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EXPLORING THE NEXUS OF LONELINESS, STIGMA, HEALTH COMPLAINTS, AND PRIMARY MEDICAL CARE IN OLDER NEW ZEALANDERS

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A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy in Psychiatry and Behavioural Science School of Medicine University of Auckland

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ABSTRACT

The nexus or linkages between loneliness, stigma, health complaints, and primary medical care in older New Zealanders was explored from a social constructionist perspective. The intent of the studies was the support and explanation of the underlying arguments of the thesis. For this age group loneliness is a clinical condition which merits greater recognition, diagnosis, and treatment from general practitioners than it presently receives. As a society we silence and stigmatise loneliness in our senior citizens making it likely that they will present indirectly to their doctors when experiencing severe effects of the condition. This behaviour will increase their risk of inappropriate medical intervention at possible cost to themselves and to society.

A cross sectional, randomly selected survey of 300 New Zealanders over 60 years old, aimed to establish the patterns of loneliness in the sample using quantitative analysis. The second qualitative study used the methodology of discourse analysis to identify the themes concerning loneliness and medical care in the accounts of older adults, and how these were used. Fourteen people, deemed by their doctors to be lonely and to need frequent medical care, were interviewed in order to further knowledge of the dynamics of loneliness and the medical encounter.

Fifteen percent of the sample of 300 had moderate to severe loneliness scores. The sociodemographic indicators of loneliness were extremely easy for a practitioner to recognise. Less than 2% of the total of self reported doctor visits were explicitly for loneliness. According to Barsky’s (1981) model, the most likely pathways to the doctor were through symptom amplification and lowered self ratings of health, with a less likely pathway through focusing on and worrying about symptoms, leading to perceived need for medical care. The predictive variances in regressions of loneliness on all health outcomes, except for self reported visiting of more than one doctor for symptoms, were lower for chronic than for situational loneliness.

The most important conclusions from the second study were the identification of three rhetorical strategies or “etcetera clauses” which provided a social prescription for the indirect presentation of loneliness by older people. Loneliness may be discussed with the doctor; if it affects your physical health; if you are consulting for another reason; and if the doctor picks it up. Also, the individual doctor defines loneliness as a worthy, or non-worthy, condition for consultation.
ACKNOWLEDGEMENTS

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# TABLE OF CONTENTS

Abstract ........................................................................................................................................ii
Acknowledgements .........................................................................................................................iii
Table of Contents ............................................................................................................................iv
List of Tables .......................................................................................................................................xi
List of Figures ....................................................................................................................................xiv
List of Abbreviations .........................................................................................................................xv

Chapter 1. Introduction ....................................................................................................................1
  Clarification of loneliness related concepts ....................................................................................1
  Background and justification of research .......................................................................................5
  The present studies ..........................................................................................................................9
  Summary .........................................................................................................................................15

Chapter 2. Loneliness and Health .....................................................................................................16
  Discriminating amongst related variables .....................................................................................17
  Health and social contact ...............................................................................................................23
  Health and feelings of loneliness ....................................................................................................28
    Feelings of loneliness and quality of life .......................................................................................29
    Feelings of loneliness and immune suppression .........................................................................31
    Feelings of loneliness and health complaints and behaviours ..................................................36
  Summary of loneliness and health associations in older adults ....................................................40

Chapter 3. Loneliness: A Review of Major Issues ...........................................................................44
  Prevalence of loneliness .................................................................................................................44
  A theoretical overview of loneliness ..............................................................................................45
  The nature of loneliness .................................................................................................................47
    Social needs perspective ...............................................................................................................47
    Behaviour/personality perspective ..............................................................................................49
    Cognitive processes perspective ..................................................................................................50
  Critical appraisal of the theoretical perspectives .........................................................................52
  Loneliness in older persons ............................................................................................................54
Major areas of disagreement concerning loneliness

The dimensions of loneliness
The duration of loneliness
The awareness/unawareness distinction

Summary of loneliness issues

Sociodemographic variables which predispose towards or precipitate loneliness

Summary of sociodemographic variables and loneliness

Chapter 4. Loneliness measurement

Measurement issues

(1.) Use of term “loneliness”
(2.) Self-reports
(3.) Unwillingness or inability to report loneliness
(4.) Selection of loneliness indicators
(5.) Dimensionality of loneliness
(6.) Temporal characteristics of loneliness
(7.) Statistical control and level of analysis

Loneliness measures

Unidimensional loneliness scales
Multidimensional loneliness scales
Situational versus chronic loneliness scales
Chapter 5. Rationale, Aims, & Hypotheses For Study 1

Overview ..................................................................................................................... 92
Growing older in New Zealand ..................................................................................... 92
Conceptualisation of the problem ................................................................................. 96
  Loneliness and sociodemographic predictors ............................................................ 97
  How loneliness might foster physician utilisation ....................................................... 97
  Differences between situational and chronic loneliness and the study findings .... 97

General aims of Study 1 ............................................................................................... 98
Component 1: Personal characteristics and loneliness .............................................. 98
  Underlying theoretical models .................................................................................. 98
  Specific aims for Component 1 .................................................................................. 101
  Selection of variables for component 1 .................................................................... 101

Component 2: Loneliness and health outcomes ......................................................... 102
  Underlying theoretical model .................................................................................. 102
  Specific aim for Component 2 .................................................................................. 103
  Hypothesis formation ............................................................................................... 103
  Selection of variables for Component 2 .................................................................... 104

Component 3: Situational and chronic loneliness ....................................................... 105
  Rationale .................................................................................................................. 105
  Specific aim for Component 3 .................................................................................. 106

Summary of aims of Study 1 ....................................................................................... 106

Chapter 6. Methodology for Study 1 ........................................................................ 107
Overview ..................................................................................................................... 107
Ethics ............................................................................................................................ 107
Subjects ....................................................................................................................... 108
Design .......................................................................................................................... 109
Instruments and measures ........................................................................................... 109
  Loneliness ................................................................................................................ 109
Situational and chronic loneliness differences warranting further research ........................................................................................................ 169
Methodological considerations......................................................................................................................... 172
  Strengths .................................................................................................................................................. 172
  Limitations .............................................................................................................................................. 172
  Statistical procedures ............................................................................................................................. 173
Conclusions, implications, and recommendations from Study 1 ............................................................... 174
Further research ........................................................................................................................................ 177
Summary of the discussion and conclusions ............................................................................................. 178

Chapter 9. Rationale and background for Study 2 ......................................................................................... 181
  Rationale for Study 2 .............................................................................................................................. 181
  Background ........................................................................................................................................... 182
  Social forces and the medical encounter ............................................................................................... 187
  Asymmetric doctor-patient power relationship .................................................................................. 188

Chapter 10. Discourse analysis of loneliness
  and the medical encounter .......................................................................................................................... 192
  Discourse analysis .................................................................................................................................. 192
  Aims of Study 2 ....................................................................................................................................... 196
    General aims .......................................................................................................................................... 196
    Specific aims .......................................................................................................................................... 196
  Analyses for Study 2 ............................................................................................................................... 197
  Methodology for Study 2 .......................................................................................................................... 197
    Sample selection ................................................................................................................................... 197
    Collection of texts ............................................................................................................................... 199
    Key questions ........................................................................................................................................ 201
    Overall structure of interview .............................................................................................................. 202
  Overview of the analysis .......................................................................................................................... 203
Analysis 1. Themes and repertoires which explain frequent doctor visits...204
Summary of analysis 1: Reasons for frequent physician use...................... 206
Analysis 2. Themes and repertoires concerning loneliness and socio-emotional distress.......................................................... 206
Summary of analysis 2: Loneliness and socio-emotional distress as reasons for visiting the doctor.................................................. 209
How the interpretative repertoires and etcetera clauses were used...... 211
   Self presentation ...................................................................... 211
   Asymmetric doctor-patient power relationship ......................... 219
   Consistencies and inconsistencies of accounts.......................... 223
   Application ............................................................................. 225
Summary of Study 2....................................................................... 225

Chapter 11. Overall conclusions and recommendations for Studies 1 and 2

Conclusions ............................................................................. 228
Recommendations ..................................................................... 231
Emerging issues ......................................................................... 232
New foci for research .................................................................. 233

REFERENCES ........................................................................... 234

APPENDIX A: ............................................................................. 270
   Consent form Study 1 ................................................................. 271
   Consent form Study 2 ................................................................. 272
   Covering letter Study 1............................................................... 273
   Covering letter Study 2 ............................................................... 274
   Doctors’ letter Study 2 ............................................................... 275
   Questionnaire........................................................................... 276
APPENDIX B: 283
Additional tables for results of Study 1........................................... 284

APPENDIX C: 294
Examples of interpretative repertoires from Study 2............................. 295

APPENDIX D: 312
Article generated from this research..................................................... 313
LIST OF TABLES

Table 1. Design of Study 1 ........................................................................................................ 110
Table 2. Ns, means, and standard deviations of situational and chronic loneliness groups .... 120
Table 3. Means or percentage proportions of personal characteristics of the study sample and of those aged over 65 who completed Census data in 1991 .................................................. 123
Table 4. Percentages of responses to loneliness predisposing and precipitating questions . 125
Table 5. Summary of sociodemographic variables significantly correlated with situational loneliness ........................................................................................................ 126
Table 6. t test statistics, means, and standard deviations of sociodemographic variables by situational loneliness ...................................................................................... 127
Table 7. Results of ANOVAS and Tukey HSD means, standard deviations, and pair wise comparisons of sociodemographic groups by situational loneliness ................................ 128
Table 8. t test statistics, mean situational loneliness scores, and standard deviations for loneliness predisposing variables experienced in the past year by situational loneliness ... 129
Table 9. t test statistics, mean situational loneliness scores, and standard deviations for loneliness precipitating variables experienced in the past year by situational loneliness .... 130
Table 10. Significant variables remaining in the model following stepwise regression of sociodemographic variables on situational loneliness ................................................................................................................................ 131
Table 11. Variance accounted for by significant variables in stepwise regression of sociodemographic variables on situational loneliness ................................................................................................................................ 131
Table 12. Means, standard deviations, and ranges of health variables and high and low situational loneliness groups ...................................................................................................................................... 135
Table 13. Means, standard deviations, and approximate percentages of the total number of self reported visits to the doctor in the past year ................................................................ 136
Table 14. ANOVAS of perceived health variables by high and low situational loneliness groups .................................................................................................................................................. 138
Table 15. Results of Chi-square analysis of high and low situational loneliness groups by number of different doctors visited for symptoms ........................................................................ 139
Tables 16. Stepwise regression of situational loneliness on health outcome variables with current and chronic medical conditions and negative affect forced onto the first step.............. 141
Table 17. Logistic regression of current and chronic medical condition, negative affect, and situational loneliness on whether or not respondent has visited more than one doctor for symptoms ........................................................................ 141

Table 18. Summary of differences in results when situational loneliness tests were repeated with chronic loneliness ........................................................................................................ 145

Table 19. Correlations of situational and chronic loneliness scores with sociodemographic and loneliness predisposing and precipitating variables ................................................................ 284

Table 20. Correlations of situational and chronic loneliness scores with confounding and health outcome variables .................................................................................................................. 285

Table 21. t test statistics, means, and standard deviations of sociodemographic variables by chronic loneliness ........................................................................................................................................ 286

Table 22. ANOVAS and Tukey HSD means, standard deviations, and pair wise comparisons of sociodemographic groups by chronic loneliness .................................................................................. 286

Table 23. t test statistics, mean chronic loneliness scores, and standard deviations for loneliness predisposing variables by chronic loneliness ........................................................................ 286

Table 24. t test statistics, mean chronic loneliness scores, and standard deviations for loneliness precipitating variables experienced in the past year by chronic loneliness ........................................................................ 287

Table 25. Significant variables remaining in the model following stepwise regression of significantly correlated sociodemographic variables and chronic loneliness ...................................................................... 287

Table 26. Variance accounted for by significant variables remaining in the model following stepwise regression of sociodemographic variables on chronic loneliness ................................................................ 287

Table 27. Means and standard deviations of high and low chronic loneliness groups .................................................................................................................................................. 287

Table 28. Means and standard deviations of types of self medication in the past three months, and total medication scores .................................................................................................................. 287

Table 29. Ranked means and standard deviations of symptom frequency ........................................................................................................................................................................ 288

Table 30. Ranked means and standard deviations of symptom severity .................................................................................................................................................................................. 288

Table 31. ANOVAS of health variables by high and low chronic loneliness groups .................................................................................................................................................................. 288

Table 32. Results of Chi-square analysis of high and low chronic loneliness and whether or not respondent has visited more than one doctor for symptoms ................................................................ 289

Table 33. Results of Kruskall Wallis Chi-square analysis of high and low situational loneliness groups and health outcome variables ........................................................................................................ 289
Table 34. Results of Kruskall Wallis Chi-square analysis of high and low chronic loneliness groups and health outcome variables ................................................................. 290
Table 35. Zero-order correlations and partial correlations of health variables with situational loneliness (Controlling for self esteem) ........................................................................ 290
Table 36. Zero-order correlations and partial correlations of health variables with situational loneliness (Controlling for anxiety) ........................................................................ 290
Table 37. Zero-order correlations and partial correlations of health variables with situational loneliness (Controlling for depression) ................................................................. 291
Table 38. Zero-order correlations and partial correlations of health variables with situational loneliness (Controlling for negative affect) ................................................................. 291
Table 39. Zero-order correlations and partial correlations of health variables with chronic loneliness (Controlling for self esteem) ................................................................. 292
Table 40. Zero-order correlations and partial correlations of health variables with chronic loneliness (Controlling for anxiety) ........................................................................ 292
Table 41. Zero-order correlations and partial correlations of health variables with chronic loneliness (Controlling for depression) ................................................................. 293
Table 42. Zero-order correlations and partial correlations of health variables with chronic loneliness (Controlling for negative affect) ................................................................. 293
Table 43. Stepwise regressions of chronic loneliness on health outcome variables with current and chronic medical conditions and negative affect forced onto the first step ................................................................. 294
Table 44. Logistic regression of current and chronic medical condition, negative affect, and chronic loneliness on whether or not respondent has visited more than one doctor for symptoms ........................................................................ 294
LIST OF FIGURES

Figure 1. Frequency distribution of number of respondents by age group categories........ 124
Figure 2. Percentage frequency distribution of self rated health and life satisfaction........ 134
Figure 3. Percentage frequency distributions of situational and chronic loneliness......... 144
Figure 4. Interview wheel......................................................................................... 200
# LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
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<tr>
<td>BELS</td>
<td>Belcher Extended Loneliness Scale</td>
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<tr>
<td>DLS</td>
<td>Differential Loneliness Scale</td>
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<tr>
<td>ESL</td>
<td>Emotional versus Social Loneliness Scale</td>
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<td>ESLI</td>
<td>Emotional-Social Loneliness Inventory</td>
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<tr>
<td>LRS</td>
<td>Loneliness Rating Scale</td>
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<td>NKCC</td>
<td>Natural killer cell toxicity</td>
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<td>NYU</td>
<td>New York University Loneliness Scale</td>
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<tr>
<td>PHA</td>
<td>Phytohemmaglutinin</td>
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<tr>
<td>PILL</td>
<td>Pennebaker Inventory of Limbic Languidness</td>
</tr>
<tr>
<td>TUKEY HSD</td>
<td>Tukey’s test of Honestly Significant Difference</td>
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<tr>
<td>UCLA</td>
<td>University of California Loneliness Assessment Scale</td>
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<tr>
<td>UCLA-V1</td>
<td>University of California Loneliness Assessment Scale Version 1</td>
</tr>
<tr>
<td>UCLA-V2</td>
<td>University of California Loneliness Assessment Scale Version 2</td>
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<tr>
<td>UCLA-V3</td>
<td>University of California Loneliness Assessment Scale Version 3</td>
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</table>
CHAPTER 1
INTRODUCTION

"So I said I don't like sitting here all the time watching the flies walk up the wall, and nothing to talk to but the flies, or the cat." (Woman aged 66 years.)

Clarification of loneliness related concepts

Difficulties arise in the conceptualisation of loneliness in that the terms loneliness, social networks, social support, solitude, and social isolation are used often interchangeably and without definition. It is thus necessary to begin any discussion of loneliness with an examination of the similarities and differences amongst these distinct but overlapping terms. The social network includes family, friends, work colleagues, and neighbours. It is studied in terms of the quantity and quality, that is the number and satisfaction or intimacy of relationships, versus the lack of contacts. In the opinions of Weiss (1974) and Kraus, Davies, Bazzini, Church, and Kirchman (1993), the effect of an individual's social network on loneliness is mediated by the availability of specific social provisions which the network provides. Weiss lists six provisions; attachment, social integration, nurturance, reassurance of worth, reliable alliance, and guidance. Whether or not one's network is deemed to offer these social provisions seems clearly separate from the affective reaction to this appraisal which is loneliness. Loneliness is not only an evaluation of one's social network, but an emotionally charged assessment with a markedly negative tone which can include strong feelings of desperation, depression, impatience, and self-deprecation.

Qualitative measures of social network satisfaction have tended to produce, stronger, more reliable associations with loneliness (See Cutrona, 1982; Russell, Cutrona, Rose, and Yurko, 1984; Rook, 1985; Berg and McQuinn, 1989). Satisfaction with the content and quality of the relationships, as perceived by the individuals involved, has also been shown to be more important than the size and composition of the social network as objectively assessed by de Jong-Gierveld (1984) and Kessler and McLeod (1985). Jones, Victor, and Vetter (1985) discovered
that feelings of loneliness were not related to the actual frequency of visits older people received from relatives and friends in their study, but to whether they considered that they were seeing enough of them. Again it is the perception of the availability of a wanted relationship which is important. Russell (1996) also suggested loneliness to be unrelated to frequency of social contact and density of the network in his study of older adults. Loneliness was more strongly related to the quality of the person's interpersonal relationships as reflected by scores on the Social Provisions Scale. The belief that feelings of emotional closeness in intimate relationships are not well predicted by frequency of interaction was shared by Lee and Markides (1990), Lowenthal and Haven (1968), and Revenson and Johnson (1984), amongst others. However, Berg and McQuinn (1989) found that the number of people in one's network may be a more salient feature for lonely men than it is for lonely women. Jerusalem, Hahn, and Schwartz (1996) noted that male refugees made more same-gender friends whilst women increased their new ties with both genders. Perhaps men have networks which are both qualitatively deficient and smaller than those of women.

Considerable literature demonstrates the importance of close emotional relationships in later life. Having a confidant will involve reciprocal disclosure with a particular supportive other. The perceived availability of a confidant has repeatedly been found to be a crucial factor in the prediction of loneliness in older adults (See Lowenthal & Haven, 1968; Lowenthal & Robinson, 1976; Mellor & Edelman, 1988, Revenson, & Johnson, 1984; and Rokach, 1989). The perceived lack of an intimate relationship can be allayed only by a relationship which is seen to assure the continued accessibility of someone reciprocally trusted and devoted. Although, for older adults with few or no children a confiding relationship with siblings can be particularly important, Russell (1996) and Mullins and Dugan (1990) found loneliness scores to be only weakly related to the number of kin and non-kin in the network. This view was supported by results of studies by Lang and Carstensen (1994) and McMullin and Marshall (1996).

Gupta and Korte (1994) reported that, in their study of older persons, those sampled needed both a confidant and a group of peers if they were to avoid feelings of loneliness. Feelings of belonging to a social network were important because a socially lonely person experienced boredom and passivity according to Larson (1990), and feelings of vulnerability, marginality, tension, and boredom according to Weiss (1982). Shaver and Buhrmester (1983) proposed that
loneliness was related to feelings of social integration. This view was upheld by Stokes (1985) who found that the density, or interconnectedness, of the social network was the only aspect of the total network to show a strong relation to loneliness. The author stated that such networks may provide people with a sense of community, a sense of belonging to a group, which tempers feelings of loneliness. A possible solution to these divergent opinions concerning the importance of intimate and social loneliness is that the purpose of a social group is to provide access to close emotional relationships for older adults.

De Jong-Gierveld (1987) proposed that the most direct influence on loneliness is exerted by the individual’s subjective evaluations of their social contacts. She described such elements as the perceived intimacy of their closest relationships, or general dissatisfaction with the type of contact. She suggested that the effects of objective features of the network such as number of relationships or friends are mediated by the subjective evaluation of their sufficiency. Personality characteristics are said to influence loneliness both directly and indirectly through evaluation. In her model, described in more detail in Chapter 5, structural features of the individual’s social world, such as living arrangements and employment, are included. In her study loneliness was affected most strongly by dissatisfaction with one’s relationships.

Stuewe-Portnoff (1988) was of the opinion that the core of loneliness is a frightening sense of being lost in a meaningless world. Estrangement from others may deprive people of knowledge of themselves on which they depend for cues for self meaning. Shared meaning, or a shared world view, unites people and makes them feel secure. A crisis or situation experienced by one person, which is not recognised or shared by another person, may create a gulf in meaning between them. This separation of world views may make the lonely person feel as though they exist in a different and frightening world. Thus only the loss of a meaningful relationship, or relationships, will be followed by feelings of loneliness.

A major source of inconsistency in these studies may be the diversity of subjects and measures employed, reflecting the complex and multifaceted nature of both loneliness and social networks. It is also impossible to establish causation from the correlational evidence. There is a lack of
longitudinal data. More studies of older adults and the predisposing and precipitating factors associated with loneliness and social networks are needed. Creecy, Berg, and Wright (1985) emphasised the cumulative effect of situational and structural factors, such as loss of a partner or physical disability, in the development of loneliness in older adults.

Social support refers to the help, guidance, comfort, and information one receives from one’s social network, and is thus very similar to the concept of social provisions, but is more general and global as social support refers to both emotional and tangible resources. Social support has been posited to facilitate coping, enhance psychological and physical health, and ameliorate the effects of stress (Gottlieb, 1981). Whether or not older, lonely people actually receive lower levels of social support and have fewer supportive relationships, or have a tendency to underestimate and undervalue the support they actually receive when feeling lonely is difficult to ascertain. However, increasing evidence suggests that it is the negative subjective assessment of social support which is crucial to loneliness (See Bowling, Edelman, Leaver, & Hoeckel, 1989). As was the case with the social network, the appraisal of a lack of social support differs from the negative affective reaction to that lack, which is loneliness.

Jones and Moore (1987) reported a substantial inverse relationship between the availability of social support and loneliness, both simultaneously and over time, in a longitudinal, correlational study using college students. They pointed out that the magnitudes of the statistical relationships in their study suggested that loneliness and social support were not identical constructs and deserved to be conceptualised and studied separately. Nor could the study results support the conclusion that a relative lack of social support causes loneliness exclusively, or even primarily. Russell, Kao and Cutrona (1987) conducted two studies examining the relationship between loneliness and social support. These authors also concluded, from studying the responses of a large sample of older adults, that there were two different constructs. Loneliness and social support appear to be two related but independent phenomena. They may be mutual determinants with increases in loneliness interfering with the maintenance of existing supportive networks or the development of new supportive relationships, and negative perceptions of reductions in meaningful social support resulting in increased loneliness. Because many of life’s disruptive events occur at the latter end of the life span, social support may be particularly critical to older adults. Adjustment to such disruptions depends initially on the efforts of the individual to
replenish supportive social networks, and then to their receptivity to the efforts of others who might intervene. However, support does not always have positive effects as people differ in the extent to which they benefit from social support (See Sarason, Pierce, & Sarason, 1990; Vaux, 1990).

The feeling of loneliness is then a negative one and includes feelings of deprivation concerning the perceived absence of desired relationships. In contrast, solitude has both positive and negative dimensions. Solitude is a situation of physical isolation and lack of contact with others, not a feeling. Being alone can be seen to be a productive, cherished condition, or a healing condition. Alternatively, being alone may predispose towards, or precipitate loneliness. Social isolation is used in the literature with two meanings. It may be used to refer to living arrangements, or living alone, as an indicator of physical solitude. This form of social isolation is the result of a combination of demographic, economic, and cultural phenomena which may produce loneliness by restricting access to social networks. As is the case with solitude, social isolation may precipitate, but is not synonymous with, loneliness. Social isolation in this sense is similar to solitude in that it is a state, or situation, and not an affect. The term is used with this meaning in the present studies unless otherwise indicated. The second use of the term social isolation is as a subjective feeling of alienation which reflects the marginal position which older people hold in society. Social isolation in this form involves rejection by dominant groups in society rather than social acceptance. It is similar to Durkheim's (1951) concepts of anomie and alienation. While solitude and situational social isolation are essentially objective conditions, the feelings of loneliness, and social isolation as marginalisation are subjective ones.

**Background and justification of research**

Loneliness is a common, under diagnosed, and under treated health condition for older adults. Its mismanagement stems in large part from the misconceptions that it is inevitable and that it is untreatable. However, refusing to acknowledge its existence as a detrimental health condition will not make it go away. The manner in which health professionals formulate the diagnosis of loneliness, the way society responds to people with the condition, and the discourses used in relation to loneliness have consequences for both its course and its outcome.
Loneliness becomes a problem for older adults when it is severe and/or long lasting and when it produces changes in health or health behaviours. Cheng (1990; 1992), and Svanborg (1979-90) reported significant positive associations between loneliness and an increase in both self reported health complaints and physician utilisation in this age group. These authors and Barsky (1981), McKinlay (1980), and Shuval, Antonovsky, and Davies (1979) have noted benefits other than medical which may encourage the lonely to seek consultations with their doctors. Evidence has suggested associations between high levels of loneliness and neuroendocrinial changes such as decreased immunosuppression (See Glaser, Kiecolt-Glaser, Speicher, & Holliday, 1985). Although excessive levels of loneliness have been found to be harmful to the health of younger age groups, the associated immunosuppressive effects are of particular importance to older adults who are already experiencing decreases in immune functioning involved with ageing. Other factors which are related to loneliness are also of particular concern for this age group; physical limitations, general health, ageism in society, retirement, and death of spouse and peers. The seriousness of loneliness is also demonstrated by its association with such conditions as depression, grief, and anxiety in older people.

Evans and Dingus (1987) viewed loneliness as a treatable condition, and believed that successful treatment reduced the risk of more serious complications. Intervention has also been found to reduce the frequency of feelings of loneliness and feelings of meaninglessness, and to increase social contacts, self esteem and trust by Andersson (1985a). Young (1982), Rokach (1990) and Rook (1989) provided detailed explications of loneliness interventions, and Natale (1986) outlined psychotherapeutic considerations for older adults. Many other treatable health problems in older populations are ignored and assumed to be the inevitable effects of ageing. In a similar fashion loneliness can be viewed as a natural state, and not a clinical condition with effective interventions. This view of loneliness distracts clinicians from recognising or treating older people who are experiencing chronic and/or severe loneliness.

In spite of the frequency of loneliness as a universal experience causing anguish and emotional pain as well as effects which are detrimental to health, those in the helping professions have largely failed to seriously address the condition (See Seligson, 1983; Weeks, 1994; Young, 1982; Hay, Browne, Roberts, & Jamieson, 1995). Very little literature concerning loneliness is published in medical journals. Social isolation and loneliness were among the most frequent
causes of hospitalisation and of placement in nursing homes of older people according to a study of Egyptian elders by Abd-El-Ghany (1986), and of the relative length of hospitalisation of the frail elderly (Mor-Barak and Miller, 1991). These authors conducted a longitudinal study of the causal relationships between social networks and the health of poor, frail older people. Windriver (1993) argued that social isolation, and the loneliness which often results from this, seldom appeared on a list of problems for systematic intervention and re-evaluation in any health care setting. Problems with the recognition of loneliness also arise in the patient-physician encounter. Primary care physicians are mostly taught about psychosocial problems in a psychiatric setting, where the majority of patients are aware of psychological precipitants and symptoms. Doctors may have little training in diagnosing emotional problems in patients who present somatically in general practices with such symptoms as fatigue or headaches. The physician is trained to react with a biomedical focus to these patients, due to the anxiety of missing a physical illness.

Rigatelli, Macon, and Morritti (1995) found, in their examination of calls received by an emergency medical service, that the non-specialist physician was frequently in serious difficulty from a relational, diagnostic, and therapeutic point of view when faced with patients with functional-somatic problems. Kellner (1985) defined functional-somatic symptoms as somatic symptoms which are not caused by disease detectable by physical examination, or by routine laboratory investigations. However, specific physiologic changes may be detected in conjunction with some of these symptoms by special techniques. Many doctors may question their role in dealing with other than somatic illness. Heuft, Rudolf, and Ori (1995) stated that, influenced by ageist prejudices, physicians did not even conceive of possible traumatic, pathogenic life events, such as loneliness, which might have triggered the somatic symptoms in older patients. Weeks (1994) was of the opinion that the reversal of the rising tide of loneliness should be seen as a moral imperative for society if society has any valid claim to be caring and compassionate. An underlying argument of this thesis is that the time has come for health professionals to consider loneliness as a foreground rather than a background health concern for this age group.

Although there have been numerous studies in other countries of relationships between loneliness and a variety of health variables, there have been no such studies involving older New Zealanders. The cultural aspects of both loneliness and the history of older people are important
contextual factors to any research in this area. Overseas loneliness research cannot simply be transposed. There has not to my knowledge been any previous attempt in New Zealand, or elsewhere, to explore and explain the nexus of loneliness, stigma, health complaints, and primary medical care in this age group from a social constructionist perspective, nor to investigate this nexus using the methodology of discourse analysis to explore the discourses which sustain the presentation of loneliness to the doctor. These are serious omissions as such studies, perspective, and methodology offer important insights which have implications and consequences for the recognition and treatment of loneliness.

In an effort to highlight the impact of loneliness on the health of older adults, and to aid its recognition within the primary care setting, this research project attempts to find answers to some of the questions related to this topic. We know little about problematic loneliness in relation to older New Zealander adults, and obtaining accurate estimates of its magnitude is very difficult. As a prerequisite to the exploration of the social construction of loneliness within the doctor-patient encounter, it is essential to obtain some indication of the extent to which loneliness is a health problem for older New Zealanders. How do the social worlds of the lonely differ from those of the non-lonely in this age group? Are there differences which are easily recognisable to medical practitioners? Are there also differences in the duration of loneliness which require further research? Knowledge of such contextual concepts which might predispose towards, or precipitate loneliness could form the basis for working out ways of preventing its generalisation. In the absence of appropriate measures, the condition might become a more serious threat to the health and well-being of older adults.

If loneliness is determined to affect a considerable number of older New Zealanders, how might the condition foster primary medical care in this age group? Does the stigma associated with loneliness lead to the indirect presentation of loneliness to the doctor, and how do discourses contribute to such behaviour? More information is needed of the ways in which people normalise, justify, and minimise loneliness and of how they might transpose it into physical symptoms and/or physician visits. The social construction of the medical encounter (See Wright & Treacher, 1982) has not been investigated with regard to loneliness and the asymmetric power relations between doctor and older adult. Answers to such research questions and problems may aid the recognition of the condition of loneliness by the general practitioner and other health
workers. The needs of this age group can be addressed by many organisations, programs, and services which are already available for older persons. It follows that an understanding of the social factors which underpin the presentation of loneliness to the doctor, the successful assessment of the condition, and mobilisation of interpersonal resources, could complement critical medical-social services for older people.

The present studies

Frieda Fromm-Reichman (1959) noted that loneliness was one of the least satisfactorily conceptualised of psychological phenomena. She suggested that the term loneliness is a conceptual umbrella sheltering no fewer than ten different human experiences. A variety of theories of loneliness are outlined in Chapter 3. I believe that much confusion results from trying to obtain a clear picture of a central core construct of loneliness which at the same time encompasses all we mean by the term, and excludes everything else. Complex human experiences are not amenable to such categorisation. There are varying degrees and forms of loneliness. What we should be looking for instead is a pattern, or patterns, in a network of interacting entities. Wood and Johnson (1989) suggested that we must be cautious about quantifying data which reflects human experience. They suggested that there are objective ways of selecting domains and dimensions for study as well as measuring them. However, according to the authors, the selection always reflects the values and judgements of investigators about what is important. The same domains and dimensions may not be important to participants. Assessments always reflect the method and the social relationship in which data are collected. For this reason the authors considered that numerical data might be used in the first stage of research to identify patterns, with a qualitative approach as the second stage to further understanding. Based on these propositions the quantitative and qualitative studies in the present research employ two distinct paradigms.

The quantitative paradigm is used in the first study to provide a macro analysis of aggregated data about the prevalence of moderate-severe loneliness, sociodemographic predictors and precipitators of loneliness, and how loneliness might foster primary medical utilisation in older New Zealanders. In the present study Barsky's (1981) model of psychosocial distress and physician utilisation is adopted and used for the first time to explore the ways in which loneliness
might foster primary medical care by examining perceived health status, symptom amplification, focusing on and worrying about symptoms, and the indirect presentation of loneliness to the doctor. This study also distinguishes between situational (short-term) and chronic (long-term) loneliness analyses of these variables in order to indicate directions for further research.

