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.
Health anxiety and older adults: A cross sectional study comparing predictors of health anxiety between an older and younger cohort

A thesis presented in partial fulfilment of the requirements for the degree of Doctor of Clinical Psychology

At Massey University, Albany
New Zealand

Ann Frances Boston
2012
Abstract

Health anxiety is a universal experience ranging from adaptive concerns about physical health to debilitating worry that may merit clinical diagnosis. Little is known about health anxiety in older adults and the overall objective of this study was to contribute to the nascent literature in this subject.

The present study was conducted within a cognitive framework that emphasises the perception of bodily sensations in the origin and maintenance of health anxiety. The research comprised three interrelated studies. The principal investigation examined body perception (anxiety sensitivity, body vigilance and somatosensory amplification) variables as predictors of health anxiety across two cohorts. These findings were supported by assessment of the factor structure of measures of health anxiety and body perception in the older cohort. Finally, a measure of attention to bodily sensations in health anxiety (BVS-H) was trialled.

The study was a self-report survey measuring demographic, physical health, current distress, body perception and health anxiety variables, which was administered to 221 adults over 65 and a comparison group of 177 adults aged 18 – 30. Regression analyses showed that consistent with the cognitive model, body perception predicted health anxiety. Body vigilance predicted health anxiety in both groups. The amplification of bodily sensations was a more important predictor of health anxiety for older adults. Inter-relationships between anxiety sensitivity, body vigilance and health anxiety in the older cohort, differed from expectations and warrant further study. The effects of control variables varied between groups with worry emerging as a predictor only for the older cohort. Physical health predicted health anxiety, but contributing variables differed between cohorts. Pain was a predictor for both groups, but physical illness was a predictor only for the younger cohort. Consistent with prior studies, older adults reported lower levels of health anxiety than the younger cohort. Factor analyses supported the structure of health anxiety, body vigilance and somatosensory amplification measures. Factor analysis of the anxiety sensitivity measure was inconclusive. BVS-H measure gave satisfactory results.

These findings support the cognitive theory of health anxiety as an explanatory model of health anxiety in older adults and highlight cohort differences in variables contributing to health anxiety.
Acknowledgements

This is to acknowledge that this thesis would not have been possible without the support of a dedicated team of people. Thank you to my principal supervisor Associate Professor Paul Merrick, who has supported my studies in psychology throughout my Master’s and Doctoral studies. Paul has always provided thoughtful and timely advice and generously shared his considerable experience and wisdom. In the first years of this study, the advice and sound judgement of Dr Jennifer Stillman was invaluable. In the latter stages, the thoughtful critique of Dr Mei Williams has been an important resource in bringing the thesis to completion.

Particular thanks go to the individuals and groups that assisted me by advertising my study and enlisting individuals to participate. I would especially like to acknowledge the anonymous participants in the study for their generosity in completing and returning the questionnaire. Without their contribution, there would be nothing to report.

I am fortunate to have a wonderful family and friends who have not only provided support but also kept the necessary balance in my life. Thanks also to my colleagues and fellow interns, for their unstinting support. Thank you to my daughters for their proof reading skills and ongoing encouragement.

Most importantly, thank you to my husband Tony. Over my years of study, he has been my most enthusiastic supporter and chief cheerleader. He has provided unconditional emotional and practical support throughout the realisation of this work.

Ethics approval for this study was received from Massey University Human Ethics Committee: Northern, Application 10/049.
## Contents

Abstract .................................................................................................................................... iii  
Acknowledgements ................................................................................................................... v  
Contents .................................................................................................................................. vii  
  List of Figures ........................................................................................................... xi  
  List of Tables .......................................................................................................... xi  
  List of Appendices .................................................................................................. xii  

CHAPTER 1 - INTRODUCTION .......................................................................... 1  
  Structure of the Thesis ............................................................................................ 2  

CHAPTER 2 - HEALTH ANXIETY ................................................................................................. 5  
  History and Definitions ............................................................................................................ 5  
    Hypochondriasis ...................................................................................................... 5  
    Controversies in diagnosis .................................................................................. 8  
    Health anxiety ......................................................................................................... 9  
    Somatisation ......................................................................................................... 10  
  Definitions .............................................................................................................................. 11  
  Epidemiology .......................................................................................................................... 12  
    Hypochondriasis .................................................................................................... 12  
    Health anxiety ....................................................................................................... 14  
    Hypochondriasis and Health Anxiety in Older Adults ........................................... 15  
    Health Anxiety in Other Conditions ...................................................................... 16  
    Demographic Risk Factors ..................................................................................... 17  
    Consequences of Health Anxiety .......................................................................... 18  
    Chapter Summary ................................................................................................. 18  

CHAPTER 3 - THEORETICAL EXPLANATIONS OF HYPOCHONDRIASIS AND HEALTH ANXIETY 21  
  Illness Behaviour ........................................................................................................... 21  
  Models from Health Psychology ........................................................................... 21  
    Health beliefs model ......................................................................................... 22  
    Symptom perception model ............................................................................. 22  
    Common sense model ...................................................................................... 23  
  Models from Clinical Psychology and Psychiatry .................................................. 24  
    Psychodynamic explanations ............................................................................ 24  
    Interpersonal theory ......................................................................................... 24  
    Abnormal illness behaviour .............................................................................. 25  
    Amplification hypothesis ................................................................................. 26  
    Cognitive behavioural model ............................................................................ 27  
  Empirical Support for Cognitive Factors in the Model.......................................... 31  
    Beliefs................................................................................................................. 31  
    Attention.................................................................................................................. 31  
  Body Perception ..................................................................................................................... 33  
    Anxiety Sensitivity ................................................................................................. 33  
    Body Vigilance........................................................................................................... 35
List of Figures

