC</td>
<td>Self Assessment of Communication</td>
</tr>
<tr>
<td>SAD</td>
<td>Social Anxiety and Distress Scale</td>
</tr>
<tr>
<td>SCI</td>
<td>Spinal Cord Injury</td>
</tr>
<tr>
<td>SIP</td>
<td>Sickness Impact Profile</td>
</tr>
<tr>
<td>SOC</td>
<td>Sense of Coherence</td>
</tr>
<tr>
<td>SPI</td>
<td>Structured Pain Interview</td>
</tr>
<tr>
<td>US</td>
<td>United States of America</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organisation</td>
</tr>
</tbody>
</table>
Glossary of Terms

Adjustment
Adjustment to a disability is the process of establishing or restoring a sense of equilibrium that involves a person changing values that enlarge the significance of those aspects of life not closed to the person; that shifts the relative importance of some values; that contains the effects of disability, and that transforms comparative values to asset values. (See chapter 3).

Congenitally deaf
This may be a description of a person who is born with no hearing or substantially reduced hearing (see deaf below).

Deaf
This term represents the cultural and language identification of the Deaf community. It is therefore possible that people could be “deaf” but not identify as “Deaf”. Conversely, people with no restrictions on their ability to hear (those who are not deaf) may identify with the Deaf community and claim to be Deaf (e.g. children of Deaf parents, Sign Language users).

deaf
This refers to the audiological status of a person who has no hearing or substantially reduced hearing rather than the cultural and language status that is concomitant with Deaf.

Hearing impairment
Individuals who have a degree of hearing may be born with, or subsequently acquire, some restriction on that ability. Those who have a congenital hearing impairment do not experience a loss of hearing but may experience social and communication restrictions in a similar manner to those who acquire a hearing impairment. Alternatively, those with a congenital hearing impairment may identify themselves as Deaf and participate in society in those terms. People with a mild hearing impairment may accommodate that in their lives and function with little or no restriction in their ability to operate in an oral/aural context.

Hearing loss
People who have experienced the ability to hear (and function in an oral/aural environment) may undergo a decline in that ability. The extent of the loss may vary from mild to profound (in which case the person may become deaf). The reactions of those affected to the loss of hearing (of any degree) can range from the inconsequential to the significant and negative. The role of hope in adjustment to hearing loss is the focus of this study.

Hope
The trait of hope is the tendency of an individual to subjectively assess what is desired for the future as probable or so important as to constrain belief and behaviour and to be grounded upon the possibility of realistic attainment of the desired future. (See chapter 4).
**Optimism**
Optimism is the disposition to explain events in terms of positive affect so that the individual is distanced from failure. (See chapter 4).

**Post lingually deaf**
This refers to a person who becomes deaf after acquiring oral/aural language competence.

**Schemas**
Assumptions of how the world is that can substantially influence the beliefs and behaviours of people.