Within this paradigm the first study of the present project follows the cognitive processes model which argues that loneliness is an unpleasant and distressing experience. It has cognitive, affective, behavioural, and physiological components, and most importantly it results from perceived deficiencies in a person’s relationships (See Peplau & Perlman, 1982). It is not synonymous with solitude. In addition, however, this conceptualisation also acknowledges a social needs model which posits an underlying human need for intimacy (See Weiss, 1973). It is difficult to see why one would perceive a discrepancy in the desired availability of relationships without having some underlying motivation or need for such relationships. The model adheres to a unidimensional concept of loneliness with a core common to all experiences of loneliness, but allows for different forms and expressions of loneliness. The distinction between situational and chronic experiences of loneliness is considered important, as is the possibility that loneliness may be intentionally or unintentionally repressed.

In order to explore the wider, societal effects of loneliness a micro analysis is conducted employing the conceptually distinct, qualitative paradigm of sociolinguistic analysis. The second study examines the discourses which lonely older adults use in regard to visiting their physicians. It explores the ways in which people might minimise or normalise, loneliness, and how they might explain or justify consulting their doctors for loneliness. Social constructionism provides the theoretical basis for this second study. Eisenberg (1988, p. 1) argued that:

- All scientific concepts are inventions of the imagination
- Human sciences are beset by the paradox that what is believed to be true about behaviour affects the very behaviour it purports to explain
- Illness is influenced by the beliefs of patients and doctors about course and prognosis
- Physicians no less than their patients are constrained by socially constructed roles

In many countries the community accepts the physician as the approved instrument for resolving the conflicts of people unable or unwilling to cope with their lives. Within this framework primary health care can be seen as the boundary between the medical system and society. The
wide variation in the cultural function of primary health care becomes clear when people without somatic disease but with life problems or emotional problems such as loneliness enter the medical system. The physician usually deals with these conflicts and thus helps society to restore its equilibrium. The labels given to such problems by medical professionals contain a particular treatment strategy or absence of treatment which is characteristic of that group. Diagnosis, is not an objective but a negotiated entity. It is socially constructed. The initial negotiation occurs within the medical profession and is continued by an interchange of opinions between patient and doctor who exchange mutual estimates of the importance of the problem. Good (1977) argued that all illness realities are fundamentally semantic. Whatever the biological correlates or grounds of a disease, sickness becomes a human experience and an object of therapeutic attention as it is made meaningful. This approach recognises all clinical transactions to be interpretative. Physicians communicate their interpretations of the patients’ complaints and these realities become the objects of therapeutic efforts.

Foucault (1980) posited the idea that the general practice consultation could be understood as a type of surveillance. Doctors have access to an enormous amount of information provided by patients, such as information about their personal relationships or employment anxieties, which has minimal relationship to strictly biomedical categories.

It is a moral, political, cultural and then medical decision as to how society wishes to cope with the sorrow and pain of its members. Unfortunately the treatment doctors provide for people experiencing such conditions may be inappropriate. In a typical practice there is little time for pursuing what are often complex underlying factors in such problems. Patients may not want to tell the doctor what the issue is. The physician may not wish to be told about emotional difficulties. The feelings of the doctor about a particular condition, or patient, will influence the interaction. At a structural level the power in the consultation allows the doctor to arrange the time of appointments in a way which constrains as well as promotes the patient’s input. The dilemma for the doctor is not only in diagnosis but in how best to advise the patient to resolve personal problems that relate to troubled life histories rather than pathology. Doctors may prefer to deal with the biophysical aspects of a condition for which they have been rigorously trained

Perlman and Joshi (1989) described being married, having friends and other indicators of sociability as signs of social success within the American context. In their view a person who was isolated or without friends was viewed as a social failure and seen as a deviant or as someone who was spoiled or generally undesirable. Stigmatisation was also described in relation to loneliness by Weeks (1994). He believed that loneliness was associated in the minds of the general public with psychosocial dysfunction and therefore stigma. Because of this, people in the community could be less accepting of obviously lonely people, which provided evidence of the prevailing perception of the lonely person as a negative stereotype. Some health professionals may be less accepting of lonely patients because they share these stereotypic beliefs. As well as the stigmatisation associated with loneliness older adults are subjected to stigmatisation because of their age. Greene, Adelman, Charon, and Hoffman (1986, p.113) stated:

Ageism, the system of destructive false beliefs about older people are legion: they can’t hear, they can’t remember, they can’t think for themselves, they are depressing, they are non-productive, they are infantile. Advanced age can be a liability in attaining goals as diverse as child custody, tenant rights, financial autonomy, educational or employment opportunities and sexual fulfilment.

The authors suggested that ageism may be an occupational hazard for the health care practitioner interacting with older adults who are ill, frail, confused or hospitalised. Despite changing attitudes, assumptions held by some health care practitioners that older people have medical and mental problems which are untreatable (Butler, 1975), that senility is a natural process of ageing (Wells, 1982), and that the elderly are preoccupied with death (Ward, 1979) may linger.

Medicine, according to Wright and Treacher (1982), is not simply a body of instrumental knowledge but serves as a set of categories that we use both to filter and construct our experience. It predisposes us to notice certain features of our lives and not others and provides us with a vocabulary to describe them. The authors claimed that the distinguishing features of science are not as has been traditionally assumed, epistemological (a privileged understanding
of nature), but social (a particular kind of group with particular practices for validating beliefs). Social constructionists are interested in how it happens that certain areas of human life come to be, or cease to be regarded as medical in particular historical circumstances. Language has reflexive dimensions in that talk or writing is not simply a description of actions or events but is also a potent working part of these things (See Potter & Wetherell, 1994). Medicine is seen to be a highly specialised domain of social practice and discourse, the limits of which are themselves set up by wider, but not separate social practice. A sense of relativism is encouraged when modern medical knowledge is regarded as one particular form of culture rather than as some timeless absolute. The theory does not imply that medical knowledge is false, disease imaginary and doctors’ activities futile. Rather it emphasises that medicine is a form of social practice which observes, codifies and understands these sufferings. We risk treating medical knowledge as if it were a thing existing independently of men and women who produce it if we simply take that knowledge as given and search for parallels between it and certain social factors. We also risk ignoring that its concerns and concepts are born out of particular social processes. The clinician who understands that he or she is a participant in, as well as an observer of, health and sickness will be better able to fashion new remedies for illnesses.

Lamberts (1979) thought it questionable whether people's life problems should be channelled through primary health care, but it seemed clear that in most western societies they were. The social construction of the medical encounter appears to encourage the somatic presentation of psychosocial distress such as loneliness to the general practitioner. Kellner (1985), in his survey of empirical studies of functional somatic symptoms selected for their importance to the topic, their scope, or their relevance, provided a prevalence of 20-84% for patients presenting to physicians with somatic complaints for which no organic cause could be found on routine examinations. Somatisation was described by Kirmayer and Robbins (1991, p. 1):

Somatization is a term used to cover a broad range of clinical situations: patients who present clinically with exclusively physical symptoms despite demonstrable psychosocial problems or emotional distress; patients who worry or are convinced that they are physically ill without evidence of disease; and people with a pattern of functional-somatic symptoms that prompt help seeking and cause disability (Katon et al. 1982; Kellner, 1990; Kirmayer 1984, 1986; Kleinman 1977; Lipowski 1968). The concept of somatization groups these different situations together on the assumption that what they have in common is that medically unexplained bodily distress is related to underlying psychiatric, psychological, or social problems.
Somatisation can be viewed as a common and important mechanism which involves doctor and patient, rather than a disease. Patients can often change doctors until they find one who views their complaints as physical, and responds by arranging investigations. Doctors may thus perpetuate the somatisation. The results of inappropriate investigations, treatments, and interventions to patients with psychosocial disorders who present with somatic symptoms is costly both to their well-being, and to the health care system. Cheng (1990) stated that social scientists have failed to examine the psychosocial determinants of health care utilisation and costs in regard to health care policies. In his article he provided evidence firstly that a small group of high-frequency users accounted for the majority of medical costs, and secondly of a relationship between emotional problems and frequent medical utilisation. The author also reported that, although people over the age of 65 comprised only 11.8% of the American population in 1984, they accounted for one third of personal health care expenditure, with per capita spending four times that of individuals under the age of 65. Lonely older people may well present to their doctors with physical symptoms rather than with emotional discomfort and, if this is the case, it is important to discover why and how this is happening.

To explore the societal issues which have been addressed a qualitative study was performed utilising the methodology of discourse analysis. Discourse may refer to broad, historically developing linguistic practices (See Foucault, 1972) or, as the term is used in the present research, may cover all forms of spoken interaction, formal and informal and written texts of all kinds. Cheek, Shoebridge, Willis, and Zadoroznyj (1996) suggested that discourses find expression in language which has historical and cultural biases, and that they limit the range of possibilities by which reality is constructed. Discourse analysis is an interdisciplinary approach to inquiry which has been suggested by Wood and Kroger (1995) to have potential for understanding issues of ageing, and of the lives of older people. Discourse analysis involves more than content analysis, a study of semiotics, or ethnomethodology as it seeks to move the analyses into the cultural, political and social dimensions which have shaped both the form and the content of language in the first place. Potter and Wetherell (1994) suggested that theoretical reasons and important social implications highlighted the need for approaching participant’s discourse or social text in its own right and not as a secondary route to things beyond the text, like attitudes, events or cognitive processes.
For example, focusing on these linguistic concepts allows for the likelihood that people are positioned within multiple and contradictory discourses, which has potent and optimistic implications for therapeutic and educational interventions for loneliness.

In order to understand the contribution of patients’ loneliness discourses to the medical encounter, themes or interpretative repertoires were identified which older adults used to explain their frequent physician utilisation and their doctor visiting for loneliness. How these repertoires were used and to what purpose was also examined. A more detailed study of the complexities of the experience of loneliness was made possible by the use of this methodology which also aided the identification of possible reasons for the somatic presentation of loneliness to the physician.

**Summary**

To summarise briefly, loneliness is common among older adults and it impacts severely on many aspects of their health. The condition of loneliness is under recognised and under treated by the medical profession. The social construction of the medical encounter appears to encourage the somatic presentation of loneliness to the general practitioner. If this is the case it may result in inappropriate investigations and interventions costly to both the older individual and to society as a whole. To the best of my knowledge, this thesis is currently the most comprehensive survey of loneliness and older New Zealand adults which now exists. This is the first research to provide clinical prevalence rates and a sociodemographic profile of loneliness for this age group. New directions are taken by using Barsky’s (1981) model to examine the ways in which loneliness might foster medical consultations, and by exploring loneliness and frequent physician utilisation within a social constructionist framework, and with the use of the qualitative methodology of discourse analysis. It is hoped that this research will contribute to a growing awareness of loneliness, so that New Zealanders will better understand the implications of continuing to view loneliness as an individual rather than a societal problem.
CHAPTER 2
LONELINESS AND HEALTH

In order to strengthen the position that loneliness impinges on the health and primary medical care of older adults this review will focus firstly on those studies which directly, or indirectly, address the phenomenon of loneliness, its relationship to interpersonal and social behaviour, and to the health and health behaviours of older adults. Two caveats need to be taken into account when reading this chapter. The studies reviewed make use of the quantitative paradigm only and thus report aggregated data and patterns. There has been very little qualitative research concerning loneliness. Attempts, which will be described in the introduction to the second study, have been made to use qualitative methodology to examine ageism and the medical encounter, but the linguistic, cultural, and societal aspects of loneliness and health have received little attention from researchers. Loneliness has been measured with many non-standardised instruments in the following studies. Although this fact makes the comparison of studies difficult, the best strategy for dealing with the methodological discrepancies appears to be the precise definition of the terms used, or measures employed in the studies which are discussed, and this is the course followed with the more important papers in this review. The nature of loneliness and the inadequacies of some of the measures of loneliness will be discussed in detail in Chapters 3 and 4. Despite the difficulties of conceptualisation and measurement, the number and consistency of the reviewed study results suggest that a possible link between loneliness and the health of this age group is worth pursuing.

As much of the evidence for a linkage of loneliness and health involves measurements of such loneliness related concepts as depression, anxiety, and negative affect it is necessary to examine the similarities and differences amongst these distinct but overlapping terms. The exploration of the more general associations between health and social contact will then precede the specific explanations of associations between health and feelings of loneliness. Feelings of loneliness will then be examined in relation to the quality of life, immune suppression, and health complaints of older adults in support of the argument for greater recognition, diagnosis, and treatment of loneliness in this age group.
Discriminating amongst related variables

A substantial overlap between loneliness and depression is supported with reported positive correlations ranging from $r = 0.38$ to $r = 0.72$ (Young, 1982). Jones, Victor, and Vetter, (1985) also found that loneliness and depression were strongly correlated in their subjects aged 70 years or more. The study was cross-sectional and asked three questions of the self reported degree of loneliness. Bragg's (1979) study which used the 20 item University of California Rating Scale (UCLA, Russell, Peplau, & Ferguson, 1978) and the Beck Depression Inventory (BDI, Beck, 1967) revealed that the lonely and depressed participants had suffered both social and non-social disappointments, while the lonely and non-depressed people had suffered only social disappointments. He found loneliness, to be a state in which people felt incomplete, and the primary emotion was longing, whereas in depression the primary affect was anger. He reported that loneliness was associated with low initiation of contact with others. On the other hand, Seligson (1983), who studied the literature of loneliness and depression, found that unlike the depressed person the lonely individual did reach out but could not communicate. These differences of opinion might be more easily clarified if both studies had differentiated between situational or temporary loneliness and chronic or persistent loneliness. The following chapter will elaborate upon these different forms of loneliness.

Horowitz, French, and Anderson (1982; 1983), stated that prototypes of loneliness and prototypes of depression differed in their study. Depression was a broader more variegated concept which contained most of the features of loneliness. The lonely prototypes showed higher correlations of descriptions of interpersonal failures attributed to unchangeable defects within themselves, although the depressed also used this attributional style. Weeks, Michaela, Peplau, and Bragg (1980) reported, from their examination of 333 college students, a structural equation analysis which suggested that, although the concepts overlapped to some extent, loneliness could be distinguished from depression. Loneliness and depression were distinct phenomena though correlated; and neither condition was the cause of the other although they seemed to share some common causal origins. Their study was longitudinal and found these
results to be highly stable over a five week period. Anderson and Harvey (1988) also found depression, loneliness, and shyness/social anxiety to be interrelated but separate constructs.

It thus appears possible to be depressed and not lonely, or to be lonely and not depressed and there are a number of measures available which distinguish the two conditions. This finding points to a need for the constructs to be considered individually in research. Because loneliness and depression are correlated it is important that both should be assessed in any studies of loneliness and health outcomes.

Prospective measurement of loneliness was one of several factors which Green, Copeland, Dewey, Sharma, Saunders, et al. (1992) studied. They found it to be significantly associated with the development of depression three years later, in a group of participants aged 65 years and older studied by. Eisemann (1984) in a study of 110 depressed patients found that they felt lonelier, and their loneliness was more severe than that of non-depressed controls. In the study of Gerstein, Bates, and Reindl (1987), the effects of loneliness appeared to be intensified when loneliness was experienced in combination with another condition, although negative affect, anxiety, or health behaviours may well have influenced these results. Prince, Harwood, Blizard, Thomas, and Mann (1997), Qualls and Justice (1980) and Stessman, Ginsberg, Klein, Hammermanrozenberg, Friedman and Cohen (1996) reported that loneliness and depression frequently co-occur. Depression, anxiety disorders, and substance abuse are the most common mental disorders in New Zealand, and frequently these were found to co-exist by Oakley-Browne, Joyce, Wells, Bushnell, and Hornblow (1989) and Joyce, Romans, Ellis, and Silverstone (1995). Excessive guilt, loss of ability to feel pleasure, uncharacteristic loss of self esteem, a feeling of hopelessness, and loss of their "fighting spirit" are particular indications of depressive disorder in older New Zealanders (National Health Committee, 1996). These feelings experienced in combination with those of loneliness would be devastating.

A number of researchers have pointed out links between loneliness and anxiety (see Bowlby, 1977; Bradley, 1969; Parkes, 1973; and Weiss, 1973). McWhirter (1990), in his literature review of loneliness, echoed the supposition of Fromm-Reichman that the condition may be one which underlies the experience of anxiety. Parkes found loneliness to be related to the separation anxiety following loss and severed relationships. He gave as examples the abandonment felt by a
small child whose parents have sent him to a foster home, the pain of the separated and divorced, and the agony experienced at the death of a significant other. Weiss (1973) also stressed the importance of separation anxiety as the basis of the experience of loneliness. Childhood attachment patterns and adult loneliness have been linked by Shaver and Rubenstein (1979) and Shaver and Hazan (1985). It is, however, possible to be lonely without experiencing loss or severed relationships as a person can make a negative evaluation of their perceived lack of a particular relationship which is based on social comparison rather than loss. Stuewe-Portnoff (1988) distinguishes between feelings of loss or missing a person or place, which is separation anxiety, and feelings of being lost oneself in a sea of meaninglessness, which is loneliness. In a comparative longitudinal study recently bereaved, married, older men and similarly aged married men who had not experienced a bereavement were assessed at 6 weeks, 6 months, and 13 months post-bereavement. Widowers reported more state anxiety and generalised psychological distress but not more loneliness or depression than the matched controls for the first 13 months following bereavement. These results imply that loneliness may develop much later and is distinct from the grief process.

Anderson and Harvey (1988) discriminated between measures of depression, loneliness, shyness, and social anxiety. Loneliness was precipitated by separation anxiety and it was distinct from social anxiety which may have determinants, foci, and resolutions which are not associated with perceived dissatisfaction with wanted relationships. The determinant and focus of situational loneliness is the perceived lack of a particular form of desired relationship. Social loneliness may be precipitated by and focused on many things, for example facial disfigurement. The resolution of situational loneliness is effected by the perceived availability of the desired relationship. This is not the case with social anxiety which may be exacerbated by the availability of such a relationship.

Trait negative affect is also called trait anxiety, neuroticism, and general maladjustment and subsumes a broad range of subversive mood states. Watson and Clark (1984) described trait negative affect as a dimension which reflected stable pervasive differences in negative mood and self concept. They reviewed, in their study of self reported mood in undergraduate students, extensive evidence indicating that individuals high in trait negative affect were more likely to experience significant levels of distress and dissatisfaction at all times, and in all situations, even
in the absence of any overt stress. Gray (1981) argued that neuroticism and emotional stability have their origins in complementary brain systems which are differentially sensitive to signals of reward and punishment.

Trait negative affect is strongly associated with self reports of health complaints, self maintenance health behaviours and beliefs, and self reports of illness and symptoms. In their 1989 study of negative affect and its relationship to health, Watson and Pennebaker concluded that neuroticism was a nuisance variable which influenced ambient levels of distress but was of no further consequence. However, Robbins, Spencer, and Clark (1991) did not think that negative affect was the only factor involved in the relationship between emotions and health complaints. They suggested that both the concepts of alienation and anger may have a relationship which is independent of anxiety. The authors suggested that it may be premature to lump together a variety of characteristics related to each other and to symptom reports into a single trait category and to assume that the association between this category and symptom reports comes about by a common set of pathways.

The overlap or interchangeability of situational loneliness and trait negative affect is contradicted by the sudden appearance, and often shorter duration, of situational loneliness. DeBerard and Kleinknecht (1995) proposed that loneliness, and particularly duration of, or chronic loneliness, may be an additional aversive mood state which may be subsumed under the general dimension of negative affectivity. However, the measure they used for duration of loneliness the Duration of Loneliness Scale (Hojat, 1981; 1982) asks directly the single question “How often do you feel lonely?” with six response categories and thus their results may be biased by socially desirable answers. The authors of the test report adequate internal and test-retest reliability but there are no supporting studies of its reliability or validity. Results from DeBerard and Kleinecht's sample of college students may also differ from those of other populations.

It is quite possible that chronic loneliness and trait negative affect are redundant variables. Perhaps the early development of separation anxiety precipitates the development of chronic or persistent loneliness or negative affect. The differential sensitivity to reward and punishment posited by Gray (1981) might interact with early attachment difficulties and the resulting separation anxiety may produce long term deficiencies in self concept, mood, and the ability to
initiate relationships. Whether or not either condition is considered to be chronic or persistent as the term is defined in this study, or a more permanent trait is debatable. Longitudinal research is needed to tease out the relationships between loneliness, negative affect, situational and chronic loneliness, and health. Such research is hampered by the lack of a satisfactory instrument with which to measure chronic loneliness (detailed in Chapter 3), and complicated by the fact that measures of loneliness, negative affect, experience of symptoms, and most physician utilisation in loneliness studies rely on self reports. Although it is possible to assess the actual number of doctor visits the other variables are unable to be measured objectively.

Most research of both loneliness and negative affect has been conducted on American college students. Whether these findings are replicated in other cultures and with other age groups is open to doubt. Although questions have been raised about the redundancy of chronic loneliness and negative affect, conclusive answers are not available. Until such time as they are, further studies of both variables are necessary. The arguments which continue over the relationship of loneliness and negative affect have implications for both past and future research into loneliness. The results of many earlier studies have not controlled for negative affect. It is therefore impossible to tell whether the findings of the effects of loneliness on symptom reporting and health behaviours have really measured the construct. Neither have they distinguished between situational and chronic loneliness. Because of the confounding effect of negative affect it needs to be controlled for in all loneliness research. For the same reason interrelationships between mood and personality also need elucidation. Low self esteem for example has consistently been highly correlated with both loneliness and with depression (See Mcwhirter, 1990; Joyce, Romans, Ellis, & Silverstone, 1995). This means that a number of personality and mood measures known to be correlated with one another also need to be included in studies and the measures defined with care and precision.

Research results of loneliness have generally shown a positive relationship between the subjective experience of loneliness and impaired mental health (See Bragg, 1977; Diamant & Windholz, 1981; Jones, Carpenter, & Quintana, 1985; Loucks, 1980; Perlman & Peplau, 1984; Rubenstein & Shaver, 1982a; Schmitt & Kurdek, 1985; Weeks, Michela, Peplau, & Bragg 1980; Young, 1982). These relationships include neuroticism, low self esteem, depression, anxiety, psychosomatic concerns, aggression and paranoia. One explanation for this observation is the
possibility that both loneliness and general psychopathology are associated with interpersonal difficulties which result in a lack of rewarding social relationships (Perlman & Peplau, 1984; Weeks, Michela, Peplau & Bragg, 1980). The other is that loneliness is a complex phenomenon and the type of relationship deficit results in both generalised distress and specific negative emotional outcomes. In a study designed to control for the confounding influence of generalised distress, Jackson and Cochran (1990) found that low self esteem and depression were associated with the experience of loneliness in young adults, but general and phobic anxiety, obsessive compulsiveness, hostility, and paranoia did not appear to be related to loneliness when the confounding influence of general psychological distress was removed. Loneliness was assessed with the second version of the UCLA (UCLA-V2, Russell, Peplau, & Cutrona, 1980). The cross-sectional and correlational nature of these studies makes the relationships between loneliness and these variables difficult to interpret, and longitudinal studies, and studies using path analysis are needed before the implications of these results are known. Once again the lack of objective measures of the variables make such research difficult.

To summarise, in the opinions of a number of researchers loneliness can be distinguished from depression although the constructs overlap to some extent. Such researchers consider loneliness and depression to be distinct phenomena though correlated. Neither condition is thought to be the cause of the other, although both may share some common causal origins. The focus of loneliness is determined to be related only to the perceived unavailability of a particular relationship and an unrelenting need for that particular relationship, whilst depression is a broader more variegated concept. The resolution of loneliness is reported to be resolved by the perceived availability of the desired relationship, whilst recovery from depression may occur with no intervention other than the elapse of time. Loneliness is thus viewed as a unique syndrome with distinct cognitive features, different physical manifestations, and different emotions from depression. There is also some support for the view that separation anxiety may precipitate situational loneliness or chronic loneliness, which differ from social anxiety in the specificity of their determinants, foci, and resolutions concerning interpersonal relationships. Situational loneliness is argued to differ from trait negative affect because it is not, at least in the initial stages, a stable and long term condition and once again because its focus is specifically on the perceived absence of a wanted relationship. Whilst the focus of negative affect is considered to be much more general. It is not thought to be resolved by the provision of a
particular relationship whilst situational loneliness is. Although chronic loneliness more closely resembles negative affect, evidence is not yet available to prove that they are redundant. Loneliness also is posited to differ from generalised distress in the specificity of its focus on personal relationships, and its resolution once the relationship deficit is perceived to be available. Although these distinctions are somewhat controversial given the difficulties inherent in defining and measuring such complex human experiences, it seems prudent to attempt to measure the concepts individually whilst employing a quantitative methodology of analysis.

Health and social contact

Spitz and Wolf (1946) were perhaps the earliest researchers to document a physical decline and death of some infants who lost their parents early in life, despite being given adequate food and clothing. The lack of holding, cuddling, and social contact was considered to be responsible for this result. Thomas and Dusnyski (1974) also measured a lack of closeness to parents in early life rather than the presence of loneliness when they performed a prospective study of 1337 medical students graduating from John Hopkins University between 1948-64, and found a significant relationship between lack of closeness to parents and the development of malignancies.

Lynch and Convey (1979) were also amongst the vanguard of those who sought links between people’s social environments, their behaviour, their emotions, and their physical health. Much of their evidence relies on studies of those who were married and those who were not, as indicators of loneliness, and thus they were measuring living alone rather than loneliness. Barbour (1995) explored loneliness within marriage among 934 parent subjects using the third version of the UCLA (UCLA-V3, Russell, 1996). He reported that 20% of the wives, and 24% of the husbands studied were significantly lonely. These results offer some support for Lynch and Convey who argued that had they measured loneliness rather than marital status their results would have been even stronger.

Lynch and Convey (1979) hypothesised that the chronic lack of human companionship, the absence or sudden loss of love, the death or absence of parents in early childhood, the single,
widowed or divorced state, all shared the potential to foster loneliness, and all these disruptive social conditions were statistically linked to an increased incidence of disease, and a startling rise in the frequency of premature death. They also argued that loneliness was closely correlated to susceptibility to disease. They offered two mechanisms for these results. Firstly, behavioural changes such as excessive alcohol or nicotine intake might occur, which may result in suicides, car accidents, liver and lung diseases. Secondly, analogous but internal dysfunctional physiologic changes might take place such as elevations of blood pressure which could lead directly to premature death, or increased vulnerability to health problems. However, these early studies did not distinguish between feelings of loneliness, depression, negative affect, anxiety, or generalised distress. Neither did they consider the qualitative versus quantitative aspects of social contacts. They did not distinguish between the perception of loneliness as the negative subjective evaluation of social contacts and the objective lack of social interaction.

Evidence suggesting a positive relationship between qualitative aspects of social contact and health was provided by Berkman and Syme (1979). In a prospective study, they conducted nine year follow ups of 6928 adults, and found an association for number of social contacts, marriage, contacts with close friends and relatives, church membership and formal and informal group associations, and mortality for both men and women. This result was independent of self-reported physical health status at the time of survey, year of death, socioeconomic status, and health practices such as smoking, drinking alcohol, obesity, physical activity, low utilisation of health services, and a cumulative index of health practices. Of particular importance in this study was the finding that qualitative differences in social contact, in this case the lack of the more intimate nature of contacts with spouses, close friends, and relatives rather than church membership and informal group membership, increased the overall risk to mortality. However, depression, anxiety, negative affect, and self esteem were not differentiated and may have confounded these results. The mechanisms posited by the authors to account for the mortality and social contact relationship were lowered host resistance leading to increased susceptibility to disease, and altered behaviours leading to increased risk taking.

More recently Olsen, Olsen, Gunner-Svensson, and Waldstrom (1991) concluded from their examination of social networks and longevity in the elderly in Denmark, that self reported feelings of loneliness were associated with cardiovascular mortality, but interviewer estimates of
patient satisfaction with social networks were not. This was especially the case for males. The authors interviewed a random sample of 1752 participants aged between 70-100 years and followed their health for 12 years. They adjusted for initial health status and asked three questions concerning feelings of loneliness. Later, nurses estimated both qualitative and quantitative aspects of social networks on a four point scale. These findings add weight to the negative and subjective evaluative aspects of loneliness being of greater concern than satisfaction with the quality or number of contacts when viewed objectively. However, no data other than age, gender, or health status was assessed so that these results could have been differentially affected by personality, mood, or behavioural variables.

Conflicting evidence exists concerning the direction of the social contacts-health relationship which highlights a need for further investigation. Does a perceived lack of satisfying social ties cause people to become ill and die, or do unhealthy people see themselves as unable to establish and maintain such social ties? Do both of these possibilities occur? Using path analysis Creecy, Berg, and Wright (1985) examined the self reported serious health problems of a national probability sample of 2797 adults over the age of 60, and measures of social activity, social fulfilment and loneliness. The loneliness measure consisted of a three items asking whether loneliness was not a problem, a somewhat serious problem, or a very serious problem. The authors found that serious self reported health problems predicted loneliness through the indirect pathways of reductions of social activity and social fulfilment. (This study is detailed in Chapter 5). They also posited a cumulative model in which factors linked with loneliness combined to restrict social activity and thus to affect social fulfilment.

In contrast, were the results of Mor-Barak and Miller (1991), who used a time-series panel design, and assessed social networks with the Lubben Social Network Scale (Lubben, 1988). The 10 scale items dealt with qualitative and quantitative features of the network. Social networks had a significant positive effect on health one year after the first assessment of the frail elderly people used in their study, but the effect was no longer significant six months later. Neither objective nor subjective health measures had a significant effect on social networks, and the results were independent of other stressful life events. At present a bidirectional effect seems likely until more longitudinal studies establish causality.
If social contact does affect health how might it do so? Cohen (1988) offered four theoretical models to explain how social relationships may influence the susceptibility to, and recovery from, disease. An information based model suggested that having a wide range of network ties provided multiple sources of information, and increased the probability of having access to an appropriate information source when faced with a health problem. The social influence model posited the notion that a socially integrated person was subject to social controls and peer pressures which promoted better health behaviours. A self esteem model claimed that social relationships increased self esteem, self identity, and control over one’s environment, and that these feelings resulted in better health. Whilst the last model, the tangible resources model, described the social network operating to prevent disease by providing aid, and tangible and economic services, which resulted in better health and better health care for network members.

Some support for the last two models is provided by Cutrona, Russell, and Rose (1986). In a prospective study they found that, taken together, the results of their longitudinal study suggested that older persons whose relationships enhanced their self esteem were less susceptible to declining health. Although their sample was small and non-representative, physical health was directly affected by social provisions related to feeling valued by others, whereas psychological health was related to the stress buffering effects of social provisions which involved assistance from others. Questions remain unanswered. Do social interactions affect our overall thinking, attributions, and expectancies, or do specific interactions such as those with significant others have specific effects? Do they have combined effects? Further research is needed concerning the psychosocial and pathogenic processes by which social relationships affect the health of various populations. Because of possible confounding effects correlated mood and personality variables need to included in future research.

Social ties may play a particularly important role for older people according to Minkler and Pilsuk (1982), Mor-Barak and Miller (1991), and Treas (1977), perhaps because older people are more vulnerable to such life changes as loss of spouse, retirement, and relocation. People are not always able to achieve consistency between the relationships they desire and the relationships they have. They have may have different opportunities for forming and maintaining relationships, and they may differ in their ability to take advantage of available opportunities. These age linked events may strongly affect both access to, and satisfaction with, one’s social
contacts. Work exploring differences in health and the social environments of lonely and non-lonely older people would be best to simultaneously explore social-behavioural and structural aspects of those environments.

Findings from studies of social support offer confirming evidence of the importance of social ties in regard to the health of older adults (See House, Robins & Metzner 1982; Thomas, Goodwin, & Goodwin 1985; Kiecolt-Glaser, Dura, Speicher, Trask, & Glaser, 1991; Dura, Stukenberg & Glaser, 1991; Kiecolt-Glaser, Dura, Speicher, Trask, & Glaser 1991; Kiecolt-Glaser, Fisher, Ogrocki, Stout, Speicher & 1987; Esterling, Kiecolt-Glaser, Bodnar, & Glaser, 1994; Uchino, Kiecolt-Glaser, and Cacioppo, 1992; and Uchino, Cacioppo, Malarkey, Glaser, & Kiecolt-Glaser; 1995). The implication of these studies is that increased levels of social support might serve to enhance the immunological defence against disease for those experiencing loneliness. However, simply increasing the level of social support would not be sufficient to alter the negative evaluation of the social support which is loneliness. Further work to distinguish the independent effects of loneliness and social support is needed. Only two of these studies controlled for negative affect which may well have contributed to these results.

Because loneliness is likely to be precipitated by bereavement the possible relationship of loneliness to decreased immunocompetency is supported by the results of bereavement studies and immune changes (See Scheifler, Keller, Camerino, Thornton & Stein, 1983; Bartrop, Luckhurst, Lazarus, Kiloh & Penny, 1977; Irwin, Daniels, Smith, Bloom, & Weiner, 1987; Irwin, Daniels, Risch, Bloom, & Weiner, 1988; and Kiecolt-Glaser, Fisher, Ogrocki, Stout, Speicher & Glaser, 1987).