Figure 1. Cognitive behavioural model of health anxiety – adapted from Warwick and Salkovskis (1990) 30
Figure 2. Study flow chart 66

List of Tables

Table 1 Measures of physical health in health anxiety studies .............................. 75
Table 2 Trial survey - internal consistencies .......................................................... 82
Table 3 Trial survey - measure correlations ........................................................... 82
Table 4 Model fit indices for the current study .................................................... 91
Table 5 SHAI EFA results, Boston and Merrick (2010) data .................................. 98
Table 6 SHAI confirmatory factor analysis - fit indices summary table .................. 100
Table 7 ASI-3 confirmatory factor analysis - comparison between models and prior work ........................................................................................................ 102
Table 8 BVS exploratory factor analysis - factor loadings ..................................... 102
Table 9 SSAS exploratory factor analysis - factor loadings for single factor model 104
Table 10 Groups 1 and 2 - Demographic characteristics ........................................ 106
Table 11 Groups 1 and 2 - Physical health and psychological measures, mean scores and significance tests ........................................................................ 107
Table 12 Group 1 - Hierarchical multiple regression predicting health anxiety – all variables ........................................................................................................ 115
Table 13 Group 1 - Hierarchical multiple regression predicting health anxiety – ASI-3 and BVS as predictors ........................................................................ 117
Table 14 Group 1 - Hierarchical multiple regression predicting health anxiety – SSAS as predictor ......................................................................................... 118
Table 15 Group 1 - Hierarchical multiple regression predicting health anxiety – ASI-3 as predictor ......................................................................................... 118
Table 16 Group 1 - Hierarchical multiple regression predicting health anxiety – BVS as predictor ......................................................................................... 119
Table 17 Group 2 - Hierarchical multiple regression predicting health anxiety – all variables ........................................................................................................ 121
Tables 18 Group 2 - Hierarchical multiple regression predicting health anxiety – ASI-3 and BVS as predictors ........................................................................ 122
Table 19 Group 2 - Hierarchical multiple regression predicting health anxiety – SSAS as predictor ......................................................................................... 122
Table 20 Groups 1 and 2 - Factor loadings BVS-H scale .......................................... 124
Table 21 Group 1 - Hierarchical multiple regression predicting health anxiety – BVS-H as predictor ......................................................................................... 125
Table 22 Group 2 - Hierarchical multiple regression predicting health anxiety – BVS-H as predictor ......................................................................................... 125
List of Appendices

APPENDIX A: PERSONAL CORRESPONDENCE

| Appendix A 1 | Email correspondence from Professor Stewart | 176 |
| Appendix A 2 | Email correspondence from Professor Taylor | 177 |
| Appendix A 3 | Email correspondence from Professor Schmidt | 178 |
| Appendix A 4 | Email correspondence from Professor Barsky | 179 |
| Appendix A 5 | Email correspondence from Professor Salkovskis | 180 |

APPENDIX B: STUDY SURVEY DOCUMENTS

| Appendix B 1 | Information sheet | 183 |
| Appendix B 2 | Final study survey | 184 |
| Appendix B 3 | Sample participant request correspondence | 198 |
| Appendix B 4 | Sample email participant request correspondence | 199 |
| Appendix B 5 | Sample advertising | 200 |

APPENDIX C: SUPPLEMENTARY STATISTICS, FACTOR ANALYSIS

| Appendix C 1 | Group 1 - SHAI descriptive statistics current study data | 202 |
| Appendix C 2 | Group 1 - SHAI descriptive statistics combined data | 203 |
| Appendix C 3 | Group 1 - SHAI standardised parameter estimates, 2-factor, WLSMV estimator | 204 |
| Appendix C 4 | Group 1 - ASI-3 descriptive statistics | 205 |
| Appendix C 5 | Group 1 - ASI-3 standardised parameter estimates, 3-factor, WLSMV estimator | 206 |
| Appendix C 6 | Group 1 - SSAS descriptive statistics | 207 |
| Appendix C 7 | Group 1 - BVS and BVS-H descriptive statistics | 207 |

APPENDIX D: SUPPLEMENTARY DESCRIPTIVE STATISTICS

| Appendix D 1 | Group 1 - Descriptive statistics for all variables, raw data | 208 |
| Appendix D 2 | Group 1 - Missing values analysis | 209 |
| Appendix D 3 | Group 1 - Gender cross tabulation | 209 |
| Appendix D 4 | Group 1 - Auckland/not Auckland cross tabulation | 209 |
Appendix D 5  Group 1 - Illness frequencies .................................................. 210
Appendix D 6  Group 1 - Correlations, all measures ................................. 211
Appendix D 7  Group 2 - Raw data descriptive statistics .............................. 212
Appendix D 8  Group 2 - Correlations, all measures ................................. 213
Appendix D 9  Group 2 - Illness frequencies .................................................. 214

APPENDIX E: SUPPLEMENTARY INFORMATION

Appendix E 1  SHAI factor structure comparison between studies .......... 215
Appendix E 2  DASS cut-off scores .............................................................. 216
Appendix E 3  Comparison scores on psychological measures between current study and prior studies .................................................. 216