Stroebe (1994) explored evidence of the bereavement-mortality relationship and suggested that what distinguished decedents from survivors was a lack of contact with others during their bereavement; they did not remarry, they had no one to talk to on the telephone, they lived by themselves and they felt isolated. The general picture was one of isolation, a lack of support, and little integration with other people. They suffered both the grief of bereavement, and the secondary consequences which might predispose them to loneliness.
It is becoming increasingly likely that psychosocial variables such as loneliness, lack of social support, and loss of significant relationships do influence the body's ability to combat disease. However, depression, anxiety, and health related behaviours cannot be ruled out as alternative explanations for these results, and further investigations are needed to clarify the effects of these variables. There may be individual differences in stress reactivity which influence these findings. Differences in nutrition, weight, sleep patterns, level of activity, alcohol or caffeine intake may have affected results of the immunological assays.

To summarise, despite the differences in measures, populations, and methodology, evidence points to the fact that social ties are important to health. Social contact appears to influence host resistance, and affect vulnerability to disease in general. Social ties seem likely to contribute to increased susceptibility to illness particularly in the case of older adults, although it is not yet clear whether this is the result of loneliness, lack of social support, depression, anxiety, health maintenance behaviours, or to host or other unknown factors. Further longitudinal studies are needed to disentangle the effects of these variables. Because of the correlational nature of the evidence the causal interpretation of these associations is unclear. Neither are the mechanisms clearly apparent by which dissatisfaction with social ties translates into altered immunity. However, the evidence is sufficiently compelling to warrant urgent further attention to the issue. As people live longer and the number of older adults in the population increases alternatives to expensive medications and technological interventions, in particular for cardiovascular problems, are sorely needed.

Health and feelings of loneliness

One strand of this thesis is that loneliness needs to be diagnosed and treated because of three major potential health consequences to older adults which may eventuate if the condition is ignored. It may impinge on their quality of life. It may contribute to immune suppression. The indirect presentation of loneliness to the doctor may result in inappropriate medical interventions. The literature concerning feelings of loneliness and each of these contingencies is explored.
Feelings of loneliness and quality of life

Most theories of ageing, according to Lee and Ishii-Kuntz (1988), posit that quality of life is, in part, a function of social interaction and the strength of social bonds. A state of mind inclusive of feelings of happiness, contentment, and satisfaction with the conditions of one’s life is a concept which is often termed morale, or satisfaction with life (For further details of this issue see Chamberlain, 1988). The negative feelings associated with the experience of loneliness impact adversely on the happiness component of life satisfaction. The emotional impact of loneliness is very severe. Loneliness has been associated with feelings of isolation (Scalise, Ginter, & Gerstein, 1984), helplessness (Gaev, 1976), hopelessness (Russell, Peplau, and Cutrona, 1980), worthlessness (Paloutzian & Ellison, 1982) and anger (Russell, Peplau, & Ferguson, 1978). Lonely people have also been described as feeling bored by Rubenstein and Shaver (1982b), powerless and alienated by Jones (1982), empty by Weiss (1973) and shamed by Lynch (1977). High levels of stress have been reported for those who are lonely by Schll, Toves, and Ramaniah (1980; 1981). Wilbert and Rupert (1986), describe lonely people as having such dysfunctional attitudes as doubting their ability to find a satisfying social relationship, fearing rejection, and evaluating themselves negatively. Lonely individuals were found to be concerned with regrets and guilt feelings about the past, and have rigid and overly idealistic goals for the future by Sermat (1980), and to have an attributional style of self blame by Anderson, Miller, Riger, Dill, & Sedikides (1994).

Measures of loneliness have been shown to correlate negatively with reported life satisfaction in older subjects (See Bowling, Edelman, Leaver, & Hoeckel, 1989; Doyle & Forehand, 1984; Gray, Ventnis, & Hayslip, 1992; Mellor & Edelman, 1988; Moore & Schultz, 1987; Russell, 1996). In a cross-sectional study using the UCLA-V2 (Russell, Peplau, & Cutrona, 1980), Schumaker, Shea, Monfries, and Groth-Marnet (1992) found a high inverse correlation between loneliness and life satisfaction in 121 Australian subjects aged between 17-69 years, but a much smaller inverse relationship in 121 Japanese subjects between the ages of 21-65. Perhaps loneliness does not always translate into life dissatisfaction, and cultural differences in the support available for unhappy, lonely people might be important influences on the perceived quality of their lives. An investigation into the factors which affect this translation would be most useful. The different social constructions of definitions of both loneliness and quality of life, and the language and discourses used to discuss these topics may well have relevance in this
regard. Once again no assessment was made in these studies of correlated variables such as depression, anxiety, or health behaviours likely to confound these results.

Knutson and Lansing (1990) and Christian, Dluhy, and O’Neill (1989) investigated, and found, an association between feelings of loneliness and profound hearing loss. Dugan and Kivett (1994) found that both inadequate communication strategies and poor accommodation to deafness were significantly correlated with loneliness in older adults. Deafness was also correlated with loneliness in this age group by Perlman, Gerson, and Spinner (1978). Loss of visual acuity in older adults was found to be related to loneliness by Holmann, Andersson, Ericsson, Rydbergh, and Windblad (1993) in a longitudinal project involving 1803 Swedish people with ages ranging from 75-102. They asked whether participants experienced loneliness often, sometimes, or never. In the Kivett (1979) study of rural elderly loneliness was also associated with a loss of visual acuity. Physical disability seems likely to provide a barrier to access to satisfying social contacts.

Loneliness has been found to be one of the strongest predictors of self reported memory problems by Barzargan and Barbre (1992). Loneliness has been suggested by Monane (1992) as contributing to insomnia in elderly persons. Poor sleep and loneliness were found to be particularly likely to co-occur in women by Frisoni, De Leo, Rozzini, Bernadini, Buono, and Trabucchi (1993) in their study of the quality of life of elderly people. However, their measure of loneliness was the Surtee’s social support scale (Surtee, 1980), so they have confused loneliness and social support. Women over the age of 75 years were twice as likely as men to report a high frequency of sleep symptoms. Once again the results of these studies are confounded by the effects of correlated variables, such as social support and loneliness and may well be the results of depression, anxiety, or health related behaviours.

The relationship between feelings of loneliness and psychiatric illness is equivocal. At present there is insufficient evidence to substantiate an association. Fromm Reichman (1959) described severe and pathological loneliness as central to psychiatric conditions, using as examples a number of case studies. She considered severe, or pathological loneliness to be the seed, or root of mental illness. She hypothesised that feelings of loneliness often preceded emotional paralysis and helplessness. Gerstein, Bates, and Reindl (1987) in one of the few empirical
studies comparing a group of healthy volunteers and a group of people with schizophrenia, measured loneliness using the Loneliness Rating Scale (LRS, Scalise, Ginter, & Gerstein, 1984), and the UCLA-V2 (Russell, Peplau, & Cutrona, 1980). Groups had similar degrees of loneliness and used similar ways of coping with loneliness, but loneliness was more pervasive among those with schizophrenia and debilitated this group’s contact with others, and with the environment in general. The schizophrenic group was more likely to experience isolation, agitation, and health related stress when lonely, and reported more headaches, digestive problems, and insomnia than the healthy controls. However, high loneliness scores on the UCLA-V2 were not equated with self-reports of high distress in the Glaser, Kiecol-Glaser, Speicher and Holliday (1985) study of medical students. This factor may be indicative of the chronic quality of loneliness in a normally healthy person as opposed to the more acutely felt distress in a clinically pathological person. On the other hand the debilitation in the group’s contact with others associated with the clinical sample may have been due to the reduction in normal social interaction brought about by their medical conditions rather than loneliness.

Earlier research which utilised case studies indicated the likelihood of an association between psychiatric illness and loneliness but evidence was inconclusive. Later studies of psychiatric disorders and loneliness showed a consistent association, but the interactions are likely to be complex. Once again more studies, particularly carefully controlled longitudinal studies which use control groups are required to establish any linkages between loneliness and such conditions. They also need to distinguish between the effects of loneliness, negative affect, depression, and anxiety. At present there is not enough evidence to support the linkage of loneliness and psychiatric illness.

**Feelings of loneliness and immune suppression**

More recent evidence is appearing to support the possibility that feelings of loneliness have an adverse effect on physical health through immunologic impairment, or neuroendocrinal changes. In a meta-analytic review of stress and immunity in humans, Herbert and Cohen (1993, p. 364) concluded that:
• Objective stressful events were related to larger immune changes than subjective self reports of stress
• Immune response varied with stressor duration
• Interpersonal events were related to different outcomes than non-social events

Two explanations for such neuroendocrine changes were provided, the first being through activation of the hypothalamic-pituitary-adrenal axis and the sympathetic nervous system. The second pathway may be through altered behaviours such as sleeping and exercising less, smoking, drinking alcohol, and taking other drugs which distressed people may use to cope with the emotional upset.

Cohen and Williamson (1991) discussed methodological and conceptual problems related to the role of stress on the onset, duration, and recurrence of infections in humans. The authors emphasised that prospective infection challenge studies provide the best strategy to study the role of stress in infectious disease susceptibility. In one such study (Jabaaij, Grosheide, Heitink, Duivenvoorden, Ballieux, & Vingerhoets, 1993), the authors found a critical period during which the immune process can be modulated by certain forms of emotional stimuli. One could speculate that loneliness might be one of these stimuli.

Kiecolt-Glaser, Garner, Speicher, Penn, Holliday, and Glaser (1984a) investigated the possibility that immune changes measured in medical students at examination time were related to perceived loneliness. The medical students were tested for natural killer cell cytotoxicity (NKCC) one month before, and at the time of their examinations. NKCC is an important defence against physical illness such as resistance to viral infections and tumour cell growth and metastasis (Ortaldo & Herberman, 1984), and progression of human immunodeficiency, Type 1 (Cai, Huang, Rappocciolo, & Rinaldo, 1990). The authors found that the medical students who reported being more lonely, as indicated by their responses to the UCLA-V2 (Russell, Peplau, & Cutrona, 1980), had poorer immune function across assays relative to students who described themselves as less lonely. Similar data were obtained with psychiatric patients (Kiecolt-Glaser, Ricker, Messick, Speicher, Garner, and Glaser (1984b), where lonelier patients had lower natural killer cell activity level, lower T-lymphocyte proliferation in response to phytohemmaglutinin
(PHA) which stimulates helper and to a lesser extent suppressor T lymphocytes, and higher urinary cortisol levels. Glaser, Kiecolt-Glaser, Speicher, and Holliday (1985) measured loneliness on the UCLA-V2 (Russell, Peplau, & Cutrona, 1980) and found lonely medical students had significantly higher Epstein-Barr virus antibodies than the low lonely group.

Taken together these data provide some indication that loneliness may be related to certain aspects of immunity. It is difficult to ascertain the direction of this relationship, that is whether the changes in immunity are responses to the social dislocation, or the reverse. Almost all of the findings of links between feelings of loneliness and immune suppression have come from one research laboratory, they have not included measures of negative affect, depression, and anxiety, and they have not distinguished between situational and chronic loneliness. Neither have host variables which may affect results been controlled. Until these variables are included in studies it is difficult to distinguish the specific effects of loneliness on immune suppression. Studies from the Kiecolt-Glaser laboratory do attempt to measure generalised distress.

Although Cohen and Williamson (1988) found an association between immune parameters and health behaviours, the studies from Kiecolt-Glaser, Glaser, and colleagues did not (Kiecolt-Glaser, Dura, Speicher, Trask, & Glaser, 1991; Kiecolt-Glaser, Glaser, Shuttleworth, Dyer, Ogrocki & Speicher, 1987). This difference in results is most puzzling and warrants urgent further investigation as there is growing evidence to suggest that feelings of loneliness are implicated in health related behaviours. Suicide, and suicidal ideation, have been reported to be associated with loneliness by Diamant & Windholz (1981) and Wenz (1977), with loneliness in older adults by McIntosh (1995) and Mercer (1989; 1992), and with bereavement by Farberow, Gallagher-Thompson, Gilewski, and Thompson (1987; 1992). McIntosh (1995) found that the highest rate of suicide occurred in adults aged over 65 years in their American study. The author listed loneliness, social isolation, and recent loss of a significant other amongst several factors which may produce suicidal behaviour in older adults. Once again feelings of loneliness are not clearly distinguished from depression, anxiety, negative affect, grief, or health related behaviours. Joiner and Rudd (1996) attempted to disentangle the interrelations between hopelessness, loneliness, and suicidal ideation in a prospective study of undergraduates. Their results supported the view that hopelessness was predictive of both loneliness and suicidality and postulated no direct link between loneliness and suicidality. More work is needed to ascertain
whether or not these results are replicable with older adults. At present evidence suggests that feelings of loneliness may be implicated in suicidal ideation in this age group but is not conclusive.

Åkerlind and Hörnquist (1987) and Hörnquist and Åkerlind (1992) have reviewed the literature concerning the interplay between feelings of loneliness and the abuse of alcohol. They conclude that loneliness may be significant at all stages in the course of alcohol dependence. It may contribute to both the development and the maintenance of the abuse. In their longitudinal study of 95 advanced alcohol abusers, the feelings of loneliness as measured with a nine question self-report of loneliness were linked to a poor prognosis, and to a generally negative perception of self, and dissatisfaction with most things in life. However, they did not measure negative affect or situational and chronic loneliness. Sadava and Pak (1994), in cross-sectional and longitudinal data from two samples aged 20-29, showed that those who were unattached consumed significantly more alcohol, manifested more problems with drinking, and had higher levels of loneliness and dissatisfaction with social support than those in committed relationships. Unattached subjects also demonstrated less secure and more ambivalent and anxious attachment styles, and more dissatisfaction with social support than the attached subjects. It is also likely that loneliness is a consequence as well as a predictor of alcohol dependence.

Loneliness has also been associated with abuse of alcohol by Maida (1984). Feelings of loneliness were contributing factors to problems associated with alcohol in 43% of the 150 elderly people referred to a psychiatry of old age service over a six month period in the study of Farragher, Wrigley, and Veluri, (1994). In an examination of the relations of gender, age, alcohol, and loneliness, Barretta, Dantzler, and Kayson (1995) found a significant interaction between age and alcohol use. Older subjects who reported consuming alcohol on more days also rated loneliness higher, whereas younger subjects who reported consuming alcohol on more days were least lonely. Feelings of loneliness were also identified as a pervasive issue for the members of an Elders Health programme studied by Kostyk, Lindblom, Fuchs, Tabiz and Jacyk (1994). Schonfeld and Dupree (1995) reported depression and lack of social support as the most frequently reported antecedents to preadmission drinking for two groups of older alcohol abusers, one group with early onset alcohol abuse, and one with late-onset abuse. To disentangle the effects of these findings both feelings of loneliness and social support need assessment, as do
the effects of depression, anxiety, negative affect and health maintenance behaviours. The few longitudinal studies suggest that loneliness precedes alcohol abuse but the direction of the association is unclear. It seems likely that there is a bidirectional effect with lonely people drinking more, and people who are drinking too much becoming increasingly lonely.

Excessive gambling and loneliness were linked by Legg-England and Gotestam (1991). Over consumption of food was suggested to be the result of loneliness by Bruch (1958), after dealing with a number of clients with obesity, and by Coker (1995). Medication use among 115 participants aged 55+ was examined by Hendriks, Johnson, Sheahan, and Coons (1991; 1995), who found that feelings of loneliness were associated with increased use of prescription, psychoactive, and over the counter drugs, while less life satisfaction was linked to increased use of psychoactive substances and prescription drugs. However, feelings of loneliness were reportedly not associated with increased use of prescription medication by Russell (1996).

Coping with feeling lonely has resulted in decreasing social contact, spending more money, and increasing sexual relationships (See Gerstein & Tesser, 1987). The effect of confounding mood variables has not been considered.

The use of different methodologies and measures and thus the inconsistency of results makes it hard to hypothesise on underlying mechanisms or prerequisites for immune suppression in relation to feelings of loneliness and health related behaviours. We have no clear information on whether these immune changes occur independently of confounding variables, how long they take to occur, how long they last, or whether they have any clinical significance. Nor do we know how interventions would improve immunity. However, it is through the recognition of separate processes that questions concerning the specificity of illness outcome, personal resilience, the limits of the impact of psychosocial factors, and the appropriate forms of therapeutic intervention, may be resolved.

Steptoe (1991) argued that in terms of aetiology and maintenance of illness, the traditional distinctions between psychiatric disorders, physical disorders in which psychological components can be identified, and physical disorder without psychological involvement, is outmoded. Rather, psychosocial factors may influence the entire spectrum of health disorders. He stated that in some circumstances, stress related processes may be involved in the initiation of
disease, but more commonly they affect the course, severity, and prognosis of the condition, to an extent which varies between patients. Steptoe also argued that, even though the pathways mediating social distress influences on health are more complex than is sometimes appreciated, this is no excuse for vagueness in postulating links, since careful analysis can distinguish processes with specific properties. Future research must establish these connections more precisely. It is most important that investigations of the relationship of immune suppression with loneliness do not remain static, but develops in the light of the constantly emerging, and exciting, empirical findings.

Feelings of loneliness and health complaints and behaviours
Of particular relevance to this thesis are previous studies concerning feelings of loneliness and health complaints and behaviours. Studies, particularly of older adults, have consistently found feelings of loneliness to be associated with increased rates of self reported physician utilisation. Svanborg (1979-1980) studied elderly Swedish people and found that lonely women reported feeling sick more often, and visiting physicians more frequently than lonely men. Rubenstein and Shaver (1982b) carried out an extensive newspaper survey and found that self identified lonely persons reported more medical problems than the less lonely, even if they were living with others. Cheng (1990; 1992) studied the relationships among self reported health status, stress, loneliness-distress, somatisation, and physician utilisation in a retrospective study of two well, elderly samples of female recruits from senior citizen groups. He measured loneliness distress with an adapted version of the UCLA-V2 (Russell, Peplau, & Cutrona, 1980). He found that high self reported physician users tended to be those who were lonely, when health was controlled. He also suggested that some older women cope with loneliness by visiting doctors. He posited the notion of support substitution as an explanation for why people with emotional problems were likely to be frequent users of medical services, and thought this concept was deserving of further research. Unfortunately the difficulties already described when negative affect is not controlled, and with the use of self reports makes these results difficult to interpret. In order to counteract these difficulties the studies need to be replicated with the inclusion of the highly correlated and possibly confounding variables, and with measures of both self reported and objective measures of physician utilisation.
According to McKinlay (1980), people who were lonely might have visited their doctors because they did not feel cared for, valued, or esteemed by others. Whilst socially integrated and non-lonely persons tended to obtain advice, interpersonal stimulation, a sense of belonging, and sustaining social support from family, friends, and social institutions such as churches, clubs and neighbourhood groups, lonely people may have used the doctor to meet these needs (See Shuval, Antonovsky, & Davies, 1970). These authors also suggested that the doctors visit allowed the lonely person to express their feelings in a non-judgemental and sympathetic setting where the risk of ridicule and rejection was absent. Meeting and talking to the doctors, and being touched by them were important, pleasurable and real interpersonal transactions for the lonely. Because medical institutions such as hospitals, health centres, and clinics are a valued and respected part of society, they may have offered a sense of social integration and belonging to minority group members. Lonely people who were distressed by physical symptoms may also have visited their doctors for information about their symptoms rather than for treatment.

Pilisuk, Boylan, and Acredolo (1987), in a longitudinal study of physician utilisation, sampled 437 adults aged 40 years or older. The authors found that clinic visits were associated with increasing age, with higher stress levels, and with lower levels of social support at the beginning of the study. They measured three qualitative factors of spouse, friend, and social network satisfaction, but failed to assess loneliness. Longitudinal studies of loneliness and physician utilisation are needed but there are obstacles to such research. The stigmatisation associated with loneliness will be discussed at greater depth in the introduction to the second study. However, it needs to be mentioned here because stigmatisation of loneliness makes it difficult to secure a large sample (other than captive college students) prepared to commit themselves to such studies. Whether it is ethically acceptable to ask lonely older people to repeatedly complete a series of questionnaires containing instruments to assess situational and chronic loneliness, negative affect, depression, and anxiety is an issue which needs consideration. No well-proven measure of chronic loneliness is available at present. Self reports of physician utilisation may be affected by memory or distorted by social desirability biases, whilst objective measures of physician utilisation are bedevilled by issues of privacy, lost records, and unrecorded visits to multiple doctors. Individual differences in the feelings of shame and guilt experienced by lonely people may prevent some of them from seeking medical care even if they were experiencing very
severe effects of loneliness whilst others might overuse their physicians. Aggregated data of objective measures of physician utilisation would not show these effects.

A further consistent reporting from studies is the association of loneliness with high ratings of somatic distress, particularly in the case of older adults. Both Rubenstein and Shaver (1980), and Gerstein and Tesser (1987) draw attention to the physiological symptoms which accompany loneliness. The latter authors describe four types of physiological complaints made by the college students in their study who were experiencing loneliness. These were stress, which encompassed pains in the chest area, headaches, and trouble breathing; impaired body function, which included insomnia and poor appetite; physical discomfort, which contained items such as crying spells and digestive problems; and feeling physically drained, with such responses as feeling tired, irritable or angry. They reduced the four types to two general types. One of these dealt with physical symptoms related to affective or mental processes, such as feeling physically drained and physical discomfort, and the other with complaints linked to physical ailments or modifications in one's basic bodily functioning or need states, such as stress responses and impaired body functioning. The problem with these findings is that the symptoms associated with loneliness are indistinguishable from those produced by depression, or anxiety, or a number of common illnesses.

Cheng (1992) found that the older women in his study who were bothered by their loneliness were more likely to have ill-defined symptoms regardless of whether or not they were under stress. Loneliness has also been found to have moderate and positive correlations with self reported psychological and somatic symptoms by Schill, Toves, and Ramaniah (1980; 1981). They also found a higher relationship between loneliness and somatic distress for college students with an internal locus of control. However, Baum (1982) found no such relationship in an older sample. DeBerard and Kleinknecht (1995) examined the correlations between intensity of loneliness in 195 undergraduate students (measured on the UCLA-V2, Russell, Peplau, & Cutrona, 1980) and duration of loneliness (assessed on the Hojat 1981, 1982 loneliness scale), and reported psychological and somatic stress symptoms. Analysis indicated that intensity and duration of loneliness were significantly correlated, and both were also significantly and positively correlated with subject’s reported psychological and somatic stress symptoms. The problems with measurement in this study have already been mentioned.
Brink and Niemeyer (1993), in a cross-sectional study of college students, found a significant correlation between a hypochondriasis scale and loneliness as measured with the UCLA-V2 (Russell, Peplau, & Cutrona, 1980). Self reported somatic distress had strong associations with loneliness. Once again the association between loneliness and self reports of somatic distress is difficult to disentangle from the effects of confounding variables which were not included in the analyses. Neither, with the exception of the DeBerard and Kleinknecht (1995) study, have measures of situational and chronic loneliness been used. The correlational nature of the evidence cannot provide evidence of causality.

Feelings of loneliness have been consistently correlated with poor self rated health in young and older adults (See Cheng, 1990; 1992; de Jong-Gierveld, Kamphuis, & Dykstra, 1987; Gerstein & Tesser, 1987; Kivett, 1979; Mullins, Sheppard, & Andersson, 1991; Mullins Smith, Colquitt, & Mushel, 1996; Perlman, Gerson, & Spinner, 1978; Russell, 1996; Stessman, Ginsberg, Klein, Hamermanrozenberg, Friedman, & Cohen, 1996; and Wenger, Davies, Shahtamasedi, & Scott, 1996). Are people who think they are sick more lonely than those who think they are well? Do feelings of poor health produce feelings of loneliness? Or do lonely people perceive their health less favourably than those who are not lonely? Once again the evidence is correlational and the direction of this association is unclear, and these results may again reflect the effects of negative affect, depression, anxiety, self esteem, or health related behaviours.

Perhaps the health complaints of lonely research participants are similar to those made by subjects high in negative affect in that they are simply a nuisance factor in health research. On the other hand, high self reports of physician utilisation, symptoms, and health complaints may be extremely meaningful for older adults with more serious health problems than they are for college students with less serious conditions. Loneliness might be viewed as a commonplace construct which organises the subjective reality of older adults. The silencing of loneliness in this age group, (which will be further described in the introduction to the second study), in combination with the high level of health complaints and behaviours of the lonely may place them at risk for inappropriate medical interventions. Perhaps the high level of health complaints is of greater significance for situational loneliness than it is for chronic loneliness, or vice versa.
Summary of loneliness and health associations in older adults

In summation, some evidence suggests that both situational and chronic loneliness can be differentiated from depression, separation and social anxiety, negative affect, and generalised distress by their determinants, foci, and resolution. Both situational and chronic loneliness are considered to be negative affective reactions to the perceived lack of a particular, desired relationship, or relationships. Situational loneliness is likely to be precipitated by a specific event or life change such as loss, bereavement, or relocation which leads to the perception of blocked access to the wanted relationship, and the accompanying feelings of loneliness may be temporary or become persistent. Chronic loneliness is posited to result from a persistent inability to form satisfying relationships because of deficient relationship initiation skills and is long lasting.

For both types of loneliness the emotional impact which accompanies the negative evaluation of the perceived lack of a desired relationship is very severe and distressing. Although the impact of persistent loneliness may lessen slightly over time, both temporary and persistent loneliness are only relieved by the provision of the desired relationship or relationships. Loneliness and depression are argued to be separate but correlated conditions which frequently co-occur in older adults. Both types of loneliness are associated with a large number of personality variables, in particular they are positively associated with low self esteem and high levels of anxiety. Trait negative affect, or trait anxiety is a very similar construct to chronic loneliness but whether they are redundant is unclear. Until more evidence is forthcoming both variables need to be included in research involving loneliness and health. Some evidence associates loneliness with psychiatric illness, but more studies with appropriate age groups and controls are required, and the effects of feelings of loneliness need to be disentangled from those of the correlated variables of negative affect, depression, and anxiety. The effects of feelings of loneliness appear to be more severe and pervasive in those people who are experiencing other psychiatric problems but these may be signs of generalised distress rather than loneliness.

Evidence increasingly points to the qualitative and subjective features of the social network being important to health. That is the satisfaction with, or the perceived intimacy of, the social
contact is important rather than the objective feature of number of social contacts. Some evidence suggests that dissatisfaction and unhappiness with the perceived quality of social contact has an adverse effect on health through immunological impairment or neurological changes. These changes have been measured in both short and long term studies and may indicate a relationship between loneliness and an increased susceptibility to disease.

Four theoretical models purporting to explain these immunological changes are: the information based model suggesting that a wider information base concerning health problems is accessible to people with satisfactory social contacts; the self esteem model pointing to the beneficial effects of satisfying social contacts on self esteem and the translation of these effects to better health; the social influence model positing peer pressure from satisfying social contacts to maintain good health practices; and the tangible resources model advocating the usefulness of economic or tangible support from the social network for health care.

The evidence of immunological changes from the loneliness studies is supported by results from social support, bereavement, and mortality studies. However, studies have not sufficiently differentiated amongst these related variables, nor considered the effects of confounding variables such as depression, anxiety, negative affect, and health behaviours. More information is needed of the independent effects of situational and chronic loneliness in these immunological changes, of their significance, the mechanisms which produce these effects, and how they could be prevented.

Feelings of loneliness have been associated with a variety of cognitions, beliefs, and emotions which may detrimentally affect the quality of life of older adults. Physical disabilities associated with ageing, such as deafness and poor vision, have been related to loneliness. It is likely that deafness in particular, and poor vision to a lesser degree, would block access to satisfying social contacts and predispose toward feelings of loneliness. Some evidence is provided of a link between suicidal behaviour and feelings of loneliness in this age group. Increasing evidence is appearing of an association between alcohol abuse and feelings of loneliness for older people, and of possible links for feelings of loneliness and psychoactive and over the counter drug
taking, but more research is needed to establish these connections and to separate the effects of loneliness from correlated variables. Any of these associations has the potential to decrease the quality of life of older adults. It is likely that cultural factors may influence the relationship between feelings of loneliness and life satisfaction in older adults and this requires further investigation. More studies of societal differences in the experience and expression of loneliness and the implications of these findings for the health of older adults are needed.

Feelings of loneliness have been associated with a consistent pattern of increased self reporting of somatic symptoms, health complaints, and physician utilisation in older adults, and of low self rated health. As most studies have not controlled for the confounding effects of negative affect, depression, and anxiety, the importance of these self reports in this age group is unclear. There is conflicting and insufficient evidence of the direction of these relationships. The self reporting of ill health may produce feelings of loneliness, loneliness may be followed by unfavourable self reported health, or the relationship may be bi-directional.

Overall, these findings suggest that feelings of loneliness are linked to detrimental health consequences for older people. Feelings of moderate to severe loneliness are sufficiently aversive to affect the quality of life of this age group. In addition the evidence from the immune studies and from studies of health behaviours, although far from conclusive, is sufficient to point to the advisability of diagnosing and treating oppressive feelings of loneliness in this age group whilst more information is gathered.

Although loneliness and immune functioning are an important strand of the nexus of loneliness and primary medical care their further investigation is beyond the budget and time constraints of the present project. However, the associations between loneliness, stigma, health complaints and behaviours, and primary medical care which has been found in other countries is sufficiently persistent, interesting, and worrying to deserve further attention, particularly in the case of older adults. Are these findings applicable to a New Zealand context? Do they apply to situational and chronic loneliness? If not, how might they differ? Is the relationship between loneliness and self reports of ill health similar to a raised temperature in that it indicates that something is wrong but not what that is? How might these complaints impinge on the presentation of loneliness to the doctor? Most human behaviour is purposeful. What is the purpose of these
health reports for the lonely people in this age group? Answers to these questions may provide evidence which will aid the diagnosis and treatment by medical practitioners of loneliness in older New Zealand adults.

No studies of loneliness and health have been carried out in New Zealand. More information is needed to ascertain whether or not, and to what degree, loneliness affects older New Zealanders. Although the health complaints and behaviours have been individually reported by a variety of researchers the meaning or function of this overall increase in reporting by older, lonely adults have not previously been explored.

The present studies attempt to explore the prevalence of moderate-severe loneliness, and to provide a sociodemographic profile of a lonely older New Zealander. They also seek to examine the process by which loneliness might promote physician utilisation in this age group, and to offer an explanation, at a societal level, as to why older adults might increase their health complaints or present indirectly to their doctors when lonely.
CHAPTER 3

LONELINESS: A REVIEW OF MAJOR ISSUES

Prevalence of loneliness

Indications from responses of 25,000 people to an American newspaper questionnaire, demonstrated that loneliness was evident in large portions of the population, regardless of their gender, socio-economic status, race, or religious group (Rubenstein & Shaver, 1980). Self reported incidences in response to North American surveys of loneliness were:

- Lonely within the last week 11% (Maisel, 1969)
- Lonely within the last two weeks 26% (Bradburn, 1969)
- Lonely for most of their lives 10-30% (Sermat, 1980)

Medora and Woodward (1986) reported the incidence of loneliness among various populations and ranked these groups in order of severity and frequency of their loneliness. They described low-income, single, adolescent mothers as the most lonely. This group was followed by alcoholic individuals, various student groups, divorced adults, elderly American Indians and finally elderly populations both in and out of nursing homes. Schultz and Moore (1988) found college students and retirees to be somewhat less lonely than high school students, whilst retirees were slightly less lonely than college students. In New Zealand, Maxwell & Coebergh (1986) noted that 31% of their sample of 243 people over the age of 18 years, who had been randomly selected from an urban electoral roll, had had some periods of loneliness in the past, and 16% reported that they had often or almost always been lonely. There is evidence that loneliness is relatively stable over time in college students. Retests of lonely students after a seven month interval indicated that approximately two thirds of the group were still lonely (Cutrona, Russell, & Peplau, 1982), and also after two months (Russell, Peplau & Fergusson, 1978).

Loneliness is common among older adults. Creecy, Berg, and Wright (1985) reported loneliness figures of 12-40% amongst those aged 65 years and over, dependent on age and sex.
people and women were more lonely. Their figures were based on a national American survey. Among clinical psychogeriatric populations (Weeks, 1988) and residential/institutional populations (Uhlman & Steinke, 1985) loneliness in this age group may be somewhat higher than 40%. In a British survey Jones, Victor, and Vetter (1985) found that, amongst those aged over 70 in several general medical practices, 16-24% described themselves as being lonely at least some of the time. More urban than rural subjects felt lonely. Feelings of loneliness were consistently associated with disability in both study areas. Balkwell (1981) concluded that loneliness was a serious problem for 48% of urban widows, and 75% of rural widows sampled. In a Swedish survey of those over the age of 70 years conducted by Berg, Mellstrom, Persson, and Svanborg (1981) 12% of the males and 24% of the females reported being lonely. There is limited longitudinal data available to indicate the stability of loneliness in older adults over time. However, the results of Kivett and McCulloch (1990) evidenced considerable stability over time in older rural persons. Changes in loneliness were related to transitional life events rather than a linear function of time. Loneliness was ranked fourth among twelve areas representing serious problems for the elderly, after poor health, financial difficulties, and fear of crime, in the national survey of Harris and Associates (1975). The differences in prevalence are in a large part a reflection of the measurement of loneliness employed. These figures result from self reports of loneliness. They are the reports of those who are prepared, or able to acknowledge their loneliness, and therefore under represent the full extent of feelings of loneliness. Although older people report lower levels of loneliness they may, because of the combined effects of ageism and the stigmatisation of loneliness, be less likely to reveal their feelings than younger groups.

A theoretical overview of loneliness

Both Rolheiser (1979) and Moustakas (1961) maintained that loneliness, ranging from the experience of minor feelings of discomfort, to chronic misery, was at the core of every person's life experience, and has always been so. They suggested that it was not a modern social ailment, although research into the phenomenon was more recent. The loneliness we experience is complex and multifaceted. As its pain may be aroused, or caused by a host of events or situations, its expression and the quality of the experience is different in varied circumstances. The very earliest psychiatric publications concerning loneliness were by clinicians, and based on observations of patients.
Most loneliness research has occurred since the 1960s. Weiss (1973) proposed that people severely underestimated their own past experience with loneliness and consequently downplayed its role in their lives. Sullivan (1953) observed that periods of loneliness were later difficult to recall. It is possible that these factors, and the lack of valid approaches for collecting data, have been barriers to earlier research. Perhaps the fact that loneliness is such a commonly experienced phenomenon has also contributed to this early lack of interest. Theoretical research then seems to have consisted of descriptive studies in the 1970s, refinement of measurement techniques and postulation of conceptual models in the early 1980s, and hypothesis testing studies in the late 1980s and early 1990s.

Many of the theories of loneliness are not fully developed and are not supported by empirical studies. The cognitive theory of Peplau and colleagues (Peplau & Caldwell, 1978; Peplau & Perlman 1979, 1982; Peplau, Micelli, & Morasch, 1982), and the social-developmental theory of Weiss (1973) are the most elaborate. Peplau and her associates have identified constructs and explicated the relationships among them. Weiss and colleagues have explored both the concept of loneliness and its causes. Psychodynamic and cognitive theories have contributed most to loneliness research, whilst a lesser amount has been stimulated by the theory of Weiss. Young's (1982) analysis has provided a carefully expressed and theoretically grounded approach to treating lonely people. Theories have delineated the importance of the subjective, perceived quality of social interaction, behaviour, and skills, and the function of cognitive and individual difference variables such as perceptual-evaluative attributes, and responses to the actual social environment. The major issues which are unresolved in the theoretical literature are the dimensions of loneliness, its duration, and the awareness/unawareness distinction. Because of these differences of opinion there are conflicting views as to how loneliness should be measured. There is also a considerable lack of consensus regarding the antecedents of loneliness, as to whether they are personally, situationally, or structurally determined. There is, as yet, no explanation of the links in the causal chain. How does one go from a perception of isolated self, to an inner feeling of ache and intolerable restlessness. Theory has been limited at this stage to exploration of the concept, or experience of loneliness, rather than systematic sets of propositions about the relationship of loneliness to other variables. Little research exploring the effects and expression of loneliness has been carried out. Very few empirical studies of
loneliness have focused on cultural differences in the experience of loneliness. The majority of the psychological studies have been based primarily on one scale, and used one subject pool of college students. Most models for understanding loneliness have been neither fully, nor systematically articulated at the level of true theory.

The nature of loneliness

Because loneliness is a subjective experience, it is difficult to define and its causes are hard to isolate. Peplau and Perlman (1982) provided a sample of twelve definitions of loneliness dating from 1953-1982. Since then there have been many further attempts at definition. Rather than giving a comprehensive list of such definitions this discussion will detail the definitions, or descriptions, of loneliness which exemplify the most thoroughly developed theories of loneliness. As previously mentioned, I believe that confusion results from trying to obtain some clear picture of some central core construct of loneliness which at the same time encompasses all we mean by the term, and excludes everything else. Instead we should be searching for patterns, in a network of interacting entities. Marangoni and Ickes (1989) suggested three major theoretical approaches which exemplify the conceptual viewpoints outlined in the theoretical overview. The first was a social needs approach which focused on deficits in human intimacy needs. The second, a behavioural/personality perspective, studied individual differences in the behaviour of lonely people and how such systematic differences in social skills related to theoretically relevant individual differences in personality. The third approach, the cognitive processes approach, focused on subjective perceptions and evaluations as mediators of the loneliness experience.

Social needs perspective

A basic premise which is shared by many researchers is the human need for intimacy. This need is posited to result either from evolutionary processes which encourage pair-bonding or the maximisation of group cohesiveness, or from sociocultural training. Bowlby (1973) referred to the emotional pain of loneliness as a proximity promoting mechanism which was of extreme importance to our ancestors. It alerted them to their growing isolation from others, and therefore to their increased vulnerability to nature and predators. Just as physical pain serves to warn us of bodily dysfunction, loneliness could be seen to be an indicator of social dislocation. Both types
of pain are unpleasant but essential survival mechanisms for mankind. According to Barash (1977) grouping behaviour can offer many advantages toward individual survival. These include better protection against predators, division of labour, and sharing of benefits of individual experience. A biological predisposition for living in groups may also enhance the survival of the individual’s offspring. An example from the social needs viewpoint is that of Sullivan (1953), who defines loneliness as an exceedingly unpleasant and driving experience connected with the inadequate discharge of the need for human intimacy, that is for interpersonal intimacy. In addition, Weiss (1973) described loneliness as being caused, not by being alone, but by being without some definite needed relationship or needed set of relationships.

Loneliness appears always to be a negative response to the perceived absence of some type of relationship, or more accurately, a response to the perceived absence of some particular relational provision. Weiss (1973) stated that loneliness had a set of symptoms, expressions, a set of characteristics, both emotional and social and was easily identifiable. It was real. A person who was lonely was experiencing a very special emotional state. In his view this emotional state was ordinary or everyday loneliness. This, he believed, differed from other types of loneliness such as pathological loneliness, the rare, severe loneliness associated with psychiatric disorders as described by Fromm-Reichman. There has been little research into these distinctions although the term “ordinary loneliness” is frequently used. Weiss argued that describing the syndrome of ordinary loneliness is more appropriate than formulating logical definitions of it. He suggested that the common symptoms of ordinary loneliness were a yearning for the relationship (an intimacy or a friendship) which was seen as insufficient, a driving restlessness, and an irritability with blocked access to the desired relationship. Loneliness was expressed by a lack of concentration on other activities and a restless searching for the relationship which would alleviate the symptoms of loneliness. In the author’s opinion there was no gradual recovery from loneliness. Once the desired relationship was established loneliness would end. However, the author thought it possible that individuals might, over time, change their standards for appraising situations and feelings. Their standards might shrink to conform more closely to the shape of bleak reality. A further component of this approach was that social conditions within which people live moderate the impact of many aspects of life, including interpersonal relationships and emotional states.
Creecy, Berg, and Wright (1985) stated that older people were likely to experience ordinary loneliness in much the same way as younger people. The study of ordinary loneliness consisted of a number of mostly unpublished doctoral dissertations written in the 1960s (See Bradley, 1969; Bradburn, 1969; Eddy, 1961; Sisenwein, 1964) until Weiss (1973), in a seminal paper, divided ordinary loneliness into two types. These were emotional loneliness, which he stated was characterised by the absence of an attachment figure, and social loneliness which was manifested by the absence of a social network. In his opinion the two forms of loneliness had different symptoms, emotional loneliness being associated with feelings of anxiety and emptiness, and social loneliness with central feelings of boredom, aimlessness, and marginality, and were responsive to different remedies. His work was conducted in the context of studying primary relationships in a group of people without partners, and a second group of participants who were married, but had relocated in new areas where they had no friends. There has been some empirical support for these distinctions as far as emotional loneliness goes, but the results concerning social loneliness are ambivalent (See Andersson, 1985; Chelune, Sultan, & Williams, 1986; Cutrona, 1982; DiTommaso & Spinner, 1997; McWhirter & Horan, 1996; Russell, Cutrona, Rose, & Yurko 1984; Williams & Solano 1983; Vincenzi & Grabosky, 1989). Dugan and Kivett (1994) studied emotional and social loneliness in older adults. They found that emotional loneliness explained a greater amount of loneliness for the rural elderly in their study than did social loneliness. The authors felt that cognisance of their findings was needed if programs were put in place to help these older people, as it was opportunities to meet potential attachment figures which were required rather than simply increased social interaction.

**Behaviour/personality perspective**

Basic to these theorists is the belief that loneliness involves self-defeating dispositions and responses, which regardless of their origin, might be expected to disrupt normal social interaction. Behaviourists have recognised various aspects of social relationship skills as important to disordered behaviour (See Bellack & Hersen, 1979; Curran & Monti, 1982; Spence & Shepherd, 1983). They viewed loneliness as a disruption of the learning of relating to others, which was exacerbated by lack of meaningful relationships. From a behavioural/personality perspective Shaver, Furman, and Buhrmester (1985) identified a behavioural pattern in lonely people which they termed deficient relationship initiation skills. Loneliness has been positively related to perceived lack of intimacy with best friends, (Williams & Solano, 1983), perceived
lack of disclosure to peers (Berg & Peplau, 1982), and reports from partners that lonely people were inattentive and uninterested in developing future friendships. Lonely individuals have been found to refer to other people less, be more self-focused and ask fewer questions (Jones, Freemon, & Goswick, 1981), and to display lower rates of talkativeness, interruptions and recall of partner communication when compared to non-lonely individuals (Bell, 1985; Goswick & Jones, 1981). Jones, Freemon, and Goswick (1981) believed that these behaviours were probably responsible for the persistence of loneliness over time.

Wittenberg and Reis (1986) concluded that loneliness was related to a broad range of interpersonal inadequacies rather than a deficiency of any particular skill and suggested that this might be a reflection of a global and negatively biased self concept. Positive associations have been found in the literature for loneliness and shyness, self consciousness, depression, negative self esteem, social risk taking, and extraversion (Anderson, Horowitz, & French, 1983; Jones, 1981; Rubenstein & Shaver, 1980; Russell, Peplau, & Cutrona, 1980; Schmidt and Sermat 1983; Stokes, 1985). Hansson, Jones, Carpenter and Remondet (1986-87) defined loneliness as a common but unpleasant psychological state reflecting a lack of satisfying social networks and intimate relationships which typically reflected a mix of both internal and external determinants. They described loneliness in older people as being often accompanied by feelings of hopelessness, emptiness, and defeat and by such disabling emotions as anxiety, depression, low self esteem, and hostility. As well, lonely older people were said to exhibit poor social skills and to be less assertive. Moore and Schultz (1987) suggested that taking responsibility for loneliness might be a critical first step in coping with the condition. The tendency to take such responsibility was associated with lower scores on the UCLA-V2, (Russell, Peplau, & Cutrona, 1980), with shorter duration of loneliness episodes, and less frequent bouts of loneliness per month amongst the older subjects in their study.

Cognitive processes perspective
The most well known researchers of the cognitive processes perspective are Peplau and Perlman (1979, 1982), who defined loneliness as an unpleasant experience which occurred when a person’s network of social relationships was perceived to be deficient in some important way, either quantitatively, or qualitatively. The authors focused on personal desires and preferences
concerning social relations. Two people with similar social interaction patterns might give opposite answers when asked whether they were lonely because each might have different perceptions of, and preferences for, their social relations. These authors also suggested that loneliness could be seen as one end point for evaluating social relations. Intimacy and loneliness could be viewed as the opposing anchors of a continuum, and a satisfactory balance between the two be necessary for good psychological and physical health. In their view, each person had an optimal level of social interaction. When the person’s relationships were suboptimal, they would experience the distress of loneliness. However, when faced with excessive contact the person might feel crowded. Evaluations of social relations were influenced by comparisons with past experience, and with the experiences of other people. Rubin (1982) was of the opinion that lack of satisfying peer relationships in early childhood would not create deficits that could not be reversed by later experiences. Although the cognitive deficit model is the most well documented, there has been little research designed to specifically test the model.

Young (1982) is also included in this theoretical perspective as his definition of loneliness as the absence, or perceived absence of satisfying social relationships, accompanied by symptoms of psychological distress which are related to the actual or perceived absence, is also cognitive. He would include in his definition of loneliness anyone who showed one, or more, symptoms of psychological distress, such as anxiety, dysphoria, or drug abuse, which seemed to be clearly related to a pattern of unsatisfying relationships. Young differed from the preceding authors in considering that loneliness might also result from a lack of social reinforcement previously associated with certain relationships, and that the person might be unaware that they were experiencing this absence. He believed that, as was the case with other reinforcements, individuals manifested changes in behaviour, and in emotional response, following deprivations in social relationships. Young also asserted that there was no one symptom or pattern of symptoms uniquely characterising loneliness, but rather that individuals coped with loneliness in different ways, and therefore evidenced a variety of symptoms. He argued that the symptoms of loneliness included some negatively tinged emotion, or affective state. This affective state which accompanied loneliness might differ as a function of the attributions an individual used to explain the unsatisfying social relationships. A lonely person unable to function safely without the desired relationship would experience anxiety. Blaming others for loneliness might produce angry feelings, and attributing loneliness to some internal and stable state, such as being dull or
boring, might make a person sad or depressed. Attributions in older adults were studied by Peplau, Bikson, Rook, and Goodchilds (1982) who pointed out that people in this age group often believed that loneliness inevitably and inescapably accompanied growing older. Because of this belief they did nothing to alleviate their loneliness and the self-fulfilling prophecy was substantiated.

Both Rubenstein and Shaver (1980), and Gerstein and Tesser (1987) drew attention to the physiological symptoms which accompany loneliness which are described in Chapter 2. Although other investigators have identified physiological complaints accompanying loneliness (See Bruch, 1958; and Shaver & Rubenstein 1979), or social isolation (See Lynch, 1977; and Lynch & Convey, 1979), only Gerstein and Tesser (1987) have investigated the particular antecedents of such complaints. They also studied the relationship between transient and chronic loneliness and physiological complaints. Length of time lonely contributed to two physical responses. Those lonely for longer than a week were more likely to report impaired body function, and feeling physically drained. Chronically lonely persons seemed to experience intense feelings of physical exhaustion such as tiredness and disruptions in their eating, sleeping, and thinking processes. Eating and sleeping problems have also been associated with loneliness by Paloutzian and Ellison (1982), and Rubenstein and Shaver (1979). Gerstein and Tesser (1987) pointed out that in order to understand the particular responses of lonely individuals it was necessary to comprehend their reasons for feeling lonely and the type of expectations that they have for the future of their loneliness experience.

**Critical appraisal of the theoretical perspectives**

The social needs approach emphasises the affective aspects of loneliness whereas the cognitive processes approach emphasises the evaluation of social relations and relational deficits. The social needs approach proposes a more direct link between social deficits and the subjective reactions they produce than the cognitive processes approach. This perspective highlights the role of cognitive processes in modulating the intensity of such reactions. However, Shaver and Hazan (1985) emphasised that behind the cognitive approach of Peplau and Perlman (1982) lurk motivational and emotional constructs of some kind, any one of which could represent social
needs. Self attributions are postulated to influence real and potential episodes of loneliness but attribution theory fails to provide an explanation for why some people make negative attributions about a particular situation and some do not. The social needs advocates are more concerned with the likelihood that lonely people cannot or will not acknowledge their loneliness than cognitive proponents. The latter group, with the exception of Young (1982), pay more attention to people who label themselves as lonely. This is a major weakness of the cognitive processes approach. Young followed cognitive thought in believing that automatic thoughts moderated affective responses to relational deficits. However his view that symptoms of loneliness without self-labelling were grounds for a diagnosis of loneliness is closer to the behaviourist perspective.

A major weakness of the behaviourist/personality theorists of loneliness who view loneliness as a trait or predisposition is their implicit belief that personality is immutable, although modifiable to a certain extent by learning. The work of Potter and Wetherell (1994) is useful in regard to viewing personality as a form of self presentation. People may choose to respond in certain ways to specific situations on one occasion and in different ways on another. The inherited predispositions and different environments may interact to produce different responses in different contexts. Some people may have a much smaller range of options available to them than others. Therefore what appears to be the result of a personality factor may instead be the result of restricted choice. Caution is needed in unquestioning acceptance of personality traits and their relationship with loneliness. Similar arguments can be advanced for behavioural responses which may differ contextually. A strength of the behaviourist/personality approach is that it provides an explanation for differences in the development of situational and chronic loneliness. Neither the social needs nor the cognitive processes perspectives attempt to articulate this important distinction (once again with the exception of Young, 1982).

Existential concepts and spiritual beliefs may be important factors which point to cultural differences in the extent of loneliness and in the ways in which it is both defined and experienced. Language and discourses about loneliness support and sustain societal differences in the experience and expression of loneliness. None of the three perspectives under scrutiny pays attention to these crucial concepts. No single theoretical perspective provides a systematic set of testable propositions which cover the complexity of the experience of loneliness. On
balance, what appears to be needed is some amalgamation of the three perspectives and the addition of propositions concerning the cultural variability of loneliness and the contribution of language to these differences.

Loneliness in older persons

Loneliness appears to operate in much the same way among older adults as it does among young people. (See Creecy, Berg, & Wright, 1985; Dugan & Kivett, 1994; Hansson, Jones, Carpenter & Remondet, 1986-1987; Schultz & Moore, 1984). There is a general consensus that older adults are more likely to be socially isolated, and therefore at greater risk of loneliness than are other age groups in society. Hansson et al. made four central points concerning loneliness and the older age group. In their study it was associated with considerable dissatisfaction with relationships across a range of samples. Paradoxically, it was also associated with a host of negative feelings, characteristics, and attitudes likely to inhibit the restoration of mutually satisfying relationships. In addition, loneliness was associated with a variety of maladaptive behaviour patterns which included less planning for old age, less rehearsal for widowhood, and less involvement in facilitating social process such as social comparison. The authors suggested that the ability to restore or maintain personal relationships is of particular importance for this age group in prolonging their good health and independence. Hansson et al. provided possible models for loneliness in this age group. They posited an underlying lack of skill in living contributing directly to negative self thoughts, and indirectly through poor interpersonal functioning to loneliness. Alternatively they suggested that loneliness might interfere with effective interpersonal functioning resulting in unpleasant and self-degrading emotional experiences. Schultz and Moore believed that loneliness in this age group might be precipitated and perpetuated by low self esteem and low levels of social risk taking. However, in a further study Schultz and Moore (1988) directly compared differences in loneliness experiences across three age levels; high school students, college students and retirees. Loneliness was least related to interpersonal skills and personality among retirees suggesting that these dynamics of loneliness were different at this age level than for either of the other two age groups. The authors warned that the confounding of this result with cohort effects needed to be considered.
To summarise, there is general consensus that loneliness is an unpleasant and distressing experience, that it has cognitive, affective, behavioural, and physiological components, and that it results from perceived deficiencies in a person's relationships. It has determinants which are a combination of personal vulnerabilities and external circumstances, and is experienced in a similar fashion by both younger and older adults, although the determinants may differ.

**Major areas of disagreement concerning loneliness**

**The dimensions of loneliness**

The first of these major areas of disagreement is whether loneliness is a unidimensional or a multidimensional phenomenon. Studies by Peplau and Perlman (1979) and Russell, Peplau and Fergusson (1978) focused on loneliness as a unidimensional construct. This conceptualisation suggested that loneliness was a unitary, global phenomenon which varied in the intensity with which it was experienced. That is, it affected all aspects of one's interpersonal, social, cultural, and psychological experiences. Other supporters of this perspective were Eddy (1961), Ellison and Paloutzian (1979), Rubenstein and Shaver (1979), and Sisenwein (1964).

However, Weiss (1973) suggested that ordinary loneliness was distinct from such other forms as the pathological loneliness, described by Fromm-Reichman (1959) and Sullivan (1953), which he believed occurs very rarely and only in association with severe psychotic illness. Weiss also posited a distinction between emotional and social loneliness. Rather than one, or two dimensions, a third group of researchers preferred a multidimensional perspective. In this approach all areas of experience were not included. Loneliness might thus be a feeling of marginality from a surrounding culture, or a manifestation of interpersonal loneliness. Researchers of the multidimensional persuasion included Belcher (1973), de Jong-Gierveld (1978, 1984, 1987, 1989), DiTommaso & Spinner (1997), Mikulincer & Segal (1990), Rokach (1988a, 1988b, 1989), Scalise, Ginter, and Gerstein (1984), and Schmidt (1976). Sadler and Johnson (1980) suggested a multidimensional model for understanding loneliness. They described four dimensions which were cosmic loneliness (which included nature, religion, self-alienation and existential loneliness), cultural loneliness (similar to the concept of anomie suggested by Durkheim, 1951, and Merton, 1957), social loneliness (as experienced by outsiders
such as the elderly), and an interpersonal dimension. Young (1982) described twelve distinct types of loneliness. The theoretical perspective underlying these views is that of Weiss (1973) who posited specific kinds of relationships which were assumed to provide specific social provisions. According to this perspective deficits in one type of relationship could not be compensated for by other types of relationship.

Despite theoretical differences, significant correlations have been found between unidimensional and multidimensional measures of degree, type, and aetiology of loneliness (See Marangoni & Ickes, 1989). Some empirical support has been provided for both sides of the controversy but no agreement has been reached on this issue. The distinctions between unidimensional and multidimensional constructs do, however, impact on both the assessment and treatment of loneliness, and these implications will be considered in more detail in the following chapter.

**The duration of loneliness.**

Young (1982), and de Jong-Gierveld (1987), both emphasised a further dimension of loneliness, which is chronicity, or duration. They suggested that loneliness was best viewed as consisting of three types; transitory or very brief loneliness, situational loneliness as the result of a precipitating situation such as loss, and chronic loneliness which has lasted for more than two years. Jones (1989) also pointed out the need to recognise the trait/state loneliness distinction. He combined transient and situational loneliness to form state loneliness, and distinguished it from chronic or trait loneliness. He suggested that state loneliness referred to what was experienced at the moment and it probably resulted from immediate interpersonal deficits in a given situation. By contrast, trait loneliness referred to relatively stable features of personality. Trait loneliness appeared to result from repeated interpersonal failure and might have originated in prototypical relationships. Behavioural variables such as relationship initiation skills, willingness to self disclose, and expressive communication skills, and cognitive processes such as attributions and interpersonal expectancies have been considered to mediate all aspects of social relationships. Although both behavioural and cognitive variables have been found to individually and jointly contribute to the experience of loneliness (See Wittenberg & Reis, 1986), these variables may be linked in characteristically different ways for state as opposed to trait loneliness. Young (1982) asserted that chronically lonely individuals differed from their
situationally lonely counterparts by exhibiting more long-term personal deficits, both cognitive and behavioural, and reported having fewer meaningful and intimate relationships. Hanley-Dunn, Maxwell, and Santos (1985) found that the temporal characteristics of loneliness experiences were related to the degree of negativity in interpreting the actions and intentions of significant others. They suggested that over time the resolution of loneliness was accompanied by a decrease in negativism, or the resolution of the negativism led to a decrease in loneliness.

The danger in the use of the terms state and trait is that it reflects the underlying assumption that personality is stable and largely immutable. The viewpoint of this thesis is that of social constructionism. People respond to situations according to the cultural definitions and expectations which are currently appropriate. Therefore their inherited dispositions interact with the particular context of the situation and may produce conflicting responses in different situations. Their responses are chosen with regard to the options available to them on the occasion. The use of the terms situational to describe temporary, and chronic to describe persistent loneliness are more useful in discriminating types of loneliness duration which may have different developmental determinants and forms of expression. Chronicity does not imply an impossibility for change as the term sometimes does in medical diagnosis. Rather, it emphasises the ongoing nature of this type of loneliness. From a research perspective this situational/chronic distinction may help to eliminate or explain inconsistencies in the loneliness literature (See Maragoni & Ickes, 1989). From a clinical perspective this distinction may mean that different types of therapy are required for each form of loneliness (See Young, 1982). Situational or temporary loneliness may be helped by brief interventions which improve the situation, or by the provision of support until the situation is alleviated or the network is repaired. Chronic, or persistent, loneliness might necessitate longer interventions aimed at improving social and personal skills.

**The awareness/unawareness of loneliness distinction**

Maragoni and Ickes (1989) described two subcategories of this awareness/unawareness distinction. These were an unwillingness to report feelings of loneliness despite an accurate awareness and recognition of one’s affective state, and an inability to report feelings of loneliness because the individual has not accurately labelled his or her affective experience as such due to the strategies of denial or distortion. The first of these conditions is likely to occur
because of the considerable social stigma connected with loneliness. As an example of this Creagh (1995) entitled his recent book “Loneliness: A taboo topic in New Zealand”. Weeks (1994) stated that loneliness is associated with psychosocial dysfunction and therefore stigma. There is also a negative stereotype of a lonely person which is often held by both the community and the lonely person (See Rotenberg & Kmill, 1992). Rokach and Brock (1997) investigated the social stigma of loneliness and concluded that individuals report a recall of past loneliness rather than admit to a current or ongoing experience. The stigmatisation of loneliness is further developed in the introduction to the second study.

Young (1982) viewed loneliness as a complex, emotional reaction to the absence or perceived absence of satisfactory relationships, which was accompanied by a psychological reaction which could be experienced at a conscious or a subconscious level. Neo-Freudians such as Klein (1980), and Sullivan (1953), speculated that the experience of loneliness might not always be consciously recognised or verbalised as such. The medical students in the Glaser et al. (1985) study, for instance, had higher loneliness scores on the loneliness scale than their self reports of loneliness indicated. This is not to say that loneliness cannot be made conscious. This argument is very similar to that concerning masked depression as to whether or not the condition can be brought to awareness by a skilled health professional. As yet the argument remains unresolved.

Loneliness produces no ready made pattern of emotional response. According to Gerstein and Tesser (1987), consequences are dependent on the strategies used to combat loneliness such as defensive denial, which may vary as a function of developmental characteristics. Hazan and Shaver (1987) offered early attachment patterns as an example of developmental characteristics which might impinge on this issue. Perlman and Joshi (1989) also suggested that awareness was related to gender, and personality traits such as sociability and interpersonal trust.

It was on the basis of this awareness/unawareness distinction that Young argued for a tentative diagnosis of loneliness if a person showed one or more symptoms of loneliness such as anxiety, dysphoria, drug abuse, that seemed clearly to be related to a pattern of unsatisfying social contacts. Schmidt and Sermat (1983) advocated that an individual might report little awareness of loneliness feelings on a self report measure even though deficiencies in various areas of
relationships would suggest that that person was at high risk for experiencing loneliness should his or her coping measures fail in the future.

Perlman and Joshi (1987) proposed several reasons to explain the reluctance of some people to disclose their loneliness. Firstly they might not realise that they were lonely. They might believe that disclosure would lead to a negative outcome, that they should solve their own problems, and that others could not help them.

The implications of this contentious distinction are that lonely people may not disclose their loneliness to their general practitioners. Thus it may be difficult for a doctor to recognise the condition. The implications also concern the measurement of loneliness and will be discussed in detail in the following chapter. Briefly, they provide problems with the type of scale chosen, with social desirability bias, with the use of self reports of loneliness, and with the convergent and discriminant validity of measures.

**Summary of loneliness issues**

To summarise, there are many definitions, descriptions and models of loneliness. They generally agree that loneliness is an unpleasant and distressing experience, that is has cognitive, affective, behavioural, and physiological components, that it results from perceived deficiencies in a person's relationships, and that its determinants are a combination of personal vulnerabilities and external circumstances. There is general consensus that loneliness is experienced in a similar fashion by both younger and older adults, but that the determinants may differ.

The majority of theorists tend to view loneliness as being a multivariate, rather than a univariate phenomenon. However, it may be useful to consider the common core of loneliness experiences as indicating the essence of loneliness, with different forms of loneliness, such as emotional or social loneliness, or situational and chronic loneliness adding certain qualities to that common experience, as suggested by Russell, Cutrona, Rose, and Yurko (1984). The present studies assume this conceptual position. More recent research suggests the need to study not only the intensity but the duration of loneliness, and to distinguish between situational and chronic
loneliness in future studies. The awareness/unawareness distinction has not received a great deal of research attention but appears to warrant further investigation.

**Sociodemographic variables which predispose towards, or precipitate loneliness**

As reported by Hansson et al. (1986-1987) there were fewer personality correlates associated with adjustment to changes in social roles in older adults than was the case for younger adults. More important for this age group, according to Weeks (1994), were the situational and structural correlates which might predispose or precipitate members of this age group towards loneliness. The most common of these factors are reviewed and their assessment included in the first study because the provision of a sociodemographic profile of a lonely, older New Zealander would aid the recognition of loneliness by general practitioners.

**Age**

Research on age and loneliness has produced inconsistent findings. Jones, Victor, and Vetter (1985), Larson (1990), Coppolino, Oliva, Scornavacca, and Luna (1991), all reported an increase in loneliness in those over 70 years. In a very small sample of older New Zealanders, Maxwell and Coebergh (1986) found that higher levels of loneliness were likely in those aged over 60 year who were not currently employed. However, age did not influence adult loneliness scores significantly in the New Zealand study of Knight, Chisholm, Marsh, and Godfrey (1988). Russell (1996) reported that older people were the least lonely of the four age groups he studied. However, nine out of ten older people thought they were more lonely now than when they were young in the Tunstall (1967) study. Correlations with age and loneliness varied with the type of relationship measured when Schmitt and Kurdek (1985) measured loneliness with the Differential Loneliness Scale (DLS, Schmitt & Sermat, 1983). Older women expressed more dissatisfaction with their friendships and romantic/sexual relationships than college women. College women expressed more dissatisfaction with their family and large group relationships than older women. Revenson and Johnson (1984) found no relationship between age and loneliness but were using the New York University Loneliness Scale (NYU, Rubenstein & Shaver, 1982a) which asks directly whether or not the person is lonely and answers may have been influenced by social desirability bias. Measurement of loneliness will be discussed in detail in the next chapter.
In the opinion of de Jong-Gierveld (1987) the explanation for these inconsistent results was that it was not age per se that was related to loneliness, but rather the cumulative deficit of social relationships and opportunities for new social relationships which was concurrent with growing older. De Jong-Gierveld viewed age and loneliness as independent variables and suggested that social factors were responsible for the relationship between them. A variety of personal and situational factors increased an individual's vulnerability to loneliness. Such factors might not only increase the likelihood that a person would become lonely, but also make it more difficult for the lonely person to re-establish satisfying social relationships. The author suggested that such factors were more likely to affect the lives of older than younger persons. This view of an indirect relationship between age and loneliness was supported by Mullins, Elston, and Gutkowski (1996).

**Gender**

Borys and Perlman (1985) explained that statistically significant gender differences were not often found with the UCLA scales which do not ask directly whether or not a person is lonely. If such differences occur with this instrument males were usually more lonely. For example, Hamid (1989) using the UCLA-V2 (Russell, Peplau, & Cutrona, 1980) in his study of New Zealand students found that loneliness scores were higher for males than females. Significant differences have been reported more frequently with self labelling loneliness measures, where women more typically admit being lonely (See Imamoglu, Kuller, Imamoglu, & Kuller, 1993; Page & Cole, 1991; Upmanyu, Upmanyu, & Dhirag, 1992). However, Tornstam (1992) questioned the assumption of Borys and Perlman that women were more likely to acknowledge their loneliness. He found, in a study of 2795 Swedish participants aged between 15-80 years, that the gender difference in loneliness was restricted to married individuals between 20-49 years of age. Loneliness was measured by responses to 11 items which asked directly about feelings of loneliness. As the gender difference was not evidenced by all respondents, the author suggested that there was a basic difference in the ways in which men and women reacted to the stresses and strains in a relationship in this particular cohort. The study was cross-sectional so the results are difficult to interpret.
Rokach and Sharma (1996) reported no significant gender differences in their study of three cultural subgroups of North American, South Asian, and West Indian participants. Rokach and Brock (1995) found that both genders in their study reported the major cause of loneliness to be personal inadequacies, indicating that both genders assume personal responsibility for their loneliness. However, Jones, Freemon, and Goswick (1981) suspected that there may be gender differences in the negative self ratings which are thought to perpetuate loneliness, but were unclear about what these differences were. Revenson and Johnson (1984) found no relationship between gender and loneliness in their study of older adults. As was the case with age, gender did not influence loneliness scores significantly in the New Zealand study of adults performed by Knight, Chisholm, Marsh, and Godfrey (1988). Correlations with gender varied with the type of relationship measured when Schmitt and Kurdek (1985) measured loneliness with the Differential Loneliness Scale (Schmitt & Sermat, 1983). College men expressed more dissatisfaction with their family and large group relations than did the women. The authors suggested the results supported the use of multidimensional instruments to measure loneliness. This strategy might provide sufficient evidence to decide whether or not loneliness is experienced or expressed differently by each gender, and whether these results differ by age. At present there is insufficient evidence to support gender differences in loneliness, but sufficient to warrant the inclusion of measurement of gender differences in loneliness studies.

Marital status and loss of a significant other
Marital status is the most commonly found sociodemographic predictor of loneliness, although Wenger, Davies, Shahtamasibi, and Scott (1996) suggested that marital status was a more crucial factor for predicting social isolation than it was for loneliness. Intact marriage becomes more rare with advancing age. There is evidence that it is the change from the married to the unmarried state rather than the unmarried status itself that is problematic (See Balkwell, 1981; Dugan & Kivett, 1994; McWhirter, 1990; Mellor & Edelman, 1988; Rayburn, 1986; Tucker, Friedman, Wingard, & Schwartz, 1996). In a review of the relationship of marital status and loneliness West, Kellner, and Moore-West (1986) found that in most studies the unmarried were more lonely than the unattached. However, unmarried older men, whether widowed, divorced, or never married reported higher levels of loneliness than unmarried older women. In a longitudinal study of 60 recently widowed and 60 married men and women Stroebe, Stroebe, Abakoumkin, and Schut (1996) found that marital status and social support influenced well-being by different
pathways. In their study the impact of marital status was mediated by emotional loneliness, and the impact of social support was mediated by social loneliness. This result implies that although marriage provides an intimate interpersonal relationship it is not protective under all circumstances. De Jong-Gierveld and van Tilburg (1987) concluded that the effect of a partner’s support varies with the type of problem under investigation.

As a result of experiencing the death of a spouse, a marital separation or a divorce, people lose not only a partner who is accessible for confiding, but often the relationships which were maintained as part of the lifestyle of a married couple (See Dykstra, 1993). Critical events such as loss of friends and peers have also been found to precipitate loneliness (See Dugan & Kivett, 1994; Revenson & Johnson, 1984; Rokach, 1989). Dorpat and Ripley (1967) found that 80% of the recently widowed who had committed suicide, had been living alone at the time. Perlman, Gerson, and Spinner (1978) assert that the longer the period of widowhood the higher the level of loneliness was in their sample of older adults. There appears to be a compounding effect as a number of situational variables take effect at the same time. Jones, Victor and Vetter (1985) believed that the loss of a spouse required a major adjustment and reintegration that many older people could not manage successfully.

**Education**

Baum (1982), Harris and Associates (1985) and Page and Cole (1991) found inverse relationships between loneliness and years of education. The more education the older person had the lower their loneliness scores. Liang and Warfel (1983) suggested that loneliness and education were highly correlated and might reflect the status of females who had never worked, or were widowed. Mullins, Tucker, Longino, and Marshall (1989) measured loneliness with a single item “Would you say you feel lonely” in a large study of older Canadians. Results indicated that those with lower levels of education had higher levels of loneliness. However, in a later study Mullins, Elton, and Gutowski (1996) suggested that education had an indirect effect on loneliness. Perhaps the more highly educated read more, or pursue hobbies and are more able to find enjoyment whilst on their own.

**Income and occupational status**

Loneliness has been reported to be more prevalent among lower income groups (See Page & Cole, 1991; Perlman, Gerson, and Spinner, 1978; Mullins, Elton, & Gutowski, 1996; Mullins &
Labour force participation provides an important source of identification, social contact, and emotional bonding which, when lost, may lead to loneliness. However, occupational status was not related to loneliness in the study of older adults by Page and Cole (1991). Older people who were retired from poorly paid positions were more likely to be lonely (see Rowen & Wilks, 1987; Weeks, 1994). Mullins, Smith, Colquitt and Mushel (1996) found both less adequate self-rated economic conditions, and being in poverty were related to greater loneliness.

**Ethnic and cultural differences**

Although there have been many sociological reports of such cultural factors as other directed or individualistic societies, secularisation, mobility, and/or urbanisation contributing to loneliness, there has been little empirical substantiation of these. Jones, Carpenter, and Quintana (1985) suggested three reasons to suspect that there would be cultural differences in the experience and expression of loneliness. These were that cultural groups differed in their beliefs regarding the positive and negative aspects of solitude (see de Jong-Gierveld & Raadschelders, 1982), that cultures differed in the availability of language with which to describe loneliness (Suedfield, 1982), and that groups also differed in dimensions of loneliness such as shyness and self-disclosure (Anderson & Harvey, 1988; Berg & Peplau, 1982). These differences point to a need to examine the instruments used to measure loneliness which, if loneliness is socially constructed, may be culturally confined. This issue will be pursued in the following chapter on the measurement of loneliness, and again in the introduction to the second of the present studies. Johnson and Mullins (1987) proposed that one's loneliness threshold is influenced by the overall cultural or subcultural value system, and by previous levels of social bonding in earlier stages of life.

Page and Cole (1991) reported that race/ethnicity did not significantly predict loneliness scores in their study of white American and Mexican American respondents. The latter group were underrepresented in the sample in comparison to county demographic data. West, Kellner, and Moore-West (1986) found, at that time, that there was insufficient data for conclusions to be formed concerning the relationship between ethnicity and loneliness, and this is still the position for this area of research.
Ginter, Glauser, and Richmond (1994) in a cross-sectional comparative study found that members of a group of Polynesian, Melanesian, and Micronesian students associated only with one potential source of social support which consisted of friends. The other group of East Indian and Caucasian origin perceived both friends and family as sources of social support. In this second group loneliness was not correlated with anxiety which might reflect a subtle cultural difference.

Imamoglu, Kuller, Imamoglu, and Kuller (1993) compared two large groups of older adults from Turkey and Sweden concerning self images, life satisfaction, social networks, attitudes to ageing, and loneliness. The measurement consisted of structured interviews. The Turks, especially men, had larger social networks than their Swedish counterparts. Turks also had less positive feelings about getting older, higher levels of loneliness, and lower levels of life satisfaction than the Swedes. Bhogle (1991) studied three major religious groups in India. There were two age groups, adolescents and middle aged adults in the groups of Hindus, Muslims, and Christians. Results revealed that Hindus experienced more loneliness than Muslims or Christians. Older people and women were more lonely. The instrument used was the UCLA-V2. Upmanyu, Upmanyu, and Dhingra (1993), using the same instrument found comparable levels of loneliness in Indian college students to those demonstrated by United States students. Once again the evidence is insufficient to identify definite differences among cultures.

Rokach and Sharma (1996) examined cultural differences in the experience of loneliness among groups of North Americans and South Asians and West Indians who had immigrated to North America. Results indicated that loneliness was experienced in significantly different ways between groups. Participants of South Asian background experienced more pronounced feelings of interpersonal alienation and of social inadequacy and alienation than participants of the other two groups. Although there were no gender differences within cultures in experiencing loneliness the effects of gender and cultural background interacted across cultures. North American women experienced lesser amounts of interpersonal isolation than their counterparts.
Living alone

Loneliness and social isolation represent social problems among some segments of many societies. One such segment is the older age group. The disruption in linkages to a supportive network may prompt feelings of vulnerability and marginality. Weeks (1994) stated that, for both genders over the age of 65 years, the poorest mental health was found in those living alone. Mullins, Sheppard, and Andersson (1991) reported that older persons in their Swedish study who were living alone were lonelier than those who were not. Abd-El Ghany (1986) believed that social isolation and loneliness were amongst the most frequent hidden causes of hospitalisation and of placement in nursing homes of older Egyptian adults.

Whether or not living alone leads to loneliness depends on the amount and type of contact required by the older person and the amount and type provided. Mullins and McNicholas (1986) recounted that the amount of contact older people had with their children was quite substantial. However, some authors (See Peplau & Perlman 1982; Perlman, Gerson & Spinner, 1978) indicated that older people actually preferred contact with same age friends or neighbours rather than with family or relatives. Visits with friends tended to be scheduled at mutual convenience and to afford greater parity of roles. Mullins and McNicholas reported that research findings showed two directions, the first being a desire for ongoing contacts with family members and a preference for social contact with peers. The second was a desire for the availability of family and peer contacts, but not necessarily the actual contact. While adult children often provide important support to frail older adults, the importance of a link between contact with children and loneliness remains unclear. Older adults, like young adults, tended to value privacy and independence, and view living alone as an achievement rather than a sign of rejection from others according to Peplau, Bikson, Rook, and Goodchilds (1982). Perlman, Gerson, and Spinner (1978) actually found greater loneliness among single old people who lived with relatives than among those who lived alone, or those who lived with friends.

In a study aimed at refining models of social isolation and loneliness Wenger, Davies, Shahtamasebi, and Scott (1996) reported that the critical correlates of isolation were marital status, network type, and social class and for loneliness, network type, household composition, and health. However, the frequent association of loneliness and social isolation points to the need to include measures of both variables in loneliness studies.
Having a disability or lack of transport which restricts socialising

Having a disability might force an older person to live in an environment which was characterised by lack of access to those activities which could provide the fulfilment necessary to forestall loneliness according to Creecy, Berg, and Wright (1985). The older adults who were disabled in the study of Jones, Victor and Vetter (1985) had higher levels of loneliness. However, Mullins et al. (1996) found no such correlation. These authors suggested that disabled persons might receive more attention than those without disabilities, or that they might adjust to their condition. Mellor and Edelman (1988) reported that the lonelier older adults in their study were those with increased physical impairment. Less loneliness was associated with fewer difficulties with transport amongst older adults by Perlman, Gerson, and Spinner (1978) and Jones, Victor, and Vetta (1985). Both physical disabilities and lack of transport could lead to loneliness if these difficulties blocked access to intimate relationships, or to social networks.

Relocation

Lopata (1982) emphasised the fact that attachments are not only to other people but may include places. Residential relocation might make older people very vulnerable to loneliness. Not only would they be moved from familiar physical surroundings but they may also lose meaningful relationships with neighbours and other social contacts. Perlman and Peplau (1984) and Cutrona (1982) reported that geographical moves precipitated loneliness in older adults. Woodward, Gingles, and Woodward (1974) interviewed older people living in apartments, housing complexes, relatives’ or friends’ houses and demonstrated that loneliness was affected by the person’s happiness with their housing. Older people who liked their residence were less lonely. Perlman, Gerson, and Spinner (1978) found that older people in their study who had chosen to move home were less lonely. However, with age the events which typically precipitate loneliness tend to become more aversive and less voluntary according to Peplau, Bikson, Rook, and Goodchilds (1982).

Summary of sociodemographic variables and loneliness

Although the correlation of loneliness and age has produced inconsistent findings, the relationships between marital status and loss of a significant other and loneliness are well
supported. Lower levels of education are generally found to be associated with loneliness, as is low income. The study of ethnic and cross-cultural differences in loneliness is beginning but has not yet produced sufficient evidence to establish any trends. Social isolation, and having a disability or lack of transport which restricts socialising appear to predispose towards loneliness by placing obstacles in the path of accessing or developing social networks. It is clear from the review, however, that these structural and situational factors which predispose people towards, or precipitate loneliness, are particularly relevant to the older age group. They are also of easy access to any doctor who wished to use them to aid the identification of loneliness.
CHAPTER 4
LONELINESS MEASUREMENT

Overview

This chapter begins with a review of the issues in loneliness research which have the most important implications for its measurement. It then examines a variety of loneliness instruments which exemplify attempts to deal with the methodological problems which these issues raise. The chapter concludes with a discussion of measurement difficulties and their implications for future research. The format of this chapter is based on that of Robinson, Shaver, and Wrightsman (1991) who describe measures of loneliness in volume I of their book "Measures of personality and social psychological attitudes." The chapter forms the theoretical basis for the selection of scales and research methods used to measure loneliness in the present studies.

Measurement issues

(1.) The important loneliness measurement issues are not numerous because the literature is relatively new. One issue concerns whether or not to use the term "loneliness" in scale items. The University of California Loneliness Scales (UCLA, Versions 1, 2, & 3, Russell, Peplau & Ferguson, 1978; Russell, Peplau, & Cutrona 1980; Russell, 1996) do not use the term, but some measures do. Russell (1982) stated that measurement of other affective states such as anxiety or depression do not directly ask whether a person is anxious or depressed but rather asks them to indicate whether or not they are experiencing emotions or feeling states related to the mood being measured. The advantages of this approach are that it helps disguise what is being measured by incorporating items which are negatively related to the construct being assessed, such as social satisfaction, thereby limiting the impact of social desirability. Non-loneliness items serve to eliminate response sets or acquiescence biases in scores (See Bentler, 1969). Borys and Perlman (1985) argued that the inclusion of
"loneliness" caused the scores of males to decline, probably because admitting to loneliness was not as socially acceptable for males as it was for females. However, if the word is left out there are disagreements about what the particular scale is measuring. Even when the word is deleted, most measures use self reports of loneliness to validate their scales. The effect of a socially desirable response may be lessened, therefore, by the use of a scale which has been designed to allow for this difficulty (for example the UCLA scales), by using an anonymous questionnaire, by the use of multivariate analyses to control for confounding variables, or by combining these approaches. However, the doubt about what is being measured remains. There is no simple answer to this problem as loneliness is an emotion with no agreed upon behavioural manifestations. This issue needs to be taken into account when results from face to face interviews which may stimulate socially desirable behaviour, or indeed any study which addresses the problem of loneliness directly, is considered. The issue also highlights the difficulties encountered with the stigmatisation and the social construction of loneliness when these scales are used to quantify the subjective experience of loneliness. One implication is that qualitative methodologies may be more fruitful for furthering understanding of the loneliness experience. Both these topics will be detailed in the introduction to the second of the present studies.

(2.) A related issue is that there are no objective correlates of loneliness. Although future developments in neuroimmunology may alter this fact eventually, at present there is no physiological test which is specific to loneliness. Instead, we have to rely for measurement on self reports or subjective interpretations of loneliness. Self report checklists do produce problems with interpretation, memory, and once again social desirability. The procedure of providing subjects with a list of possible responses may result in overstatements about the degree to which a given response occurred. A bonus of these tests is that they are capable of eliciting information which might not be forthcoming in an interview. Common confounding factors such as mood, personality, or social desirability can be addressed by the use of multivariate analyses. These can be used to control for many factors which may be responsible for third variable causation. Again the issue raises the usefulness of qualitative methodologies in exploring complex subjective interpretations of loneliness.
Methodological problems may also arise because of personal embarrassment, alexithymia, or repression. People may be unwilling to report feelings of loneliness despite having an accurate awareness and recognition of their affective state. They may try to hide their inner pain because they believe that loneliness is a personal embarrassment (Weiss, 1987). Some persons may fail to report feelings of loneliness because the individual has not accurately labelled their affective experience as such. This phenomenon of alexithymia is thought to characterise those lonely individuals who are unaware of their loneliness. Loneliness could also be a construct which people contextually use to label negative affect (see Schacter & Singer, 1962). Fromm-Reichman (1959) and Sullivan (1953) speculated about the possibility that the experience of loneliness may not always be consciously recognised or verbalised as such. Indeed the intensity and the uncommunicable quality of severe loneliness has led psychodynamic theorists to describe the experience in terms of the extreme defensive behaviours that individuals will engage in for the purposes of avoiding this aversive state.

This issue has resurfaced with the theoretical conceptualisation of Young (1982), who stated that loneliness was not entirely a cognitive phenomenon. He suggested that one might learn that confiding in a friend was rewarding. As was the case with other reinforcements, individuals manifested changes in behaviour and emotional response following deprivations in social relationships. Under certain circumstances therefore loneliness could be viewed, in part, as a response to the absence of important social reinforcements even when there was no evidence of a discrepancy at the cognitive level between expectations and reality. Conversely, loneliness might persist because an individual perceived an absence of social reinforcements even when there was no actual deprivation. This awareness/unawareness distinction is important with regard to the validity of loneliness measures which require the self label of lonely, or inquire directly about feelings of loneliness. Researchers who support this distinction favour the use of inferential scales constructed to tap the various, behavioural, social, and affective manifestations theorised to represent the loneliness experience. Empirical investigations within this framework are closely associated with clinical populations whereas most researchers studying normal populations such as students and the public at large use measuring devices containing explicit loneliness self labelling items. Most loneliness researchers validate their scales with self reports of loneliness. So
that even for a non-clinical population the awareness/unawareness dichotomy poses measurement problems which are seldom addressed. To identify loneliness then one must either rely on people's statements about their internal experiences, that is self reports, or attempt to infer loneliness from a cluster of symptoms. Both approaches are problematic in regard to measurement.

(4.) A further issue concerns the specific indicators of loneliness which the individual scale designer chooses to highlight in the scale. Whilst a large variety of indicators has been used in differing studies, most loneliness studies have focused on three features of loneliness to varying degrees. These are the perceived deficiencies in one's social world, the subjective state of loneliness, and the unpleasant and distressing emotions which accompany the experience.

According to Marangoni and Ickes (1989) actual and perceived deficits' measurement must contain items capable of assessing different types of social relationships, different qualitative dimensions within these social relationships, and the number and frequency of different social contacts. Measures targeting different aspects of loneliness such as needs and concerns, appraised situations, affective experience, psycho-physiological changes, or behaviour tend to correlate highly. This tends to support the proposition that these are parts of a coherent whole, but the reasons for selecting one aspect rather than another are often not stated.

Weiss (1987) argued that most popular measurement strategies confound definitions of loneliness with loneliness theories. He suggested that loneliness was often defined by the conditions which might theoretically give rise to it such as an absence, or perceived absence, of satisfying social relationships. The author also argued for a distinction between defining a logical concept and describing a real phenomenon and advocates direct observation, simple description and in depth analysis. He was of the opinion that we must develop measures which are sensitive to the affective state we understand to be loneliness rather than phenomena which are conducive to loneliness, or associated with loneliness.
Other researchers also considered responses to closed questions to be crude reflections of a feeling or experience. (See Anderson, Horowitz, & French, 1983, Lunt, 1991; Rubenstein and Shaver, 1980; Rokach, 1988b; Stokes, 1985). They suggested that improvements are needed in the available loneliness scales, in particular to measure the attributions of lonely people for their loneliness. Mikulincer and Segal (1990) used a phenomenological approach by asking open ended questions. Subjects tried to recall situations in which they had felt loneliness, and based answers on these experiences. Probes were provided, to help describe in detail what happened, how the person felt, what they wanted to do, and what they did when lonely. Cluster analysis was used to identify loneliness dimensions. Whilst this method of research is promising in that it captures the loneliness experience, it is open to the difficulties already described concerning self reports.

(5.) Another measurement issue concerns the structure of loneliness. Is it unidimensional or multidimensional? The measurement of loneliness is a direct outgrowth of its dimensional conceptualisation. Loneliness researchers with a unidimensional viewpoint see loneliness as a unitary phenomenon involving a common substrate of experiences (varying mainly in intensity), regardless of the particular cause, duration, or perceived remediation of the condition. This approach has guided the majority of the initial attempts to measure loneliness. Earlier scales have been developed to measure loneliness as a single dimension, but have not been widely used or accepted (See Bradley, 1969; Eddy, 1961; and Sisenwein, 1964). For most of them there are problems with reliability, validity, length, or acceptability. Single item questions which asked only “Are you lonely” were amongst the first measures used in loneliness research (Bradburn, 1969; Maisel, 1969). Survey studies still typically employ only single item measures of loneliness and these may well be direct ratings. Whilst having face validity they are likely to be answered in an ego defensive way (See Fromm Reichman, 1959; Sullivan, 1953). The only form of reliability which could be determined for these measures is test-retest reliability. The wording of the question or questions varies across studies making comparisons difficult.

To improve on this approach Russell, Peplau, and Ferguson (1978) developed the University of California Loneliness Assessment Scale (UCLA). They produced a revised version in 1980 (Russell, Peplau, & Cutrona), and a third version in the 1990s (See Russell, 1996).
These scales have excellent psychometric properties and a large number of studies have been conducted to establish their reliability and validity. Versions 1 and 2 of the UCLA have been the most widely used loneliness measuring instruments, and all three versions will be discussed in detail in the following section. However, the major problem with them is that they do not take into account qualitative differences in the way people experience and respond to loneliness episodes (See Rook, 1988). There is also argument as to whether or not they do measure a single dimension. (For good discussions of this issue see Hartshorne, 1993; Hays & Di Matteo, 1985; McWhirter, 1990; Russell, 1996).

A multidimensional approach has been taken by de-Jong-Gierveld & Kamphuis (1985), Gerstein and Tesser (1987), Rubenstein and Shaver (1982), Russell, Cutrona, Rose and Yurko (1984), Scalise, Ginter, and Gerstein (1984), Vincenzi and Grabosky (1987), and Young (1982), who investigated loneliness as a multidimensional construct encompassing different types of loneliness. The types of loneliness range from two (Weiss, 1973) to twelve (Young, 1982). These authors designed multidimensional instruments for measuring different aspects of loneliness. Examples of these measures will also be discussed in more detail in the next section of this chapter. Although promising the measures have not been consistently tested. If a scale is unidimensional then higher inter-item correlations should be expected if measuring Cronbach alpha for the total scale, since each item should be assessing the same thing, loneliness. Multidimensional scales need factor analysis to reproduce the hypothesised dimensions as separate factors, but, according to Russell, Cutrona, Rose, and Yurko (1984) the subscales must be internally consistent. Marangoni and Ickes (1989) suggested that the reliability and validity of the individual subscales in these measures needed greater attention, and the publication of more data in validation studies so that their psychometric adequacy might be assessed.

While it is agreed that loneliness refers to a large variety of heterogeneous experiences, theories disagree as to their taxonomy. One indication of the profusion of subcategories of loneliness is the large number of terms used to describe loneliness: solitude,aloneness, voluntary loneliness, enforced loneliness, physical loneliness, social loneliness, emotional loneliness, loneliness anxiety, for example (See de Jong-Gierveld, 1982; Kubistant, 1981; Mijuscovic, 1979; Von Witzleben, 1958; Weiss, 1973). Marangoni and Ickes (1989)
claimed that a multidimensional analysis of loneliness would assist in providing a valid taxonomy of loneliness. However, a more useful approach might be an exploration of the language used to describe and define loneliness, and of the purpose of such language. Taxonomies are not useful for describing subjective experiences. They force a binary decision to be made as to whether or not the person is lonely, and do not take into account degrees of loneliness or loneliness within different contexts. Rather than a binary notion the view of a spectrum of loneliness seems more appropriate than clear cut categories. A methodology such as discourse analysis, which will be described in Chapter 9, could be useful for dealing with the sometimes contradictory accounts of loneliness elicited from the same person in different contexts.

(6.) A major issue concerns the temporal characteristics of loneliness. Is it a chronic, long lasting condition, or a temporary, reactive emotional state, or both? Is it a dispositionally based trait or an emotional state. Some scale designers have attempted to make these distinctions. Many researchers consider this chronic versus situational distinction crucial to understanding the phenomenon of loneliness, but it has been examined by few empirical studies. Although the results of these studies seem to support the importance of making such a distinction in future research (Cutrona, 1982; de Jong-Gierveld & Raadschelders, 1982; Hanley-Dunn, Maxwell & Santos, 1985; Shaver, Furman & Buhrmester, 1985; Rook, 1988) there is no well tested instrument with which to measure situational versus chronic loneliness. Marangoni and Ickes (1989) stated, that in light of the probable importance of this distinction, increased research attention might involve the routine assessment of this dimension in future. This would enable researchers to enhance the reliability of each index, and at the same time further explain the distinction. It would also aid the delineation of the behavioural, personality and cognitive correlates of each of these types of loneliness. Before this can happen a suitable instrument with which to distinguish situational from chronic loneliness is urgently needed.

(7.) Finally, two methodological issues are relevant to this discussion. As referred to above, a number of variables are correlated with loneliness and may confound results, for example depression, anxiety, self esteem, and negative affect, and it is important to use multivariate statistical procedures to control for these variables when attempting to measure
loneliness. The level of analysis chosen will also affect the results. Macro analysis using structured paper and pencil tests will allow for a wider sampling frame but will tend to obscure individual differences. Micro analysis will provide in depth investigation of the dynamics and process of loneliness in a small number of participants but generalising from these results will be problematic. Interview methods are also time consuming and may not be feasible for some studies.

Loneliness measures

In order to detail the difficulties encountered in the measurement of loneliness a number of loneliness instruments have been selected for closer inspection. The measures chosen for review represent the most commonly used unidimensional measures (UCLA Versions 1, 2, and 3, Russell, Peplau, & Ferguson, 1978; Russell, Peplau, & Cutrona 1980; Russell, 1996); and a selection of multidimensional measures (The Rasch-type Loneliness Scale, de Jong-Gierveld and van Tilburg, 1990; The Loneliness Rating Scale, Scalise, Ginter, & Gerstein, 1984; The Emotional versus Social Loneliness Scale, Russell, Cutrona, Rose & Yurko, 1984; The Chronic versus Transient Loneliness Scales, Gerson & Perlman, 1979; The State versus Trait Loneliness Scales, Shaver, Furman, & Buhrmaster, 1985; and The Young Loneliness Inventory, Young 1979b, 1982). One purpose of presenting these examples is to support the selection of a quantitative methodology for obtaining a descriptive snapshot of loneliness amongst older New Zealanders, and the use of a unidimensional rather than a multidimensional measure to accomplish this. Another is to highlight the necessity for qualitative methodology for furthering the understanding of loneliness and primary health care in this age group by pointing out the limitations of the available quantitative instruments. A final aim is to uphold the decision not to attempt a statistical comparison of situational and chronic loneliness because of the lack of a suitable instrument for this procedure.

Unidimensional loneliness scales

UCLA-V1

The UCLA Loneliness Scales are the most widely used of all loneliness measures. Their development has spawned a huge number of loneliness studies. They measure loneliness
conceptualised as a unidimensional emotional response to a discrepancy between desired and achieved levels of social contact (Peplau & Perlman, 1982). The word "loneliness" does not appear in any of the items in an attempt to avoid response bias. There is no specified time frame for the UCLA scales so that they do not distinguish between situational and chronic loneliness. Russell, Peplau, and Ferguson (1978) developed the first version of the University of California Loneliness assessment Scale (UCLA) as a Likert type scale focusing on the quality of a respondent’s relationships with others. It contained 20 items from a 75-item pool developed in a dissertation by Sisenwein (1964). Many of the items were based on statements written by 20 psychologists who were asked to describe the experience of loneliness, and others were based on the earlier scale of Eddy (1961) concerning loneliness and self concept. Each item was accompanied by a four point frequency scale: I often feel this way, I sometimes feel this way, I rarely feel this way, and I never feel this way. Scores range from 20 (lowest loneliness) to 80 (highest loneliness). This was a general, multi-item scale with high internal consistency with a co-efficient alpha of 0.96, and high test-retest reliability over a two month period of 0.73. It was validated on two groups of college students, one of students who had responded to an advertisement in the student newspaper for students who had been "feeling lonely", and a second group of social psychology students (Russell, Peplau & Ferguson, 1978). A further study was also carried out with university students.

The scale was also used on an elderly population by Perlman, Gerson, and Spinner (1978). These authors used an 11 item version of the UCLA Loneliness Scale. They found that scores correlated significantly (r = 0.72) with an index of frequency and intensity of the respondents' self rated current loneliness. In addition, loneliness scores were highly related to experiencing such emotions as anxiety, depression, unhappiness and dissatisfaction, affects which are associated with loneliness amongst college students (Russell, Peplau & Ferguson, 1978). Loneliness among senior citizens was associated with less frequent contacts with peers and friends. Mean scores were students 22.63, senior citizens, 18.44. The UCLA-V1 had items which were all coded one way, so that social acquiescence may have affected responses. There was also a lack of discriminant validity in that the measure failed to differ substantially from measures of depression and self esteem. For these reasons Russell, Peplau, and Cutrona (1980) developed a revised version of the UCLA.
UCLA-V2

To avoid the potential response set problem that the wording posed, the second version of the UCLA (Russell, Peplau, & Cutrona, 1980) included 10 positively worded items and 10 negatively worded items which were developed and tested. Coefficient alpha was 0.94, a figure comparable to that of the original scale. The problem with the original scale with its lack of discriminant validity was overcome in the second version by creating an index of self reported loneliness, and correlating the items chosen to this index. A second study confirmed the internal consistency of the revised scale, and its discriminant validity. Following multiple regression analyses the self labelling index was examined to see whether it was still related to loneliness scores after controlling for the mood and personality measures. Results of this test supported the discriminant validity of the revised loneliness scale. The loneliness index explained an additional 18% of the variance in loneliness scores beyond that accounted for by the mood and personality measures. Norms for UCLA-V2 were presented based on a second study of 102 male and 128 female university students. The mean for males was 37.1 (sd 10.9) and for females 36.1 (sd 10.1).

In the Russell, Peplau, and Cutrona (1980) studies co-efficient alpha for the 20 item scale was 0.94 and similar figures have been found by other investigators. The scale has been used in many studies which are listed in bibliographies published by Peplau and Perlman (1982) and Shapurian and Hojat (1987). Cutrona (1982) obtained a test-retest correlation of 0.62 in a longitudinal study of college freshmen. The second version of the scale shows good convergent validity correlating positively and significantly with measures of depression and anxiety, time spent alone each day, number of times had eaten dinner alone and number of times had spent weekend alone, feeling abandoned, depressed, empty, hopeless, isolated, and not feeling sociable or satisfied, and negatively with frequency of social activities with friends, number of close friends, (Russell, Peplau, & Cutrona, 1980). Other studies have found theoretically consistent relationships between loneliness as measured by this scale and social behaviour (Jones, Freemon & Goswick, 1981; Solano & Parrish, 1982), attribution patterns (See Anderson, 1983; Anderson, Horowitz, & French, 1983; Solano, 1980), and immune functioning (See Kiecolt-Glaser et al., 1984).

The UCLA-V2 scales also show good discriminant validity. A self labelling index of loneliness added significantly to the equation when entered last in a multiple regression analysis of a variety
of personality and mood variables (Russell, Peplau, & Cutrona, 1980). Neither were the social variables such as eating alone eliminated when personality and mood variables were partialled out. Weeks, Michaela, Peplau, and Bragg (1980), and West, Kellner, and Moore-West (1986) showed that loneliness and depression while theoretically related variables were psychometrically distinct.

**UCLA Short version**

Using optimal regression techniques the authors also devised a short, four-item version of the UCLA Loneliness Scale intended for use in survey research. Two positively worded and two negatively worded items were selected which best predicted scores on the self-labelling index. This short loneliness measure was found to have a coefficient of 0.75 in a telephone survey of working adults in Los Angeles (See Gutek, Nakamura, Gahart, Handschumacher & Russell, 1980). Mean loneliness scores for different age groups showed a general decrease over the life span. For 18-30 year olds the mean was 8.30 and for respondents older than 60 years the mean was 7.3. Hays and Di Matteo (1987) obtained a lower alpha of 0.63 for the four item survey in their study of 119 college students. However, an 8 item form developed by these authors produced an alpha co-efficient of 0.84, and the short form correlated 0.91 with the 20 item UCLA version. A Greek translation of the UCLA-V2 was completed by 91 students in Greek, and by 36 bilingual students in both Greek and English in the study of Anderson and Malikinski-Loizoz (1992). The scale was internally reliable after eliminating item 4, and correlated significantly with the English version. In Zimbabwe, Wilson, Cutts, Lees, Manungwana, and Maunganidze (1992) concluded that the UCLA-V2 possesses acceptable reliability and factorial validity in Zimbabwe, and that the 8 item scale is superior to the 4 item version. Knight, Chisholm, Marsh, and Godfrey (1988) confirmed that the UCLA-V2 was highly reliable with a co-efficient alpha of 0.92 in their study of 978 adults which was part of a New Zealand health survey. They constructed a 10 item form which correlated to a high degree with the 20 item scale. (For arguments for and against the eliminating of items leading to the violation of the integrity of the scale, see Liang & Bollen, 1985; Liang, Tran, Krause, & Markides, 1989).

**UCLA-V3**

The original and revised UCLA scales have been used in an extensive number of studies of loneliness. The third version of the scale was developed for non-student populations. In conducting large surveys of the elderly Russell encountered difficulties due to the fairly high level of reading required by the UCLA items. The third version of the scale was designed to
overcome this factor. It contains 11 items worded in the lonely direction, and 9 in the non-lonely direction due to the difficulty of simplifying the language in one of the original reverse score items. Russell (1996) conducted factor analysis of the UCLA-V3 which provided support for viewing the scale as a unidimensional measure of global loneliness with two method factors concerned with positive and negative responses. Version 3 of the UCLA scale has been administered to a variety of different populations, including 489 college students (M =40.1, SD = 9.5), 310 nurses (M =40.1, SD = 9.5), 311 teachers (M = 19.2 for a 10 item version of the scale, SD = 5.1), and 301 elderly people (M =31.5, SD = 6.9). Internal consistency is high for this version. In the Russell and Cutrona (1988) studies co-efficient alphas for Version 3 of the scale were 0.92 for college students, 0.94 for nurses, 0.89 for teachers, and 0.89 for the elderly. Test-retest reliability at 12 months was also good in the elderly sample using Version 3. Russell (1996) found a one year test-retest correlation of 0.73 in this group and no significant change in loneliness scores over this time.

Russell, Kao, and Cutrona (1987) found support for the convergent validity for Version 3. Loneliness was negatively associated with measurements of the individual's interpersonal relationships, particularly with measures of social support. Despite the strong associations among these measures, other results presented by Russell and Kao, and Cutrona (1987) supported the discriminant validity of these two instruments. Loneliness was more strongly related to the personality and mood variables than it was to social support. Russell (1996) distinguished between measures of loneliness and social support in a sample of elderly people. The measures of loneliness correlated significantly, but also appeared to be assessing different constructs. Construct validity for UCLA-V3 was provided by evidence consistent with theoretical models of the determinants and consequences of loneliness. Loneliness scores were found to be strongly related to the measures of neuroticism and introversion-extroversion. Strong associations were found between loneliness scores and dimensions of adjustment including depression, life satisfaction, and job related burn out. Although generally lower in magnitude, correlations were still significant for loneliness and perceived health status and number of chronic illnesses among the elderly.

There is considerable argument as to whether or not the UCLA scales are unidimensional measures. Results from a variety of principal component factor analyses of UCLA-V2 have been inconsistent (See Austin, 1983; Hartshorne, 1993; Hays DiMatteo, 1987; Hojat, 1982; Knight,
Chisholm, Marsh, & Godfrey, 1988; O'Shagan & Allan 1992; Marangoni & Ickes, 1989; McWhirter, 1990; Wilson et al. 1992; Zakahi & Duran, 1982). These studies offer support for the UCLA scales as multidimensional measures of loneliness for the authors have found that the scale measures either two or three different dimensions. The UCLA's use as an instrument might be augmented if it measures distinct types of loneliness, although it may be difficult to distinguish between each type. However, Russell (1996) suggested that these factor-analytic results might reflect consistent patterns of responding as a function of item wording, that is whether it is positive or negative. He was of the opinion that the authors needed to retest their original data using confirmatory factor analyses. He suggested a model which hypothesised a single bipolar global loneliness factor along with two orthogonal method factors, one for the positive items and one for the negative items. This procedure might produce results with a single bipolar loneliness factor. He found this model an excellent fit with data from four prior samples as diverse as college students, nurses, teachers, and the elderly. He believed it would be misleading to regard the scale as multidimensional. No conclusion to this debate has been reached.

The UCLA Loneliness Scales are easy to administer and each version yields a single score reflecting the self report of current loneliness. They are the most widely used loneliness assessment devices and have been used by 80% of loneliness researchers. Their success as measures of loneliness have been repeatedly demonstrated. A review of 28 data sets using the UCLA shows few gender based differences, but for those that do exhibit significant differences, men seem to feel lonelier than women (Borys & Perlman, 1985). The scales were constructed by examining item to scale correlations. Only items correlating with the total score were retained. This method of scale construction led to a measure with a strong general factor. It was not designed to assess types of loneliness. Perhaps there is some commonality among the variety of specific types of loneliness, but if one is interested primarily in examining types then the area still needs to be agreed on and further ways of measuring specific types of loneliness developed. Rubin (1979) believed that while the UCLA scales included statements which correlated with loneliness, these statements might not reflect the essential structure of the entire loneliness experience. His views were supported by those of Schmidt and Sermat (1983) who argued that the UCLA-V2 might be viewed as a general distress measure which indicates deficiency in interpersonal relationships but provides little information about the sources or nature of the
difficulty. Solano (1980) argued that the scales do not measure pathological loneliness, and Lopata (1969) that people frequently feel lonely for some subjective mood, event, object, or place in addition to specific persons. The scales do not measure these factors. The UCLA scales have empirical qualities, short length, high reliability, unidimensionality, face and discriminant validity. They provide common scaling instruments but not a shared explanation. Despite these drawbacks the UCLA scales Versions 1 and 2 have enjoyed widespread acceptance and use, and evidence is also appearing for the usefulness of Version 3. The UCLA V3 was chosen in the first of the present studies as a general measure of perceived deficiencies in personal relationships and used in conjunction with other measures. As the most used loneliness instrument it has been trialled on more diverse age groups (in particular on older people) and on more different cultural groups than any of the multidimensional measures available. However the drawbacks previously described preclude its choice as a measure intended to further the understanding of the subjective experience of loneliness.

**Multidimensional loneliness scales**
Measurement efforts within the multidimensional research paradigm are aimed at identifying and discriminating among the specified subtypes of loneliness. The following scales are described to exemplify the problems discussed in the previous chapter concerning the specific indicators of loneliness which the individual scale designer chooses to highlight. Although some of the scales are most useful in certain contexts they do not provide a general measure of loneliness. They are presented in this discussion to demonstrate how difficult it is to quantify loneliness.

**THE RASCH-TYPE LONELINESS SCALE**
The Rasch-Type Loneliness Scale was developed on large representative samples of Dutch adults. It was based on a multidimensional conceptualisation of loneliness and measures, according to de Jong-Gierveld and Kamphuis (1985) and de Jong-Gierveld and van Tilburg (1990), the ways in which persons perceive, experience, and evaluate their isolation and lack of communication with others. The meeting of Rasch-scale criteria has been used most commonly to assess abilities, but this technique has been used in conjunction with structural equation modelling following a series of phenomenological loneliness studies by these authors and has resulted in the item pool for this scale. The Rasch model of scaling is designed for dichotomous
items which are assumed to reflect a continuous latent variable. In the early studies three dimensions of loneliness were identified. These were intensity, which was concerned with the nature of perceived deprivation and had two subscales, positive and negative. A second dimension was a time perspective concerning the duration of feelings and changes over time, with subscales of lack of an intimate partner and feelings of emptiness and abandonment. The last dimension concerned emotional characteristics such as absence of positive feelings and presence of negative feelings, with subscales of hopelessness, permanence, and blaming others. Within this multidimensional scale de Jong-Gierveld and her colleagues found 9 items which correlated 0.66, \( p < .001 \) with a simple self rating of loneliness, which they called a “deprivation scale”.

Based on these three dimensions and their subscales, four types of respondents were identified in a large survey of Dutch adults. These were the non-lonely who comprised 59% of the sample, the hopeless lonely who were actively and intensely dissatisfied with their relationship who comprised 14% of the sample, the periodically and temporarily lonely numbering 15%, and the resigned hopelessly lonely who accounted for 12%. As the “deprivation scale” was more a measure of severe loneliness, the authors wished to develop a short scale, half worded in the socially deprived or lonely direction and half in the non-lonely direction, which would tap less intense loneliness feelings. They also wished to determine whether or not the various subscales met Rasch criteria, and could be stated to measure continuous latent dimensions. Results from factor analysis of the full set of items, selected from of a follow up questionnaire to the large sample, suggested unidimensionality but did not meet the Rasch criteria. After a variety of tests a subset of 11 items were found which survived this testing. Factor analysis produced a unidimensional loneliness scale from these items, although as had been the case with the UCLA scales there was also a method factor related to positive and negative wording which the authors considered to be unavoidable, and four subscales. The scale was successfully cross-validated on the half of the sample set aside for this purpose. The subscales were found by the authors to be good Rasch measures for feelings of severe loneliness, loneliness in problem situations, loneliness concerning missing companionship, and feelings of belongingness.

There was no mention by the authors of test-retest reliability for the scale and subscales. A similar measure to the Rasch scale correlated with being without a partner and being dissatisfied
with current relationships in a study by de Jong-Gierveld and van Tilburg (1990), and high scores on approximations of the subscales were found to be positively related to depression and negatively related to self esteem (de Jong-Gierveld & Raadschelders, 1982). These results offer limited support for the convergent and discriminant validities of the scale and subscales but further validation is needed. The disadvantages linked with the use of the words “lonely”, and “loneliness” in the scale are problematic for measurement. As yet the relationship among subscales is not known. However, the theoretical underpinning and use of qualitative phenomenological research as a base for scale development would support the usefulness of this scale as a very good measure of the experience of loneliness and with further testing it may prove to be a very valuable instrument. It appears to fit well with the notion of loneliness as a spectrum rather than a dichotomy.

THE LONELINESS RATING SCALE

The Loneliness Rating Scale (LRS, Scalise, Ginter, & Gerstein, 1984) focuses on the constellations of emotions experienced by lonely people rather than on perceived deficiencies in their relationships which are the focus of most other measures. The instrument is a multidimensional 40 item scale which assesses the frequency and intensity of particular affects reported by lonely individuals. A large number of university students were asked to describe their feelings when lonely by completing two sentences:

-“When I experience loneliness, I feel---------:” with ratings from never (0) to always (3).
-“The feeling of being--------- is:” with ratings from (1) bothersome to (5) overwhelming.

The blanks were filled with each of 70 adjectives describing loneliness. These were provided by previous university students who reported that the adjectives described their feelings of loneliness, from other descriptors based on the author’s review of the loneliness literature, and from a thesaurus. The frequency and intensity statements were placed side by side for each adjective and the order of each adjective randomly determined. Four affective dimensions, each with 10 item subscales were obtained through factor analysis. These were labelled depletion, isolation, agitation and dejection. On the final measures subscale scores range from 0-30 for frequency, and from 0-50 for intensity with 0 being a frequency of “never”.

The scale was administered to 277 male and 486 female university students. Scores on each subscale except the frequency and intensity of agitation were significantly higher for females than males. Internal consistency data is available only for the frequency ratings which had eigenvalues greater than 1 following varimax rotation, and accounted for 42% of the variance. Co-efficient alphas for the four frequency scales were 0.86, for depletion, 0.89 for isolation, 0.92 for agitation, and 0.87 for dejection. No test-retest reliability was assessed and there is no description of further convergent or divergent validity studies. The depletion and dejection factors were almost synonymous with depressed affect, the agitation factor was related to anxiety and hostility, and the isolation factor appeared to correlate with both depression and anxiety. The authors provided no correlations among the four scales and this factor along with the lack of validity makes the scale less useful. However, the scale provides a much needed fresh approach for attempting to measure the experience of loneliness rather than the relationships which are perceived to be related to these feelings. Although the word “loneliness” is directly mentioned it is in a more general form, “When I experience loneliness I feel ------.”, which may be more acceptable than “Do you feel lonely?”

THE EMOTIONAL VERSUS SOCIAL LONELINESS SCALE
Although Weiss’s explication of two forms of loneliness, one emotional and one social (described in Chapter 3) is often acknowledged by researchers as most useful conceptually, it has failed to generate measurement tools until recently. Based on Weiss (1973), Russell, Cutrona, Rose and Yurko (1984) designed a measure intended to distinguish emotional isolation, the lack of close, intimate attachment to another person, from social isolation, the lack of a network of social relationships with friends who share common interests and activities. Russell et al. (1984) developed two items, one to measure emotional loneliness and the other to measure social loneliness. Each item consisted of two-sentence descriptions of types of loneliness. These were:

*“A possible type of loneliness involves not belonging to a group or social network. While this may be of a set of friends who engage in social activities together, it can be any group that provides a feeling of belonging based on shared concerns, work, or other activities.”
*“A possible type of loneliness is the lack of an intense, relatively enduring relationship with one person. While this relationship is often romantic it can be any one-to-one relationship that provides feelings of affection and security.”
These descriptions were followed by 9 point rating scales with two anchors, “not at all” and “very much”, indicating how intensely the respondent is experiencing that type at present. Scores thus range from 1 (low) to 9 (high).

The measure was administered to large groups of students. Russell et al. (1984) used single items so internal consistency was not an issue. The authors did not report test-retest information. For each item of the Russell et al. measure correlations were significantly higher for the theoretically appropriate UCLA items than the inappropriate items. The social and emotional items were correlated with measures of Weiss’s six social provisions, attachment, social integration, opportunity for nurturance, reassurance of worth, reliable alliance, and guidance. Social loneliness was most related to needing reassurance of worth, and emotional loneliness to needing attachment. Both social and emotional loneliness were significantly related to depression, but only emotional loneliness was related to anxiety. Although social and emotional loneliness correlated only 0.17 with each other and, as reported, exhibited different patterns of correlations with other variables, many variables correlated similarly with both items. Emotional loneliness was related to a lack of provision of attachment from one’s social relationships. It was also experienced in relation to deficits in the quantity or quality of romantic/dating relationships. The authors’ results for social loneliness were less supportive of the Weiss conceptualisation. Although results of the Russell et al. scale supported Weiss’s theory in general, more work is needed to clarify the emotional-social distinction. The scale provides a good first attempt to measure this emotional/social distinction, but is not yet a well proven instrument.

It is very difficult to assess emotional loneliness and this measures reflects this. Difficulties abound in trying to measure attachment, or the absence of an attachment relationship, and intimacy. Marongoni & Ickes (1989) suggested that to adequately measure Weiss's theoretical position mandates a multidimensional approach to the measurement of loneliness, the utilisation of appropriate theory testing statistical analysis, and attention to the theoretically different coping responses or remedial behaviours that are presumed to characterise these different subtypes of lonely individuals (For good discussions of this topic see Hojat & Crandall, 1987; Peplau & Perlman, 1982; and Rook, 1987a; 1988).
SITUATIONAL VERSUS CHRONIC LONELINESS SCALES

The purpose of the next three scales which are reviewed is to distinguish situational (reactive and short term) loneliness from chronic (long term) loneliness. These types of loneliness are also termed state and trait loneliness. Important psychometric features of scales with this intention are their predictive validity and test-retest reliability, and the problems inherent in using a single item self report question as evidence of validity. Gerson and Perlman (1979) administered the UCLA-V1 twice to a group of 166 female undergraduates, once with the instructions referring to “How you have felt in the past two weeks” to measure situational or state loneliness, and “How you have usually felt during your life” to assess chronic or trait loneliness. The non-lonely group had scores in the lower third of the distributions for both recent and general loneliness. Members of the situationally (or state) lonely had scores in the top third of the distribution for recent loneliness, but in the lower third for general loneliness, and members of the chronic (or trait) loneliness group had scores in the top third for both recent and general loneliness. Although Gerson and Perlman did not report co-efficients for their scales they are likely to be internally consistent as the UCLA scale has this property. The authors did not assess test-retest reliability. Convergent and divergent validity for the scales was provided by the evidence that the state lonely respondents were better senders in a non-verbal communication task than the trait lonely individuals, and the correlation for depression was significant for the trait lonely group, and close to zero for the state lonely group.

Shaver, Furman, and Buhrmester (1985) created two parallel 11 item scales using 8 items from the UCLA-V2 (Russell, Peplau, & Cutrona, 1980) and 3 from the New York University Loneliness Scale (NYU Rubenstein & Shaver, 1982). The latter items were included because they specifically mentioned loneliness, which the UCLA items do not. Four of the UCLA items were worded in the lonely and four in the non-lonely direction. Each NYU item had its own 5 point answer scale. The instructions and items for the state scale refer to “the past few days”, and the trait scale “the past few years”. Scores on both scales range from 11 (low) to 55 (high) loneliness. The authors conducted their validation with a longitudinal study of 400 students, but only 166 of these completed questionnaires at all four time periods which coincided with the beginnings of college and each academic quarter. The scales had a co-efficient alpha over 0.88 on all measurements during the 9 month period. At approximately two month periods between assessments, test-retest correlations for trait loneliness varied between 0.77 and 0.83. For state
loneliness the correlations varied between 0.29 and 0.64. State loneliness was least stable in the period when students were making the transition from home to college as had been predicted. The level of test-retest reliability to be expected from loneliness measures should depend upon whether a scale assesses reactive and temporary loneliness, or chronic loneliness, as it did in this case. The authors found that trait loneliness was significantly and positively related to poor social skills, poor coping strategies, and dysfunctional attributions for social failures, while state loneliness was correlated negatively with social skills more particularly in the autumn quarter when subjects were attempting to form new relationships.

In both studies situational and chronic loneliness exhibited theoretically predicted patterns of divergent relationships with other variables, despite correlations with each other of 0.40, and 0.60 in the Shaver, Furman, and Buhrmester (1985) study. Neither scale has been tested or developed further. The Perlman and Gerson (1978) scale has problems with reliability and validity, and the Shaver, Furman, and Buhrmester scale with the direct use of the words “lonely” and “loneliness”. It seems highly likely that there may be differences in whether situationally and chronically lonely individuals are aware of, or acknowledge to themselves or others, that they are lonely.

Young (1979b; 1982) has also attempted to address the situational/chronic distinction with the Young Loneliness Inventory which is a 19 item self report inventory based on the types of relationships lonely clients often view as missing in their lives. In addition it indicates the persistence of loneliness. The author reports a test-retest correlation at one month of 0.91 which indicates the stability of this measure over time. However, there is no further reliability or validity data and the inventory has not been further tested. Marangoni and Ickes (1989) recommend the use of a modification of the UCLA scale with two indices tapping short-term and long-term feelings of loneliness respectively. They suggest that the data could be re-analysed separately to elucidate the temporal parameters of the scale.

While there is much emphasis on the need to include measures of the situational/chronic distinction in all future studies (See Marangoni & Ickes, 1989; Robinson, Shaver, & Wrightsman, 1991; and Young, 1982), no well proven instrument for measuring situational and chronic loneliness is available. This reflects the general dilemma of attempting to quantify subjective
experience. Although not yet well supported empirically the two forms of loneliness make sense conceptually, and seem worth pursuing if they might explain some of the inconsistencies in the literature. The clinical implications of distinct causes and therapies for the different durations of loneliness seem well worth investigating. A temporary solution to the lack of a well proven measure may be to use the UCLA-V3 (Russell, 1996) as a situational/chronic inventory in its entirety but with altered time frames as suggested by Perlman and Gerson. However, to use the full scores rather than splitting item scores into thirds and combining them. Although there would still be considerable overlap and high correlations between the two types of loneliness, the distinction might be sufficient to indicate fruitful areas for further research, and may provide a less time consuming alternative to the more complicated scoring procedure of Gerson and Perlman (1978) until a more satisfactory scale is developed. The development of such a scale seems to be an urgent priority if the study of loneliness is to advance.

What is evidenced by examples of the measurement of loneliness is the heavy reliance and limitations of quantitative scale research and the sense of a need to include other methods. Phenomenological research into loneliness has been attempted. The first such analysis of loneliness and its subcategories was that of Rubenstein and Shaver (1982). Although not purely phenomenological, this study used a reactive self report questionnaire for assessing the feelings and cognitive/behavioural responses related to loneliness. Rokach (1988a; 1988b) developed a three level model of the experience of loneliness which was based on the content analysis of 526 verbatim accounts of loneliness.

Mikulincer and Segal (1990) extended the line of research of Rubenstein and Shaver but adopted a purely phenomenological attitude which allowed respondents to freely report their experiences of loneliness. In their study, student volunteers aged between 20-45 were asked to describe the causes, feelings, and responses related to loneliness episodes experienced. Their descriptions were cluster analysed and the relations of the uncovered clusters were assessed via multidimensional scaling in order to articulate a structure of loneliness which was useful for distinguishing meaningful subcategories. They discovered four subtypes of loneliness feelings; social estrangement, emotional loneliness, depressive feelings, and self-focused mentations. Their results disclosed a two dimensional representation of loneliness feelings.
The first dimension reflected the causal and attentional focus of loneliness, self versus environment, and the second dimension conflict versus acceptance of loneliness. These two dimensions remained quite stable over a range of assessment techniques.

Denzin (1970) called for methodological triangulation which ideally combines five distinct research methods; participant observation, survey interviewing, field experiments, unobtrusive methods, and life histories. The rationale for this strategy is that the flaws of one method are often the strengths of another, and by combining methods, observers can achieve the best of each, while overcoming their unique deficiencies. Weiss (1982) observed that breakthroughs in neuroimmunology would aid the study of loneliness. Marangoni and Ickes (1989) noted the conspicuous lack of behavioural validity data and suggested that it was a gap which should be addressed in future research. They also suggested the measurement strategy of unobtrusive videotaping of naturalistic dyadic interaction as an additional method of exploring relationships. However, the narrowness of focus of such research limits our understanding of loneliness. Loneliness is a social construction which is contextually driven and varying in its meanings. Wood and Johnson (1989) suggested that quantitative approaches to measures of life satisfaction were of limited value and were more appropriately seen as supplementary to approaches employing qualitative data and analysis. They pointed out that in accounting for variance we were accounting for variation in the numbers, not necessarily in the social experience. To avoid numerical data from taking on a life of its own they advised the use of numerical data to identify patterns, followed by qualitative research to capture the quality of human experience. This is the position upheld in this thesis.

Which type of measure is selected for use seems then to depend on the needs of the researcher. A best fit approach seems to be the most useful, based on the knowledge available. When selecting a loneliness scale for use in a study, it would appear to be very important to have an awareness of the conceptual and measurement problems inherent in this process. To obtain the best fit between the assessment instrument and the outcome it is designed to measure care needs to be taken in considering the attributes of the type of loneliness being measured. The dimension may be psychological, physiological or social. Regard must be given to the context of the situation, to the presence of confounding variables such as depression, anxiety, and self esteem. Both social desirability bias and the time frame will affect responses. Some recognition is also
required of the problems involved with single measures of such a complex experience as loneliness. Difficulties with reliability and validity need to be taken into account. Face validity is highest for explicit self ratings, however, social desirability and acquiescent set response bias pose problems for such validity, as they do for criterion related validity. Content validity is more important for multidimensional measures and less so for unidimensional instruments where representativeness of scale items is not an issue. Researchers would be wise to use a number of validity criteria. The possibility that individuals may be unaware of their loneliness points to a need for the use of inferential scales. There is a dearth of qualitative studies of loneliness. This issue will be further developed in the introduction to the second study.

In conclusion, one could argue that the choice of measure depends on the conceptualisation of loneliness which is employed and the problem which is being addressed. In the first of the present studies the conceptualisation of loneliness follows the cognitive processes model which argues that loneliness is an unpleasant and distressing experience which has cognitive, affective, behavioural, and physiological components, and most importantly, results from perceived deficiencies in a person's relationships (See Peplau & Perlman, 1982). It is not synonymous with solitude. In addition, however, this conceptualisation also acknowledges a social needs model which posits an underlying human need for intimacy (See Weiss, 1973). Whilst adhering to a unidimensional concept of loneliness the distinction between situational and chronic experiences of loneliness is considered important, as is the possibility that loneliness may be intentionally or unintentionally repressed.

The problems addressed in the initial study are the provision of both prevalence and sociodemographic data concerning loneliness in older New Zealand adults, an examination of the process by which loneliness might foster physician utilisation in this age group using the Barsky (1981) model of psychosocial distress and physician utilisation, and whether or not there are differences worthy of further research between situational and chronic loneliness in the selected study variables. Selection of the measures and types of statistical analysis used in the first study are described in the method section of the study and are based on the findings of this chapter. The second study addresses the societal silencing of loneliness and how this impinges on the medical encounter. The measurement for the second qualitative study within the sociolinguistic paradigm is explained in the introduction to the study.
CHAPTER 5
RATIONALE, AIMS, AND HYPOTHESES
FOR STUDY 1

Overview

This section backgrounds the lives of older New Zealanders and explains the theoretical rationale and justification for the general development of the first study of the project. It then describes in more detail the models which underpin the aims and hypotheses of the three individual components of the study. The aims and hypotheses of each component are delineated, and the selection of variables chosen as measures for the assessment of each of these segments is justified.

Growing older in New Zealand

According to a discussion document circulated by the New Zealand Ministry of Health (1997) there will be a significant increase in the number of older people and kaumatua and kuia (Maori elders) in the next 40 years and this growth will occur particularly in the number of older Maori and Pacific people. In the Pakeha, or European origin, population the 85+ age group is predicted to increase significantly. In the 1993 Household Health Survey those on low incomes, those not in the labour force, and Maori and Pacific people were less likely to rate their health as good to excellent. Richmond, Baskett, and Bonita (1995) suggested that the majority of people in their 60s and 70s are largely independent and healthy but that increasing proportions of people in their 70s and 80s become more dependent on assistance because of chronic illness, disability, injury, and/or decreasing family members to provide care and support which may be needed earlier
for Maori elders. Less than one in twelve of the older, disabled community live in institutions. Bonita (1995) reported that women are the usual carers of dependent children and adults and that older women are often the principal caregiver for another older person. In the view of Richmond et al. (1995) the increasing ratio of older people to younger, the increasing number of women in paid employment, the delay in having a first child and increased life expectancy are having a direct effect on the ability of families and whanau to provide care and support for their older members, and on the availability of both voluntary and paid carers.

In the 1996 Census figures from the New Zealand Herald (May 12th, 1997) one quarter of the total New Zealand population was aged fifty years or over. Although there was a continuing trend for male and female median ages to converge the female median is still higher, primarily reflecting a higher life expectancy for women. The figures support warnings for people to save if they want a good income in their old age but there is a huge gap in female and male incomes. Eighty point nine percent of those earning more than $50,000 annually were men. The largest number of people in the lowest income bracket ($5001 to $10,000) were aged between 20-24 and the second largest were the 65-69 age group. A total of 32.7% of the population reported incomes of $15,000 or less and 61.3% of these were women, reflecting the higher number of women in part time jobs. The newly reintroduced fertility figures show a trend toward smaller families since 1981. The figure for women who had live births to have more than four children was down from 14 to 11%. One in five of the total population were born in New Zealand. Statistics New Zealand (1995) report that by the year 2031 around 19% of the total population will be between 65 and 105 years old. In 1951 9% of the total population were 65 years or older. In 1991 the old-old (that is those aged 75 years or older) included five women to every two men. This ratio is expected to fall by 2031 to just below 3.5 women for every two men, although the upper end of the age group will include a higher ratio of women to men. Those in marginal positions in society because of their lack of income and dependency needs are then the very old, and older women.

Tribal origin, fluency in Maori language, spiritual awareness, involvement in marae activities and integration within a family are important traditional socio-cultural Maori values. Elders often provide care for other whanau members such as children and the frail older people. Supportive iwi or tribal networks would be expected to influence a sense of security and well
being for kaumatua and kuia and help them to deal with grief and loss. The shared rituals for funerals or tangihangas also aid adaptation to death of a partner. Positive attitudes towards ageing are helped by the respect given kaumatua and kuia within this traditional cultural background. However, within traditional Maori and Pacific cultures women are not always given equal status to, and the rights of, males. But Maori society is as diverse as that of Pakeha society. They do not as a race share the same cultural background or experiences. Some urban Maori have lost touch with their iwi, or no longer hold traditional values. Many have lived and worked in cities with Pakeha values and have structured their lives based on these individualistic rather than collective values. In Japan and Sweden high collectivist type values and high social solidarity have been maintained with high levels of industry. As in Turkey where the respect and support for the elderly by their families is highly valued, rapid social change has had repercussions on all aspects of New Zealand life. With both spouses working and some living in shared housing it is increasingly difficult for younger Maori or Pacific Islanders to continue the existing pattern of caring for older people. As there are 17,000 Maori living in Australia many of them may return to New Zealand when they retire. The Maori population is ageing faster than the population as a whole. Although 69% of older New Zealanders live in main urban areas many live in provincial centres. The overall movement for kaumatua and kuia is from main urban areas to smaller centres. Are urban elders going to be lonely when removed from their familiar surroundings?

Nearly nine out of ten older people identified themselves as belonging to the European-only ethnic group in 1991. Modern Pakeha families with a variety of distant European cultural backgrounds expect very little from their seniors who have no specific roles. Families are expected to make their own way in life, to have their own homes and nuclear families. Aunts, uncles and grandparents do not on the whole involve themselves with other members of their families to the same extent as Maori kin. The idea of a healthy boyhood as part of a sporting team does not extend to other life areas. A fierce do it yourself independence and self reliance has been encouraged, particularly for males, although attempts to change this are being made. A lack of touching and hugging and encouragement for real men to control their feelings is a remnant of the macho colonial ethic. In contrast the hongi or touching of noses is an expression of family togetherness for Maori people. However, Pakeha are also likely to place great emphasis on relating well to others. Great mates and good neighbours are valued. Working
together, eating together, and sharing are more easily accepted in Maoridom than in the Pakeha world. Mourning can become abnormal when it is done in solitude and feelings of grief are suppressed (See Weeks, 1994) as is often the case for male Pakeha. Pakeha families are more likely to value and defend the privacy of their homes than are Maori or Pacific Islanders.

Adequate housing contributes largely to older people’s ability to remain independent and living within their own homes. Older New Zealanders, particularly those in the European-only ethnic group, and women are more likely than other age groups to live alone. Fifty two percent of those aged 85 years and older lived alone in 1991. Whilst there are advantages to retirement village complexes or low cost supervised residences in the way of security, convenience, and social interaction, and support there is also the risk that this age group becomes isolated from and invisible to other age groups. Various types of individual or group housing facilities are needed so that a suitable choice could be made.

Occupation may provide another sense of identity. In Korea (See Morgan, 1997) the ongoing engagement of the older members of the population in productive economic activity, in conjunction with the strong basis of family support makes dependency on the state superfluous. One economic strategy which is being considered to reduce the economic burden of dependency in New Zealand is to raise both the retirement age and the productivity level. A new law is under discussion which from 1999 will make it illegal to demand that people retire simply because they have attained a certain age. Meanwhile, those aged over 65 are labeled unproductive in a production oriented society. Freedom of choice between work and retirement is most meaningful if prospective income security is adequate and if the work is satisfying.

Wood (1987) states that age differences in loneliness may well be associated with different moral connotations of loneliness for different cohorts. In 1991 older New Zealanders were more likely to belong to a religion than younger people (Statistics New Zealand, 1995). In cultures such as Japan which has a religion of Zen Buddhism, or countries with traditions such as Stoicism based on the philosophical acceptance of loneliness as an integral and universal condition, loneliness may be less threatening. According to Tatai and Tatai (1991) the rising trend of suicide in Japan which has accompanied its technological advances may reflect a spiritual impoverishment and high levels of loneliness. Schwab and Petersen (1990) found that people who believed in a
helpful rather than a vengeful god were less likely to experience loneliness. No such studies have been conducted in New Zealand.

Older people evaluate their current lives in a large part by comparing them with their own personal experiences and with those of other people. When opportunities are not consistent with internal values or socio-emotional needs the answer is loneliness. As loneliness persists the state of mind may develop which is described by Fromm-Reichmann (1959). The fact that there were people in one's past life is increasingly forgotten and the hope that there may be interpersonal relationships in one's future life is out of the realms of expectation or imagination. Pakehas, the very old, and particularly older female New Zealanders appear most vulnerable to this state of mind. They are less likely than some western cultures to express their feelings and their internalised values for privacy and independence may restrict their requests for help.

**Conceptualisation of the problem**

As evidenced by the literature review, loneliness is a health concern for older adults. The condition has not to date been given the medical recognition it deserves. Three factors are particularly worrying. Firstly, because of both the stigmatisation and high level of health complaints associated with loneliness, lonely older people may present to their doctors with somatic symptoms and inappropriately assume the sick role with detrimental consequences to themselves and to society. Smith, Monson, and Ray (1986) report that less than 12% of people misuse, or over utilise primary medical services. Therefore the identification of any particular group who are likely to do so is valuable, even if their proportion of the total population is extremely low. Secondly, as immune systems age a degree of compromise occurs and the immunosuppression purported to be associated with loneliness may add to this. Lastly, if the loneliness is not recognised and treated the symptoms of the condition will be experienced longer than is necessary, needlessly affecting the quality of life of the lonely person. General practitioners have unique opportunities to reduce the suffering of loneliness in this age group. By listening to lonely, older patients and gaining their confidences, the doctor can recognise and treat loneliness, or make referrals to appropriate bodies such as the social services, voluntary organisations, neighbourhood schemes or religious organisations in order that they may intervene.
Loneliness and sociodemographic predictors

The quality of life of the lonely, disabled patients can be improved by regular checking of feet, eyesight, hearing, dentures, and disabilities by the doctor. General practitioners are in the ideal position to monitor widows and widowers and ensure that grief is not followed by loneliness. Contact with the doctor may have been initiated during visits because of the terminal illnesses of their spouses. Only a small number of studies have directly examined loneliness and the doctor-patient relationship and none of these have used a New Zealand population. Little research concerning loneliness in New Zealand has been carried out, and there have been no previous research studies of loneliness in relationship to the older people in this country. There is a lack of data available concerning both the prevalence and the sociodemographic predictors of loneliness in New Zealand older adults. The investigation of these factors comprises the first component of Study 1. Loneliness may have its most powerful effect on health status during the doctor-patient consultation because it is during this interaction that contributing variables such as sociodemographic factors may be addressed in an attempt to reduce loneliness, or be ignored and allowed to reinforce the somatic presentation of the condition with the possibility of undesirable health consequences.

How loneliness might foster physician utilisation

The second component of Study 1 involves an examination of ways in which physician utilisation might be fostered when older adults experience the psychosocial distress of loneliness. People cope with life stresses in many ways and visiting a doctor and adopting a sick role is but one of these ways. An understanding of the psychosocial factors which contribute to seeking health care is important for both theoretical and practical reasons. From a theoretical standpoint the development of models which explain physician utilisation would increase our understanding of the psychological processes of those patients who overuse these services. From a practical point of view understanding these psychological processes might lead to treatments which could be targeted specifically to patients likely to inappropriately use services, and tailored to reduce the specific types of distress (such as loneliness) which may promote such use.

Differences in situational and chronic loneliness

and the study findings

The third, and final, component of Study 1 involves the distinction between situational and chronic loneliness. It can be seen from the literature review that the duration of loneliness, that is whether it is situational or chronic, has critical implications in regard to the therapeutic
interventions for these conditions. Marangoni and Ickes (1989) argued that the routine assessment of chronic or trait loneliness is an essential part of loneliness research. Although lack of a well-proven measure of chronic loneliness precludes a study specifically designed for statistical comparisons of the two conditions, all study investigations for situational loneliness will be repeated with chronic loneliness in order to ascertain directions for future research.

**General aims of Study 1**

The aims of the first study are to obtain information about the prevalence and sociodemographic predictors of loneliness amongst older New Zealanders using a cross-sectional survey design, and to empirically investigate the possibilities that older, lonely people perceive their health statuses less favourably, and/or amplify, or focus on and worry about symptoms to a greater degree than the less lonely people in that age group. The project also aims to ascertain how often they report visiting their doctors explicitly for the emotional discomfort of loneliness. As the duration of loneliness is an important distinction, that is whether it is situational or chronic loneliness, these investigations will be repeated so that information is provided for both types of loneliness, in order to provide directions for future research. Study 1 consists of three components: Personal characteristics and loneliness; Loneliness and health outcomes; and Situational and chronic loneliness. The models on which the individual components are based are presented below in an effort to illustrate the theoretical progression towards the goals for this project.

**Component 1: Personal characteristics and loneliness**

**Underlying theoretical models**

The goal of the first component consists of an investigation of the prevalence of loneliness, and the provision of a sociodemographic profile of a lonely, older New Zealander. The two loneliness models which provide the theoretical guidelines underpinning this section are the cumulative deficit model of Creecy, Berg, and Wright (1985), and the loneliness model of de Jong-Gierveld (1987). Structural or situational background variables, which are considered to be causal for the development of loneliness, are outlined in both models. In the cumulative loneliness model the causal pathway is referenced specifically to older adults, whilst the de Jong Gierveld loneliness model is in reference to all adults. The models were used in the present
project to provide the pool of sociodemographic variables from which the selection of variables for this component of the study was made.

The models differ in their conceptual bases. The cumulative deficit model proposes that losses, such as loss of spouse, income, or health, represent, both individually and collectively, relational deficits which weaken the older person's support system. This model is based on the attachment theory studies of separation anxiety of Atchley (1977), and McClelland (1982). Creecy, Berg, and Wright described the result of this weakening of the support system as decreased levels of participation in those social activities which are essential to a sense of well-being. De Jong-Gierveld's model also proposed that social structural characteristics such as gender, marital status, living arrangements, age, employment status, and living conditions organise the opportunities which people have to create and maintain an optimal network. However, the de Jong-Gierveld loneliness model stems from the cognitive approach of Lazarus, Averill, and Opton (1970), and Perlman and Peplau (1981), which emphasises personal perception and interpretation of the social network. De Jong-Gierveld suggested that both situational and dispositional factors constitute the basis for subjective evaluations of the individual's social network. The emphasis on personal perceptions and interpretations fits in with the notion that understanding of social phenomena in the social sciences requires the understanding of their meanings for people in society.

The models are consistent in that they are based on cross-sectional surveys of large randomised samples, in the case of Creecy, Berg, and Wright of an American sample of 2797 adults aged 65 years or over, and in that of de Jong-Gierveld a Dutch sample of 554 adults aged between 25-75 years. Both models attempt to identify and assess causes for differential levels of loneliness, the amount of variance in feelings of loneliness explained, the relative importance or priority of those variables included in the models, and the magnitude of direct and indirect effects of the model variables on loneliness. Whilst Creecy, Berg, and Wright utilised path analysis, de Jong-Gierveld used the LISREL causal modelling programme. Both models involved causal analyses of the direct and indirect effects of the background variables of age, gender, and marital status on loneliness. Creecy, Berg, and Wright also measured health status and income as background variables whilst de Jong-Gierveld included employment status, housing conditions, community size, and geographic mobility in her model.
Creecy, Berg, and Wright gauged social activity, or the amount of time people spent in formal or informal social activities, and social fulfilment, defined as the quality of the individuals involvement in social activities, as intervening variables. De Jong-Gierveld assessed the indirect effects of the personality characteristics of self concept, social anxiety, and extraversion, and descriptive and evaluative characteristics of the social network. The descriptive characteristics included the number of close relationships, friends, family, neighbours or colleagues mentioned, and the frequency of contact with neighbours. Evaluative aspects of the social network measured were dissatisfaction with existing and desire for new relationships, lack of close contact and friendliness of the neighbours, the degree of intimacy of and the desire for improvement of intimacy with the most important contact.

The measures of loneliness differed between the two models. De Jong-Gierveld used several measures of loneliness which were a four item self report of how lonely the person felt, a multi-dimensional instrument incorporating dimensions of deprivation, time perspective, and emotional aspects of loneliness, and a Rasch-based scale to measure the intensity of loneliness. The measures had been developed by de Jong-Gierveld and Raadschelders (1982) and de Jong-Gierveld and Kamphuis (1985). Creecy and colleagues employed only a three point self report asking whether loneliness was not a problem, was a somewhat serious problem, or was a very serious problem to the respondent. A most important difference between models is that Creecy, Berg, and Wright emphasised the cumulative effect of relationship deficits, or barriers to the social network, whilst this factor was not overtly addressed by de Jong-Gierveld.

Although neither model suggests a direct relationship between age and loneliness, the de Jong-Gierveld model does posit strong indirect relationships through other variables. Both models include marital status, or in de-Jong-Gierveld’s term, living arrangements, as direct predictors of loneliness. The most important predictor for Creecy, Berg, and Wright is social fulfilment, a very similar finding to that of de Jong-Gierveld that the subjective evaluation of the realised social relationships is one of the most important determinants of loneliness. In essence, the realisation that one is isolated from meaningful social contact is the crucial feature of both models of loneliness. The cumulative model accounted for 36%, and the de Jong-Gierveld model for 52% of variance in feelings of loneliness in the respective models.
The theoretical bases of this initial component of the study are then the Creecy, Berg, and Wright cumulative loneliness model, and the de Jong-Gierveld loneliness model. The emotional problems of loneliness in older people occur not because of age itself but because, owing to circumstances beyond their control, they have increasingly to make readjustments and modifications of social roles at a time when their abilities to do so are decreasing. These readjustments and changes are due to situational and structural factors. The link between loneliness and sociodemographic factors is crucial to doctor-patient interaction because recognition of the situations and conditions associated with loneliness in this age group allows them to be addressed before the patient inappropriately occupies the sick role.

**Specific aims for Component 1: Personal characteristics and loneliness**

The aims of this component of Study 1 are:

- To estimate the prevalence of moderate to severe loneliness in a sample of older New Zealand adults.

- To provide a sociodemographic profile of the lonely, older New Zealander by examination of selected structural and situational variables which may predispose towards, or precipitate, the development of loneliness.

**Selection of variables for Component 1**

The structural and situational variables selected for measurement in Study 1 were based on the Creecy, Berg, and Wright (1985) cumulative model and the de Jong-Gierveld loneliness model (1987). They were age, gender, marital status, education, occupational status, income sufficiency and living arrangements. Situational variables included death of a spouse or close friend in the past year, having been divorced or separated, or having moved house within the last year. In relation to health, the variable selected was whether or not a physical disability restricted socialising. In addition, the availability of transport was included as this variable had been mentioned as of particular significance to social participation in older adults by Jones, Victor, and Vetter (1985) and Kivett (1979). Ethnicity was recorded as the evidence for any association with this variables and loneliness has to date been inconclusive. Selected variables related to characteristics of the social network were perceived availability of a confidant, feelings of
belonging to a group with shared attitudes and values, and self reported attendance at some regular activity outside of the home. The last mentioned variable has been associated with the psychological well being of older adults by Dupuis and Smale (1995). Personality variables which might predict loneliness were not included in the study for two reasons. They are not as salient to loneliness in this age group as they are to younger ones (See Hansson, Jones, Carpenter, & Remondet, 1986-87). The general practitioner would find information concerning personality variables difficult to access. The sociodemographic variables chosen were selected because of their easy accessibility.

**Component 2: Loneliness and health outcomes**

**Underlying theoretical model**

The second component of Study 1 has as its theoretical basis the model of Barsky (1981). In contrast to the two models described in the first component of this study this model does not predict loneliness, but rather explains why people with any form of emotional distress are likely to consult their doctors. The model does not attempt to answer the question “Does psychosocial distress predict physician utilisation?” It is a model of suggested pathways through which the effects of psychosocial distress might lead one to seek out a doctor. It is used as the direct basis for the hypotheses of this second study component which aims to clarify the individual findings of earlier studies of loneliness and health complaints, loneliness and symptom reporting, and loneliness and self reported physician utilisation in other countries by considering all these variables together in one project within a New Zealand context.

Barsky (1981) was of the opinion that, because many ailing persons do not consult doctors, factors other than disease or symptoms must be important in explaining why they do, or do not, consult. He provided evidence to support the proposal that subjective distress following recent life stress is a more powerful predictor of individual differences in medical care use than is actual morbidity (See Rahe & Arthur, 1978; Van Der Gagg & Van De Ven, 1978; Tessler, Mechanic, & Dimond, 1976). The author described three ways in which psychosocial distress may foster medical utilisation. Psychosocial distress may cause persons to perceive their health statuses less favourably. They may consider themselves sicker generally (Tessler & Mechanic, 1978). Such distress may cause people to amplify, focus on, worry about, and report symptoms they might otherwise ignore (Barsky, 1979; Mechanic 1972; Turnbull, 1974; Robbins, Meyersburg, & Tanck, 1974). Finally, the emotional discomfort itself may constitute the undisguised and
explicit complaint that a patient takes to a doctor. Although Barsky makes reference to the emotional distress of social isolation as a hidden reason for visiting the doctor, his model has not previously been used to examine the ways in which loneliness might encourage such physician utilisation. Do lonely New Zealanders perceive their health statuses less favourably, or amplify their symptoms to a greater degree than the less lonely for instance? Or, do they focus on, and worry about, their symptoms to a greater extent than the non-lonely? Do they present to their doctors explicitly for their loneliness? Do they do some, or all, of these things? Barsky's model offers an excellent theoretical basis from which to examine the presentation of loneliness to the medical practitioner. If general practitioners, in addition to being able to identify sociodemographic predictors of loneliness in older adults, were also able to identify the ways in which loneliness may be presented to them, the condition might be more easily recognised and more promptly treated. For this reason the psychosocial distress and pathways to physician utilisation model of Barsky is used as the basis for the prospective hypotheses of this second component of Study 1.

Specific aim for Component 2: Loneliness and health complaints

The aim of this component of Study 1 is:

- Using the Barsky (1981) model of psychosocial distress and pathways to physician utilisation, to explore differences in the ways in which loneliness may foster physician utilisation in groups of lonely and less lonely older New Zealanders

Hypothesis formation

The following hypotheses form this second component of Study 1 and are based on the literature which has been reviewed.

1. That lonely people in the 60+ age group will perceive their health statuses less favourably than less lonely people of that age.

2. That lonely people in the 60+ age group will report the experience of symptoms more frequently than the less lonely.
3. That lonely people in the 60+ age group will report their experiences of symptoms to be more severe than the less lonely.

4. That lonely people in the 60+ age group will focus on and worry about their symptoms to a greater extent than the less lonely.

5. That few lonely people in this age group will report visiting their doctors explicitly for the emotional discomfort of loneliness.

**Selection of the variables for Component 2**

The predictor variables for this health component of Study 1 were situational and chronic loneliness. The criterion, or health outcome variables were selected for a variety of reasons. In order to measure whether or not lonely, older adults perceived their health statuses less favourably and/or viewed themselves to be generally sicker than less lonely adults of the same age, two variables were chosen. Self rated health in comparison with others of the same age was selected as a measure of health perception, and how satisfied respondents felt with their lives as an indication of how they felt about themselves in general. Amplification of symptoms was measured by assessing both the frequency and the severity of symptoms experienced within the last three months. Symptom reporting has been associated with both loneliness (Cheng, 1990; Gerstein & Tesser, 1987), and increased usage of ambulatory medical services (Barsky, Wyshak, & Klerman, 1986). Severity of symptoms has been shown to be a major factor in medical help seeking by Janz and Becker (1984) and Cameron, Leventhal, and Leventhal (1993).

The majority of existing scales used to measure focusing on and worrying about symptoms tend to relate specifically to a particular illness worry rather than focus and worry about the symptoms themselves. The hypothesis of the study was that more attention would be paid to their symptoms by the lonely respondents in comparison to the less lonely. A more general measure, rather than one for hypochondriasis was required. The advice of Watson and Pennebaker (1988) is that the combination in a single study of within subject measures which gauge intraindividual change in symptom level such as medication use, restrictions of daily activity, and other self-initiated behaviours based on perceived changes in body state, and between group measures, can produce heuristically powerful results. Focusing on and worrying about symptoms were considered likely to result in an increased perception of the need for medical consultations, seeking information about the symptoms, increased self care, and increased self medication.
Therefore a series of questions involving these behaviours which involved such perceived changes were used to assess focusing on and worrying about symptoms. Garfinkel, Riley, and Iannacchione (1988) reported that the number of restricted activity days was highly associated with high cost medical usage in their survey, whilst the number of physicians seen simultaneously was found to be a powerful predictor of medical utilisation by Barsky, Wyshak, and Klerman (1986). The variables selected as measures of focusing on and worrying about symptoms were self medication, restricted activity and bed days due to symptoms, self reported doctor visits, and self reported visiting of more than one doctor for symptoms.

A number of variables thought likely to confound the research needed to be assessed solely in order to screen them from the analyses. One of these variables was self esteem which has been highly correlated with loneliness (See Mc Whirter, 1990). Both depression (See McWhirter, 1990; Weeks 1994; West, Kellner, & Moore-West, 1986) and anxiety (See Bowlby; 1973; Bradley, 1969; McWhirter; 1990, Parkes, 1973; and Young, 1982) have been considered to be potential confounds in loneliness research. Katon, Berg, Robins, and Risse (1986) reported from the results of their study that some patients who are anxious or depressed present to the doctor with ill defined symptoms, and make unnecessary use of services. For these reasons both conditions required screening from the analyses. Negative affect has been found to confound health research (Watson & Pennebaker, 1989) and to be part of loneliness research (Young, 1982). As potentially serious current, or chronic illness, were likely to confound hypothesis testing of health and loneliness (See Cheng, 1990; Garfinkel, Riley, & Iannacchione, 1988) they were measured also in order to be screened from the analyses.

**Component 3: Situational and chronic loneliness**

**Rationale**

A detailed description of the situational/chronic loneliness distinction has been provided in Chapters 2 and 3. The importance of this distinction for the selection of interventions for loneliness provides the rationale for this segment of the study.
Specific aim for Component 3: Situational and chronic loneliness

- The aim of this component of Study 1 is to repeat the situational loneliness analyses with chronic loneliness in order to indicate distinctions between the two forms of loneliness worthy of further research.

Summary of aims for Study 1

- To estimate the prevalence of moderate to severe loneliness in a sample of older New Zealand adults.

- To provide a sociodemographic profile of the lonely, older New Zealander by examination of selected structural and situational variables which may predispose towards, or precipitate, the development of loneliness.

- Using the Barsky (1981) model of psychosocial distress and pathways to physician utilisation, to explore differences in the ways in which loneliness may foster physician utilisation in groups of lonely and less lonely older New Zealanders.

- To repeat the situational loneliness analyses with chronic loneliness in order to indicate distinctions between the two forms of loneliness worthy of further research.
CHAPTER 6
METHODOLOGY: STUDY 1

Overview

This chapter begins with descriptions of the ethical concerns of the study, of issues related to the subject selection, and of the study design. Next an outline of the instruments and measures used in the study is provided, and also a summary of the construction of the study questionnaire. Procedures and statistical methods employed in Study 1 are portrayed. The concluding section of the chapter is devoted to describing the development of the variables before they were used in the analyses.

Ethics

The first concern was for the people who took part in the study. Their identities were protected and systems were set up for safe storage of data. Informed consent was obtained. Specifically, participants were told the purpose of the research, their role in it, the reason for their selection and the protection they would be given. They were also advised as to how the data would be used and stored and of the researcher's organisational affiliations. A covering letter also provided contact for assistance should a person be upset in any way by the contents of the questionnaire. This letter can be viewed in Appendix A, page 273. Approval for the study was obtained from the University of Auckland Ethics Committee.
Subjects

According to Kramer & Theiman (1987) a sample size of 505 subjects was required for the calculations of a two sample one way analysis of variance (ANOVA), or matched pair t test in order to obtain a power of 0.40 or probability of correctly rejecting the null hypothesis when it should be rejected, to measure a small to medium effect (that is a difference of means between groups or in the correlation of variables), an alpha of 0.5 specifying the level of Type I error, and assuming that the proportion of loneliness in the population is 12%. The survey population included all New Zealanders aged 60 years or over living within the sample frame. Six electoral rolls for the city of Auckland, which had been stratified for age in a previous study, were used to draw a random sample of 1000 adults over the age of 60 years, living within the city boundaries. The electorates were Albany, Birkenhead, Eden, Mangere, Manurewa, and Mt Albert. Randomisation was performed as follows. The population size was established by reading the tapes. The number selected for the sample was 1000, as a 50% response rate was estimated. This rate was based on a 48% return rate of loneliness questionnaires in the New Zealand study of loneliness conducted by Maxwell and Coebergh (1986). The authors considered their response rate to be very low due to the timing of the mailing of the questionnaires, which coincided with the Christmas period. A ratio was obtained by dividing the required sample number by the total number of names on the tapes. This ratio was given a uniform number between 0 and 1. If the random number was greater than the uniform number it was chosen, if less than the uniform number it was discarded. The procedure was repeated until the full sample was drawn. Excluded from the study was anyone unable to read or write the English language.

Questionnaires, participant information sheets, and consent forms were distributed by post. All participants completed the questionnaires anonymously in order to increase the response rate. Completed questionnaires were mailed to the researcher in self addressed envelopes. These were received from 300 people, representing 30% of those sampled. The low response rate was considered to be due to a number of factors. Of particular relevance was the timing of the questionnaire which coincided with two governmental health and income reforms which were extremely unpopular with older New Zealanders. They were thus most suspicious of requests for health information. A number of questionnaires were also returned with messages of the deaths or illnesses of recipients. This outcome is problematic when researching the older age groups.
The intrusive nature of the loneliness and depression content of the questionnaires may also have affected response rate. This factor also poses a particular problem with older samples (See Mares & Cantor, 1992). Unfortunately this initial data capture was insufficient for the power requirements of the study.

**Design**

The basic design was an anonymous, cross-sectional, postal survey using structured questionnaires. The primary purpose of the survey was to gather large scale, quantitative information in two areas. The areas of concern were the sociodemographic prediction of loneliness, and the effects of loneliness on health outcome variables. The predictor and criterion variables for the assessments of Personal characteristics and loneliness, Loneliness and health outcomes, and Situational and chronic loneliness, are outlined in Table 1.

**Instruments and measures**

**Loneliness**

In order to measure the prevalence of loneliness, and to provide a general measure of the experience of loneliness for use in testing the hypotheses of the study, participants completed the University of California, Los Angeles Loneliness Scale, Version 3 (UCLA-V3, Russell 1996) which has been described in detail in Chapter 2. Each item was scored on a four-point frequency scale: 1, I never feel this way, 2, I rarely feel this way; 3, I sometimes feel this way; and 4, I often feel this way. Respondents were required to complete the UCLA-V3, twice in order to distinguish short term, possibly transient and situationally induced loneliness from chronic or more persistent loneliness as suggested by Gerson and Perlman (1979) and Young (1982). The first assessment was of feelings of loneliness within the last two weeks, and the second measure investigated loneliness over one's life span. Although it would have been preferable to have presented half the questionnaires with the situational loneliness scale before the chronic loneliness scale, and half with the order reversed to have avoided primacy effects, expense constraints prevented this.
Table 1. Design of Study 1

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Criterion variables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessment 1. Personal characteristics</strong></td>
<td>Loneliness</td>
</tr>
<tr>
<td>Demographic:</td>
<td>Situational</td>
</tr>
<tr>
<td>Age, gender, marital status, education, ethnicity, occupation, income.</td>
<td>Chronic</td>
</tr>
<tr>
<td>Loneliness predisposing and precipitating variables:</td>
<td></td>
</tr>
<tr>
<td>Restricted social activity due to lack of transportation or physical impairment, social isolation, feeling part of group with shared attitudes and values, activity outside of home, perceived availability of confidant, death of spouse or close friend, separation/divorce, relocation.</td>
<td></td>
</tr>
<tr>
<td><strong>Assessment 2. Health outcomes</strong></td>
<td>Perceived health</td>
</tr>
<tr>
<td>Situational loneliness</td>
<td>Symptom amplification</td>
</tr>
<tr>
<td>Chronic loneliness</td>
<td>Symptom frequency</td>
</tr>
<tr>
<td><strong>Confoundning variables:</strong></td>
<td>Symptom severity</td>
</tr>
<tr>
<td>Current medical condition, chronic medical condition, self esteem, anxiety, depression, negative affect</td>
<td>Focusing on and worrying about health variables</td>
</tr>
<tr>
<td></td>
<td>Self medication</td>
</tr>
<tr>
<td></td>
<td>Restricted activity</td>
</tr>
<tr>
<td></td>
<td>Bed days</td>
</tr>
<tr>
<td></td>
<td>Self reported visits to doctor</td>
</tr>
<tr>
<td></td>
<td>Visiting more than one doctor</td>
</tr>
</tbody>
</table>

Respondents also indicated the frequency of their visits to the doctor explicitly for loneliness to provide the response to the hypothesis that few lonely people would report consulting their doctors explicitly for this discomfort. They reported the number of visits to the doctor in the past year for the experience of feelings of loneliness expressed in the UCLA-V3, and the number of times they had consulted their physicians in the past year for the effects of the loneliness predisposing or precipitating situations listed on the questionnaire. Of interest to the study were participants’ perceptions of their physician utilisation rather than their objective utilisation.
Sociodemographic variables

The measure selected for perceived availability of a confidant was The Closeness Scale of Maxwell and Coebergh (1986). This was a measure developed to assess a person to whom the participant felt “very close.” Such a person was defined as someone with whom you would do at least three of the following: discuss important things, visit uninvited, ask for help if needed, ring up or seek out for a chat when you feel like company. It was adapted by adding the question “Do you have a person to whom you feel very close?”, and scored by summing responses for a total score. This measure was selected because it had been developed in New Zealand and piloted on New Zealanders. It also had good reliability and validity with Maxwell and Coebergh reporting a Cronbach’s alpha of \( r = 0.88 \), and that 57% of the variance was accounted for on the first factor following factor analysis of the scale.

A battery of dichotomous variables was used to measure whether or not the respondent was restricted socially because of lack of transport or disability, had regular activity outside of the home, lived alone, belonged to a group with shared attitudes and values, or, within the last year, had experienced the death of a spouse, the death of a close friend, a marital separation or divorce, or had moved home.

Health

To measure whether or not those in the high loneliness group perceived their general health statuses less favourably than those in the low loneliness group, perceived health status was assessed by asking respondents to rate their health, in comparison to others of the same age. They selected one response on the frequently used Self Rated Health Scale of Mossey and Shapiro (1982), with answers ranging from 1 (terrible) to 7 (excellent). Extensive assessments of the reliability and both the predictive and construct validity of the scale were undertaken by the authors. The reported co-efficient alpha of the scale was 0.81. The scale was significantly and appropriately associated with such measures of morbidity as the number of days spent in hospital during the index year, the number of activities of daily living for which the individual reported spending time sick in bed, and the occurrence of death in the year following the interview. A further commonly used measure of perceived health status is satisfaction with life. Participants indicated how they felt about life as a whole by selecting one of the ratings ranging from 1 (terrible) to 7 (delighted) on the Life Satisfaction Scale of Andrews and Withey (1976). The authors reported this measure to have high reliability and validity. They also reported significant correlations between this scale and other measures of satisfaction and well-being.
To test the hypothesis that lonely older adults would amplify both the frequency and the severity of their self reported symptoms in comparison to less lonely adults of the same age, symptoms experienced were assessed using an adapted version of the Pennebaker Inventory of Limbid Languidness (The PILL, Pennebaker, 1982). This measure includes the assessment of 54 physical symptoms and complaints. The PILL’s validity is supported by data showing that high PILL scorers make more physician and health-centre visits, use more aspirin, and have more health related absences from work than low PILL responders (See Pennebaker, 1982). As the 54 item PILL was excessively lengthy for older people, 16 symptoms were selected from the scale. Poor response rates in previous loneliness research have been attributed, in part to the excessive length of the questionnaire (Maxwell & Coebergh, 1986; Weiss, 1982). The symptoms selected had either been reported by Gerstein and Tesser (1987), and Rubenstein and Shaver (1982), to be associated with loneliness (headaches, insomnia, poor appetite, feeling tired, feeling irritable), or by Mechanic (1979) to be related to increased medical utilisation (coughs, sore throats, muscular aches or pains, indigestion, heartburn, congested nose, skin rashes, diarrhoea, constipation, shortness of breath, pains in the stomach). These symptoms were rated on a 1-5 point scale (never, sometimes, often, very often, always) as to how often they had been experienced in the past three months.

To measure the severity of symptoms for hypothesis testing, the 16 symptoms from the adapted PILL were also rated for severity as not serious, quite serious, or very serious. The time frame of the PILL was changed from 1 week to 3 months in order to make it comparable with measures of bed days, and restricted activity because of symptoms. A total score for symptom frequency was obtained by summing the frequency responses across items, and a total score for symptom severity by summing the severity responses across items.

Respondents were asked to record the number of days in bed, and the number of times their activities were restricted during the last three months due to experiencing these symptoms. They also reported how many times they had visited a doctor, and how many doctors they had visited in the past year for these symptoms. Following consultations with several general practitioners by the researcher, participants were asked to note their self prescribed use of pain killing tablets, indigestion tablets or mixture, throat lozenges, and laxatives over the past three months in order to assess their levels of self medication.
Confounding variables

To measure current and chronic physical illnesses, participants were asked whether or not they were currently being treated for any medical condition and what the condition was. Respondents were also asked whether or not their doctors were treating them for cardiovascular problems, a stroke, asthma, any form of cancer, diabetes, or any other ongoing illness. These four illnesses were chosen as the most common chronic conditions of the elderly again after consultation with several general practitioners. It should be clear that the measures of chronic and current medical conditions are not fully independent of respondents' subjective perceptions, because it is they who provide the information. However, self reports of current health status and clinically assessed health status in the older adults have been found to be highly correlated by Cheng (1990), Coulton and Frost (1982) with r = 0.885 to r =1.00, and by other validity studies (See Filenbaum and Smyer, 1981). Participants were also questioned on the number of times they had visited their doctors for these current or chronic conditions in the past 12 months. Once again it is the perception of the need for medical care which is of interest.

In order to remove any confounding effects of self esteem from the analyses self esteem was assessed with the Rosenberg Self-Esteem Scale (Rosenberg, 1965). This 10 item scale has been much used as a unidimensional measure of self esteem. It is the standard against which new measures are evaluated. It consists of 5 negatively worded and 5 positively worded statements which are endorsed in four categories, strongly agree, agree, disagree, strongly disagree.

So that depression and anxiety could be screened from the analyses, participants were required to complete the Hospital Anxiety Depression Scale (HAD, Zigmond & Snaith, 1983). This short, 14 item scale has been found to be a reliable instrument for detecting states of anxiety and depression in both outpatient clinics and general practice settings (See Wilkinson & Barczak, 1988; and Zigmond & Snaith, 1983). Seven of the items relate to depression and seven to anxiety. Items are rated on a scale of 1-4 with responses summed, and high scores indicate higher levels of anxiety or depression. The scale is also considered to provide valid measures of the severity of the emotional disorders (Zigmond & Snaith, 1983), and to have good discriminant and criterion related validity. The HAD compared favourably with the general health questionnaire of the American Psychiatric Association’s Diagnostic and Statistical Manual (1987) as a screening tool for psychiatric illness. Both measures showed good discrimination between cases and non-cases and the positive predictive value was 81% for the HAD, and 77% for the general health questionnaire in the study of Wilkinson & Barczak, (1988).
Watson and Clark (1984) and Watson and Pennebaker (1989) described negative affect as a dimension which reflects stable, pervasive differences in negative mood and self concept and one which subsumes a broad range of aversive mood states. Watson and Clark (1992) suggested that the general factors of negative and positive affect emerge across descriptor sets, time frames, response sets, rotational schemes, languages, and cultures. The authors (1994) advised that trait negative affectivity is measured by a large number of commonly used scales which assess trait anxiety. Conceptually those high in negative affectivity are also likely to score highly on negative mood indicators such as depression, and to have low self esteem. In order to keep the questionnaire as short as possible, and because the purpose of the measure was solely to screen negative affect from the analyses, the combined scores of depression, anxiety, and low self esteem were used as an index of negative affect.

**Questionnaire construction**

For the most part the final questionnaire was constructed by using, or modifying, existing scales and measures. The questionnaire can be seen in Appendix A., page 276, and a detailed description is given below. The six page questionnaire sought three types of information regarding personal characteristics, health factors, and the experience of loneliness. A pilot study was run on 20 volunteers aged 60+ who were known to the researcher or to her associates. Volunteers completed the questionnaires and commented on the instructions, their reactions to the questionnaire, and the questionnaire layout. They gave suggestions for improving the questionnaire. Firstly they suggested that the size of print be increased so that it was easier to read, and this was done. Most of those piloted found the questionnaire to be very lengthy and thought it would be better shortened. However, they agreed that some sort of indication that all questions need not be completed in one sitting would help to deal with this problem. A message to this effect was included on the front of the questionnaire. None of those asked to comment had difficulty understanding the questionnaire. Several reported that they would not have liked to fill in the questionnaire if they had had to put their names on it, as it was very personal.

Questions about personal characteristics are on page 1 of the questionnaire. Subjects were asked for information concerning age, gender, ethnicity, education, present and past occupation, sufficiency of income, and marital status. Occupational categories were derived from the work
of Elley and Irving (1976; 1985). Questions concerning situational factors and descriptors of social networks which might predispose towards, or precipitate, loneliness are presented in questions 1-14 on page 5 of the questionnaire. These include questions about transport, physical disability, residence, group participation, outside home activity, and perceived availability of a confidant.

Health status measures, which include measures of self rated health and satisfaction with life, and are followed by questions about current and chronic medical conditions, can be found on page 1 of the questionnaire. Questions concerned with symptom amplification and focusing on, and worrying about symptoms are located on page 2. The first section consists of the adapted PILL and assesses frequency and severity of symptoms. The lower half of this page contains questions relating to bed days, restricted activity, frequency of self reported doctor visits and number of different doctors visited. Questions regarding the types of self medication taken, painkilling tablets, indigestion tablets or mixture, throat lozenges and laxatives are also on page 2. The situational version of the UCLA-V3 is on page 3 of the questionnaire, and the chronic version on page 4. The self esteem scale is presented on page 5, and the depression and anxiety measures on the final page of the questionnaire.

**Statistical analysis**

Data were transferred into an SAS data set and frequency counts and univariate analyses of quantiles, means, modes, standard deviations, skewness, kurtosis, and variance for all study variables were calculated. The data were summarised with standard cross-tabulation procedures. Three types of analysis were performed with the aim of providing a sociodemographic profile of situational loneliness in the sample of older adults. Zero order correlations of each sociodemographic predictor variable with situational loneliness were carried out in order to ascertain which variables were significantly associated with loneliness. Pearson product moment correlations were used for all variables with the exception of the categorical variables of marital status and occupational level for which Kendalls Tau co-efficients were calculated. In order to compare differences in mean situational loneliness scores between response categories for the sociodemographic variables, a series of t tests for independent samples for two categories, or one way ANOVAS and Tukey HSD tests for more than two categories was performed for each of these variables, with situational loneliness as the dependent variable in each test. Finally, a
A stepwise procedure was used so that the sociodemographic variables which were significantly related to situational loneliness were entered into the regression equation in order (from greatest to least) of the magnitude of their relationship with situational loneliness. This procedure was used to demonstrate the relationships amongst variables which contributed to the social profiles of situationally lonely people in the study.

For the second component of the study which involved the hypothesis testing of the effects of situational loneliness on health outcomes, Pearson product moment correlations were calculated for situational loneliness and each health variable. A series of one way ANOVAS using the SAS general linear model (GLM) was used to calculate main effects between independent (situational loneliness) and dependent (health outcome) variables.

Stepwise regression analysis was chosen to expand on the information from the ANOVA results by providing estimations of the extent to which situational loneliness predicted the outcome variables independently of the confounding variables. All statistical analyses were performed firstly using situational loneliness, and repeated using chronic loneliness scores in place of situational loneliness scores.

Development of the variables from the initial study data

Before the t tests, correlational, and regression analyses could be performed a number of changes were required in the summarised data. The characteristics of the smaller groups were masked as most subjects (97%) were retired, and endorsed the ethnic category of European (97%). To reduce the large number of variables already being studied, retirement and ethnicity were not included in the parametric analyses. Few scores fell in the 1-3 ranges of the 7 point Self Rated Health Scale of Mossey and Shapiro (1982), so these categories were combined to form a five point scale which was used in all parametric analyses. Raw data was used for non-parametric testing. Life satisfaction scores on the Andrews and Withey (1976) scale were distributed in the same way and were treated in a similar fashion by the use of a five point scale for parametric analyses. Current and chronic medical conditions were transformed into binary variables of those who were receiving treatment for a current condition and those who were not, and those who had a chronic condition and those who did not.
A new score was created by combining the five individual item scores for the perceived availability of a confidant which are conceptually related according to Maxwell and Coebergh (1986), and statistically correlated with a Cronbach alpha standardised co-efficient of 0.89 with $r$ values ranging from 0.70 to 0.79.

The 16 individual symptom frequency scores were summed to create a total score for symptom frequency. The possible score for this variable was 80, the mean 9.70, s.d.8.75, and range 0-57. The standardised co-efficient reliability alpha for the individual items was 0.91, with $r$ values of 0.40 to 0.65. This summated score was used in further analyses. Similarly the 16 individual symptom severity scores were also computed to make a total score for symptom severity. The possible score was 48, the mean score for this variable was 7.26, s.d.7.14, and range 0-38. The standardised co-efficient alpha for reliability for the individual items was 0.93, with $r$ values between 0.40 and 0.74. The summated score of severity items was used in further analyses.

Many responses to the self medication questions were given as number of times taken per week and these were transformed to three monthly scores. Scores for the individual forms of medication were positively skewed, with very few people indicating high rates of self medication for any particular type of medication. Because of this fact, scores for self medication with pain killers, laxatives, indigestion tablets or mixtures, and throat lozenges were totaled to create a summated score which was computed and used in further analyses.

Items in the self esteem scale were rated from 1 (strongly agree) to 4 (strongly disagree). The negative items were reversed, and the 10 item scores for the Rosenberg (1965) scale were computed for a new total score for self esteem. The mean of this total score was 33.44, s.d. 4.48, range 18-40, and N=259. The possible score was 40, (high scores reflected high self-esteem). The scale had high reliability with a standardised co-efficient alpha for reliability of 0.91, with $r$ values between 0.50 and 0.74. The scores for the seven anxiety items of the Hospital Anxiety and Depression Scale (HAD) were added to create a total anxiety score. The mean for this score was 4.56, s.d. 3.28, range 0-15, and N= 286. A standardised co-efficient alpha of 0.88 suggested good inter-item reliability. The $r$ values ranged between 0.50 and 0.70. The highest possible score was 28 and high scores were indicative of high anxiety levels. The scores of the seven depression items of the HAD were also combined to produce a total depression score with a mean of 3.40, s.d.2.38, range 0-15, and N289. Standardised co-efficient alpha for reliability for this variable was 0.79, with $r$ values from 0.40 to 0.60. As for the anxiety measure, the
highest possible score was 28 and reflected high levels of depression.

A negative affect score was created by combining items which were both conceptually (See Watson & Pennebaker, 1989) and statistically related. These items were the total anxiety score, the total depression score, and the total self esteem score. As the total number of items in each scale differed, each total was divided by the number of items in the corresponding scale as proposed by Streiner and Norman (1994). The scores for self esteem were reversed so that low self esteem scores comprised part of this variable. The possible score of 12 signifies high negative affect. Standardised co-efficient alpha for reliability for this variable was 0.70, with \( r \) values spread from 0.48 to 0.57. The mean score for negative affect was 2.76, s.d. 0.95, range 1-6, and \( N=249 \).

Two items which related to doctor visits in the past year specifically for the feelings of loneliness were combined to form a single score. As the distribution of this variable was positively skewed, with very few respondents indicating that they had visited their doctors for loneliness, it was not used for further analyses. The scores for doctor visits for depression and anxiety were also positively skewed with very few people reported visiting their doctors for reasons other than chronic conditions or symptoms. For this reason scores for visiting the doctor for chronic medical conditions, symptoms, depression or anxiety, or loneliness were combined to form a total score for self reported doctor visits. The standardised co-efficient alpha for reliability for this variable was 0.69, with \( r \) values from 0.28 to 0.76. This variable was used for any further analyses of doctor visits. The mean score of 5.89 self reported doctor visits per year was very similar to that of other studies (See Coulton & Frost, 1982).

A total score for situational loneliness was computed by combining scores for the 20 individual items on the UCLA-V3 when the questions were answered within the time frame of "In the past two weeks, how often have you felt this way?" The negative item scores were reversed. High scores on this variable indicated high levels of situational loneliness. The standardised Cronbach alpha co-efficient was 0.97 for situational loneliness items. This result provides evidence of high inter-item consistency for the UCLA-V3. A test of split half reliability was carried out by correlating responses for odd numbered questions with responses for even number questions. High split half reliability was evidenced with a Pearson \( r \) of 0.94. Both convergent and discriminant validity for the scale are suggested by the correlation of situational loneliness with both depression and anxiety (Pearson \( r \) for depression = 0.53 and for anxiety = 0.48). The
correlation is high enough to indicate that both constructs overlap, but are not redundant with one another. The same procedure was used to obtain chronic loneliness scores using responses to the time frame for the items of "Looking back over your life, how often have you felt this way?" When a standardised Cronbach alpha co-efficient was calculated the result was 0.97 with r values between 0.58 and 0.82. Correlations for chronic loneliness with anxiety and depression were 0.45, and 0.44 respectively, again suggesting that the scale has good convergent and discriminant validity.

Before they could be entered into the one way analyses of variance (ANOVAS) the situational loneliness scores needed to be transformed into a dichotomous variable. This was done by dividing situational loneliness scores into two groups based on the following theoretical, a priori criteria to ensure that the cut off scores selected for this study would include a group of respondents who were experiencing moderate to severe situational loneliness.

1. The incidence of loneliness in various samples is suggested to be between 10-30% according to Sermat (1980). Fifteen percent of the highest situational loneliness scores were selected for initial inclusion in the high situational loneliness group.

2. Kiecolt-Glaser et al. (1984a) found significantly higher cortisol levels in a group of medical students who scored above the median loneliness score of 48.5 on the UCLA-V2. Cut off scores were required to approximate this figure.

3. Borys and Perlman (1985) reported a mean UCLA score of 47.5 in a group of 74 divorced adults seeking therapy for loneliness. Cut off scores were again expected to approximate this figure.

Using the a priori clinical criteria outlined above, situational loneliness scores were divided into two groups using a score of 46 as a division point. Fifteen percent of the highest scores for situational loneliness were examined initially giving a provisional cut off score of 46. This score approximated the median loneliness score of 48.5 on the UCLA-V2 of Kiecolt-Glaser et al. (1984a) who found significantly higher cortisol levels in a group of medical students who scored above this figure, and that of Borys and Perlman (1985) who reported a mean UCLA score of 47.5 in a group of 74 divorced adults seeking therapy for loneliness. Therefore the score of 46 was retained as the division point.
Chronic loneliness scores were divided using a score of 50 as the division point, as 15% of scores were greater than 50, and this score was higher than the median of the Kiecolt-Glaser et al. (1984) and the mean of the Borys and Perlman studies. Means and standard deviations of high and low situational and chronic loneliness groups can be seen in Table 2.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low situational loneliness</td>
<td>254</td>
<td>32.36</td>
<td>6.01</td>
</tr>
<tr>
<td>High situational loneliness</td>
<td>43</td>
<td>58.44</td>
<td>7.76</td>
</tr>
<tr>
<td>Low chronic loneliness</td>
<td>248</td>
<td>34.94</td>
<td>6.16</td>
</tr>
<tr>
<td>High chronic loneliness</td>
<td>44</td>
<td>57.50</td>
<td>6.01</td>
</tr>
</tbody>
</table>

To summarise, both the seven point Self Rated Health and Life Satisfaction scales were reduced to five point scales. Current and chronic medical conditions were each transformed into binary variables. A new variable, perceived availability of a confidant, was created by combining the five individual item scores for the perceived availability of a confidant. The individual scores for symptom frequency and symptom severity were each summated and the total scores used in further analyses. A similar procedure was followed with the individual items of the self esteem, depression, and anxiety scales. Individual items of self medication were combined for a total score. A new variable, negative affect, was created by combining the total scores, each divided by the number of items in the scale, of self esteem, depression and anxiety. The number of self reported doctor visits for chronic medical conditions, symptoms, depression or anxiety, and loneliness were summated and the total score used in further analyses. Situational and chronic loneliness scale item scores were totaled. High and low loneliness groups were formed for situational and chronic loneliness scores according to a priori clinical criteria.
CHAPTER 7
RESULTS: STUDY I

Overview

The first study was designed to examine the prevalence and sociodemographic predictors of situational loneliness in older adults, and the relationships among loneliness and health outcomes. In addition, analyses were replicated for chronic loneliness to ascertain useful directions for further research. This section presents the findings of Study I. The results are presented in three parts. Part 1 contains the results from descriptive, univariate, and regression analysis of the personal characteristics of the sample, that is of the sociodemographic loneliness predisposing and precipitating variables and a summary of these results. Part 2 encompasses results of the health and loneliness analysis, and testing of the study hypotheses. Once again descriptive, univariate, and regression analyses are recorded, and results summarised. Finally, differences in results of descriptive statistics for situational and chronic loneliness are outlined and summated in Part 3.

Part 1: Personal characteristics of the sample

One of the aims of the first component of the study is the provision of a sociodemographic profile of the lonely older New Zealander by the examination of selected structural and situational variables which may predispose towards, or precipitate the development of loneliness. The personal characteristics outlined in this section are the situational and structural variables which may predispose towards or precipitate loneliness.

The sampling frame for the study consisted of six electoral rolls from the urban region of Auckland which had been stratified for age in a previous study. One thousand questionnaires were posted to randomly selected New Zealanders aged more than 60 years. The final sample of
300 completed questionnaires provided a response rate of 30%. This low rate of return was problematic in that the power requirements of the study were not met. As 70% of those sampled did not respond it was also impossible to ascertain differences in possible sampling biases such as health or other reasons for acquiescence between those who responded and those who did not. Although the Census data provided by Statistics New Zealand refers to those older than 65 years and this study sample was aged 60 and over, a general impression of the similarity of the samples can be obtained. Nine out of 10 New Zealanders over the age of 65 years live in the primary and secondary urban areas which were sampled in this project (Statistics New Zealand, 1995). Table 3 presents the study sample figures and those of all New Zealanders over the age of 65 years, based on the 1991 Census and prepared by Statistics New Zealand (1995).

In cases where Census data was given for males and females these categories were combined and scores averaged to obtain total percentages. Two of the Census socio-economic categories were also combined for ease of comparison. Comparative data was unavailable for educational level. Percentage figures are rounded for clarity of presentation. Respondents in this survey were similar to older New Zealanders as a whole in terms of age, gender, employment status, and ethnicity. Forty four percent of the sample were male and 56% female. There was a significant difference between samples in the marital status categories, $X^2 = 40.4, p< .05, DF3$. The study sample contained a slightly higher percentage of endorsements for the separated/divorced category and slightly lower percentage for the widowed category. Statistics New Zealand (1995) stated that the most significant recent change in elderly marital status was the rising number who were either separated or divorced. The difference between the study and the Census samples probably reflects this change since the 1991 figures were collected. There was a significant difference, $X^2 = 29.75, p < .02, DF3$, when a Chi-square for independent samples was performed to examine possible differences in the study sample between marital status and gender. The difference was accounted for by more females than males in the widowed category. Statistics New Zealand (1995) reported that loss of a spouse was more common among elderly women who tend to outlive their partners. Six percent of the study sample described themselves as single, 55% married, 29% widowed, and 11% separated or divorced. However, these differences could equally be the result of the sampling process which may have filtered the types of respondent.
Table 3. Means or percentage proportions of personal characteristics of the study sample and of those aged over 65 who completed Census data in 1991

<table>
<thead>
<tr>
<th>Personal Characteristics</th>
<th>The Sample</th>
<th>Census 1991</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age</td>
<td>71 years</td>
<td>73 years</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>56%</td>
<td>58%</td>
</tr>
<tr>
<td>Male</td>
<td>44%</td>
<td>42%</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Females</td>
<td>6%</td>
<td>55%</td>
</tr>
<tr>
<td>Married</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>70%</td>
<td>43%</td>
</tr>
<tr>
<td>Females</td>
<td>43%</td>
<td>27%</td>
</tr>
<tr>
<td>Widowed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>13%</td>
<td>41%</td>
</tr>
<tr>
<td>Females</td>
<td>41%</td>
<td>27%</td>
</tr>
<tr>
<td>Separated/divorced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>13%</td>
<td>9%</td>
</tr>
<tr>
<td>Females</td>
<td>9%</td>
<td>4%</td>
</tr>
<tr>
<td>Employment status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retired</td>
<td>97%</td>
<td>94%</td>
</tr>
<tr>
<td>Socio-economic status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Top professional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Manager/executive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Clerical/supervisory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>37%</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Skilled technician</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Semi-skilled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Unskilled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>European</td>
<td>97%</td>
<td></td>
</tr>
<tr>
<td>Maori</td>
<td>2.5%</td>
<td></td>
</tr>
<tr>
<td>Dwelling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live alone</td>
<td>35%</td>
<td></td>
</tr>
<tr>
<td>Perceived Income Sufficiency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sufficient</td>
<td>79%</td>
<td></td>
</tr>
<tr>
<td>Insufficient</td>
<td>21%</td>
<td></td>
</tr>
</tbody>
</table>

N.B. Because of rounding totals do not always equal 100%
More of the study than the census sample lived alone (35% versus 33%) but this difference was not significant. The study sample differed from Census data on socio-economic level with fewer managers/executives, skilled technicians, and unskilled workers, and more clerical workers/ supervisors. In the occupational categories 21% of participants listed themselves as professional, 6% managerial, 37% as clerical/ supervisory, 16% skilled, 19% semi-skilled and 1% skilled. Although the original aim of this project was to give a picture of loneliness for all older New Zealanders the dominance of Europeans tends to disguise the variations found in the smaller ethnic populations. Information which is representative of the different ethnic groups in New Zealand would be more easily gathered in a study explicitly designed for that purpose. For this reason, and because of the large number of variables in the study, ethnicity is included only in the non parametric analyses. For similar reasons, as most participants (97%) were retired, possibly a further reflection of the urban nature of the sample, this variable was not included in parametric analyses. A frequency distribution of the number of respondents in each age group category is presented in Figure 1.

Figure 1
Frequency distribution of number of respondents by age group categories (N=293)

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>60-65</td>
<td>69</td>
</tr>
<tr>
<td>66-70</td>
<td>86</td>
</tr>
<tr>
<td>71-75</td>
<td>69</td>
</tr>
<tr>
<td>76-80</td>
<td>41</td>
</tr>
<tr>
<td>81-85</td>
<td>17</td>
</tr>
<tr>
<td>86-90</td>
<td>11</td>
</tr>
</tbody>
</table>

The mean age of the sample was 70.97 years, s.d. 6.64, and range 60-90 years. Fifty percent of the participants were younger than 70 years and ten percent were older than 80 years. Census figures were not provided for comparative age groups.
Six percent of the sample had less than 7 years of education, 46% more than 7 years, and 48% more than 10 years. Thirty four percent of respondents had attended a university or technical institute. Seventy eight per cent of those surveyed considered that their incomes were sufficient for their needs. Table 4 presents a summary of responses to the questions asked relating to personal characteristics in regard to situations or experiences which might precipitate or predispose towards loneliness.

**Table 4. Percentages of responses to loneliness predisposing and precipitating questions**

<table>
<thead>
<tr>
<th>Question</th>
<th>Affirmed</th>
<th>Denied</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Loneliness predisposers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does lack of transport limit your social activities?</td>
<td>18%</td>
<td>82%</td>
</tr>
<tr>
<td>Does a physical disability stop you from socialising?</td>
<td>14%</td>
<td>86%</td>
</tr>
<tr>
<td>Do you live alone?</td>
<td>35%</td>
<td>65%</td>
</tr>
<tr>
<td>Do you feel part of a group who share your attitudes and values?</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>Do you attend some regular activity outside your home?</td>
<td>73%</td>
<td>27%</td>
</tr>
<tr>
<td>Do you have a person with whom you: Feel very close</td>
<td>86%</td>
<td>14%</td>
</tr>
<tr>
<td>Discuss important things</td>
<td>89%</td>
<td>11%</td>
</tr>
<tr>
<td>Visit uninvited</td>
<td>74%</td>
<td>26%</td>
</tr>
<tr>
<td>Ask for help if needed</td>
<td>86%</td>
<td>14%</td>
</tr>
<tr>
<td>Ring up (or seek out) for a chat when you feel like company?</td>
<td>86%</td>
<td>14%</td>
</tr>
<tr>
<td><strong>Loneliness precipitators</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the past year: Has your husband or wife died?</td>
<td>8%</td>
<td>92%</td>
</tr>
<tr>
<td>Has a very close friend died?</td>
<td>36%</td>
<td>64%</td>
</tr>
<tr>
<td>Have you been divorced or separated?</td>
<td>9%</td>
<td>92%</td>
</tr>
<tr>
<td>Have you moved house?</td>
<td>13%</td>
<td>87%</td>
</tr>
</tbody>
</table>

It can be seen that 36% of the sample had experienced the death of a very close friend in the past year, 35% lived alone, 27% did not attend some regular activity outside the home, 26% did not have a person whom they could visit uninvited, 25% did not feel part of a group which shared their attitudes and values, 18% felt that lack of transport limited their social activities. Fourteen percent of participants were stopped from socialising by a disability and 13% had moved house in the past year. Nine percent of respondents had experienced a separation or divorce and 8% the death of a spouse in the past year.
Correlational analysis of sociodemographic variables

In order to investigate possible associations between personal characteristics and loneliness, the sociodemographic variables, with the exceptions of marital status and occupational status, were given numerical values and Pearson product moment correlations were calculated for each variable with both situational and chronic loneliness scores respectively. Kendall Tau coefficients were calculated for marital and occupational status variables. The results of the correlational matrix can be seen in Table 19, Appendix B, page 284. Significant relationships for situational loneliness are presented in Table 5. Situational loneliness was significantly related to income, education, and marital status, whilst chronic loneliness was significantly related to marital status and occupation. Of the loneliness predisposing and precipitating variables, disability, residence, belonging to a group with shared attitudes and values, regular activity outside the home, perceived availability of a confidant, and relocation were significantly related to situational loneliness. Significant relationships with chronic loneliness were found for disability, residence, belonging to a group with shared attitudes and values, having an activity outside of the home, perceived availability of a confidant, and relocation.

Table 5. Summary of sociodemographic variables significantly correlated with situational loneliness

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation</th>
<th>Probability</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>-0.14</td>
<td>0.0215</td>
<td>272</td>
</tr>
<tr>
<td>Education</td>
<td>-0.15</td>
<td>0.0057</td>
<td>296</td>
</tr>
<tr>
<td>Marital status</td>
<td>0.23</td>
<td>0.0001</td>
<td>298</td>
</tr>
<tr>
<td>Disability restricting socialising</td>
<td>0.16</td>
<td>0.0063</td>
<td>298</td>
</tr>
<tr>
<td>Residence</td>
<td>0.20</td>
<td>0.005</td>
<td>297</td>
</tr>
<tr>
<td>Feels part of group with shared attitudes</td>
<td>-0.52</td>
<td>0.0001</td>
<td>297</td>
</tr>
<tr>
<td>Participates in activity outside of home</td>
<td>-0.18</td>
<td>0.0019</td>
<td>297</td>
</tr>
<tr>
<td>Perceived availability of confidant</td>
<td>-0.54</td>
<td>0.0001</td>
<td>292</td>
</tr>
<tr>
<td>Relocation</td>
<td>0.16</td>
<td>0.0064</td>
<td>295</td>
</tr>
</tbody>
</table>
Univariate analysis of sociodemographic variables

To provide a sociodemographic profile of a lonely, older New Zealander, that is to explain how the social backgrounds of the lonely and non-lonely might differ, it was necessary to obtain information about differences in these background variables which were associated with high or with low loneliness scores. As this research was exploratory in nature, univariate analyses provided a clear initial impression of main effects among variables. The results are presented in Tables 6-9. To ascertain differences in mean loneliness scores amongst responses to the sociodemographic and loneliness predisposing and precipitating variables, a series of t tests for independent samples for two categories of responses, or ANOVAS and Tukey HSD tests for more than two categories, was performed for each personal characteristic with situational loneliness as the dependent variable in each test. Perceived confidant scores were divided at the median into two groups, those who had high scores on the confidant measure and those who had low scores. The tests were replicated for chronic loneliness.

Table 6. t-statistics, means, and standard deviations of sociodemographic variables by situational loneliness

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean loneliness score</th>
<th>SD</th>
<th>t statistic</th>
<th>Significance</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>157</td>
<td>36.58</td>
<td>10.60</td>
<td>t=0.99</td>
<td>p=0.7742</td>
<td>253.8</td>
</tr>
<tr>
<td>Male</td>
<td>126</td>
<td>35.24</td>
<td>11.88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sufficient</td>
<td>213</td>
<td>35.21</td>
<td>9.88</td>
<td>t=2.31</td>
<td>p=0.0215*</td>
<td>268</td>
</tr>
<tr>
<td>Insufficient</td>
<td>57</td>
<td>38.98</td>
<td>14.31</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N.B. * = significant at p < .05
Table 7. Results of ANOVAS and Tukey HSD means, standard deviations, and pair wise comparisons of sociodemographic groups by situational loneliness

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean loneliness score</th>
<th>SD</th>
<th>F  statistic</th>
<th>Significance</th>
<th>DF</th>
<th>Pairwise Group Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Single</td>
<td>17</td>
<td>35.82</td>
<td>09.78</td>
<td>4.25</td>
<td>p=0.0058*</td>
<td>3</td>
<td>Group 2 differs from both groups 3 and 4</td>
</tr>
<tr>
<td>2. Married</td>
<td>162</td>
<td>33.56</td>
<td>09.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Widowed</td>
<td>85</td>
<td>38.91</td>
<td>12.93</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Sep/divorced</td>
<td>31</td>
<td>41.30</td>
<td>13.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. ≤ 7 years</td>
<td>19</td>
<td>44.74</td>
<td>16.69</td>
<td>6.67</td>
<td>p=0.0015*</td>
<td>2</td>
<td>Group 1 differs from both groups 2 and 3</td>
</tr>
<tr>
<td>2. ≤ 10 years</td>
<td>1370</td>
<td>35.96</td>
<td>10.53</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. &gt; 10 years</td>
<td>137</td>
<td>34.88</td>
<td>10.58</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socio-economic status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Professional</td>
<td>52</td>
<td>36.19</td>
<td>9.58</td>
<td>1.22</td>
<td>p=0.3003</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>2. Manager/exec</td>
<td>14</td>
<td>38.10</td>
<td>8.76</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Clerical</td>
<td>90</td>
<td>34.88</td>
<td>10.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Skilled</td>
<td>38</td>
<td>38.03</td>
<td>10.77</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Semi-skilled</td>
<td>46</td>
<td>33.48</td>
<td>11.39</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Unskilled</td>
<td>3</td>
<td>30.00</td>
<td>7.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N.B. * = significant at p <.05.

Group means differ significantly at the 95% confidence level.

The mean situational loneliness scores were significantly higher for those who considered their incomes to be insufficient, for those who were separated, divorced, or widowed rather than married, for those who had a disability restricting socialising, lived alone, were not part of a group with shared attitudes and values, had no activity outside the home, and had low perceived availability of confidant scores when compared with participants who did not share these attributes. Results of tests of chronic loneliness are presented in Tables 21-24 in Appendix B.
<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean loneliness score</th>
<th>SD</th>
<th>t statistic</th>
<th>Significance</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has transport</td>
<td>242</td>
<td>35.54</td>
<td>11.19</td>
<td>t=-1.66</td>
<td>p=0.1012</td>
<td>79.7</td>
</tr>
<tr>
<td>No transport</td>
<td>54</td>
<td>38.28</td>
<td>10.93</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disabled</td>
<td>40</td>
<td>40.50</td>
<td>12.95</td>
<td>t=-2.40</td>
<td>p=0.0202*</td>
<td>47.8</td>
</tr>
<tr>
<td>Not disabled</td>
<td>235</td>
<td>35.32</td>
<td>10.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lives alone</td>
<td>103</td>
<td>39.13</td>
<td>11.91</td>
<td>t=-3.36</td>
<td>p=0.0009*</td>
<td>186.3</td>
</tr>
<tr>
<td>Shares home</td>
<td>192</td>
<td>34.44</td>
<td>10.43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part of group</td>
<td>221</td>
<td>32.71</td>
<td>7.26</td>
<td>t=10.41</td>
<td>p=0.0000*</td>
<td>129.3</td>
</tr>
<tr>
<td>Not part of group</td>
<td>74</td>
<td>46.09</td>
<td>14.45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out of home activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has activity</td>
<td>215</td>
<td>34.88</td>
<td>10.02</td>
<td>t=2.74</td>
<td>p=0.0072*</td>
<td>111.6</td>
</tr>
<tr>
<td>No activity</td>
<td>79</td>
<td>39.37</td>
<td>13.41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived confidant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has confidant</td>
<td>256</td>
<td>34.20</td>
<td>9.06</td>
<td>t=-8.69</td>
<td>p=0.0001*</td>
<td>288</td>
</tr>
<tr>
<td>No confidant</td>
<td>34</td>
<td>49.88</td>
<td>14.82</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NB. * = significant at p<.05, t corrected for unequal variances.
Table 9. t statistics, mean situational loneliness scores, and standard deviations for loneliness precipitating variables experienced in the past year by situational loneliness

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean loneliness score</th>
<th>SD</th>
<th>t statistic</th>
<th>Significance</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death of spouse</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death</td>
<td>24</td>
<td>38.54</td>
<td>12.85</td>
<td>t=-1.04</td>
<td>p=0.3081</td>
<td>26.2</td>
</tr>
<tr>
<td>No death</td>
<td>261</td>
<td>35.72</td>
<td>11.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death of close friend</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death</td>
<td>103</td>
<td>35.64</td>
<td>12.85</td>
<td>t=0.42</td>
<td>p=0.6786</td>
<td>235.1</td>
</tr>
<tr>
<td>No death</td>
<td>184</td>
<td>36.64</td>
<td>11.77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separation/divorce</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep/div</td>
<td>24</td>
<td>38.71</td>
<td>10.33</td>
<td>t=-1.18</td>
<td>p=0.2472</td>
<td>27</td>
</tr>
<tr>
<td>Not sep/div</td>
<td>267</td>
<td>35.80</td>
<td>11.49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relocation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moved</td>
<td>36</td>
<td>40.75</td>
<td>11.40</td>
<td>t=-2.74</td>
<td>p=0.0064*</td>
<td>44.7</td>
</tr>
<tr>
<td>Not moved</td>
<td>256</td>
<td>35.35</td>
<td>11.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NB * = t significant at p<.05, t corrected for unequal variance

Regression analysis of sociodemographic variables

In order to expand on the information from the results of the univariate analysis, the sociodemographic and loneliness predisposing and precipitating variables which were significantly related to situational loneliness at p < .05 (See Table 5) were selected as the independent variables as recommended by Howell (1987). Multiple regression with these data has certain limitations in that the presence of correlations between independent variables can influence their ability to significantly predict the dependent variables, and variances between groups were also unequal on many of the measures. However, the research was exploratory, the size of the correlations was moderate, and there were no significant outliers. Howell (1987) is of the opinion that the assumptions of normality and homogeneity of arrays are not essential for multiple regression if the purpose is simply to describe data, or to assess the degree to which variance in Y is linearly attributable to variance in X, as opposed to hypotheses testing.
Stepwise regression analysis involved creating a linear combination of independent variables which predicted the dependent variable. The independent variable with the highest correlation with the criterion was entered on the first step of the model and successive variables were added in descending order of relationship with state loneliness. Entry in and out of the model was specified at \( p < .15 \) in order to force all variables into the model even if they did not add significance to \( R^2 \), thus making a more complete model. Independent variables were added one at a time if they met the pre-defined statistical criteria. Those independent variables which were not useful in providing additional predictive information to the independent variables already in the model (i.e., they no longer contributed significantly to the regression) were removed. Because decisions about which variables were included or excluded from the model were based on this sample, stepwise regression was useful for describing the relationships of variables contributing to the social profile of lonely people in this study, and for identifying the variables important for the development of models in further research.

### Table 10. Significant variables remaining in the model following stepwise regression of sociodemographic variables on situational loneliness

<table>
<thead>
<tr>
<th>Variable</th>
<th>Parameter estimate</th>
<th>Standard error</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feels part of group</td>
<td>-8.81</td>
<td>1.39</td>
<td>40.68</td>
<td>0.0001</td>
</tr>
<tr>
<td>Perceived availability of</td>
<td>-7.89</td>
<td>1.96</td>
<td>40.62</td>
<td>0.0001</td>
</tr>
<tr>
<td>confidant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 11. Variance accounted for by significant variables in stepwise regression of sociodemographic variables on situational loneliness

<table>
<thead>
<tr>
<th>Variable</th>
<th>Partial ( R^2 )</th>
<th>Adjusted ( R^2 )</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feels part of group</td>
<td>0.29</td>
<td>0.29</td>
<td>101.56</td>
<td>0.0001</td>
</tr>
<tr>
<td>Perceived availability of</td>
<td>0.11</td>
<td>0.39</td>
<td>43.86</td>
<td>0.0001</td>
</tr>
<tr>
<td>confidant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In the first stepwise regression the variables were entered in the following order; perceived availability of a confidant on step one, belonging to group with shared attitudes and values on step two, marital status on step three, residence on step four, regular activity outside of the home on step five, disability restricting socialising on step six, relocation on step seven, education on step eight, and income on step nine. Situational loneliness was the dependent variable. The results of these calculations are presented in Tables 10 and 11. The overall regression $R^2$ was 0.42, $F = 35.59$, $p = 0.0001$, df 255. Two variables remained in the model at the $p < .05$ level. These were belonging to a group with shared attitudes and values and perceived availability of a confidant. Together these variables accounted for 42% of the variance in situational loneliness and by far the largest contribution was that of belonging to a group with shared attitudes and values, $R^2 = 0.29$. However, perceived availability of a confidant contributed unique variance to the model with a partial $R^2$ of 0.11.

The same selection and stepwise procedures were repeated with belonging to a group with shared attitudes and values entered on step 1, perceived availability of a confidant on step 2, occupation on step 3, marital status on step 4, residence on step 5, relocation on step 6, with chronic loneliness as the dependent variable. Results of these procedures are outlined in Tables 25 and 26 Appendix B. As illustrated the overall multiple regression $R^2$ for chronic loneliness was 0.33, $F = 28.06$, $p = 0.0001$, and df 227. Three variables were left in the model and contributed at the $p < .05$ level. These were perceived availability of a confidant, belonging to a group with shared attitudes and values, and occupation with respective partial $R^2$s of 0.25, 0.04, and 0.04.

**Summary of results of Part 1: Situational loneliness and sociodemographic variables**

Thirty percent of those sampled returned completed questionnaires. The study sample was similar to the Census sample in regard to age, gender, employment status, and ethnicity. Respondents from the study sample were significantly more likely than the census sample to be divorced or separated rather than widowed. They were less likely than the census sample, but not significantly so, to be managers/executives, skilled technicians, or unskilled workers and more likely to be clerical workers. Fifteen percent of the study sample had situational loneliness scores which met the a priori criteria for clinical significance.
Correlations

High situational loneliness scores were significantly associated with income, marital status, and education. Significant associations were also found for situational loneliness and disability restricting socialising, residence, perceived availability of a confidant, belonging to a group with shared attitudes and values, regular out of home activity, and relocation.

Univariate comparisons

On average, high situational loneliness scores were associated with perceived insufficiency of income, being widowed, separated, or divorced rather than married, with having less than seven years of education rather than more, with disability restricting socialising, living alone, not perceiving oneself to have a confidant, not feeling oneself to be part of a group with shared attitudes and values, not having regular activity outside of the house, and with having moved house in the past year.

Multivariate analysis

The best predictor of situational loneliness from the sociodemographic variables, accounting for 29% of the variance in loneliness scores was belonging to a group with shared attitudes and values. Perceived availability of a confidant added a further 11% of variance. The overall amount of variance accounted for by the model was 42%.

Part 2: Loneliness and health

The aim of this component of Study 1 is to use Barsky’s (1981) model of psychosocial distress and pathways to physician utilisation to explore differences in the ways in which loneliness might foster physician utilisation in groups of lonely and less lonely older New Zealanders. The distributions for self rated health and life satisfaction are presented in Figure 2.
Thirteen percent of the sample rated their health as excellent, 31% as very good, 31% as good, 20% as fair, 4% as poor, 0.07% as very poor, and 0% as terrible. Seventy five percent rated their health as good to excellent. Thirteen percent of respondents were delighted with life, 36% were pleased with life, 35% were mostly satisfied with life, 10% had mixed feelings about life, 4% were mostly dissatisfied with it, 1% were unhappy with their lives, and 0.03% felt that life was terrible. Approximately 84% percent of those surveyed were, at least, mostly satisfied with their lives. At the time of completion of the questionnaire 45% of those sampled were currently receiving treatment from their physicians. Sixty five percent of respondents reported an ongoing medical condition, and 11% of this number listed more than one condition. Figures for self reported chronic illness or disability from a survey carried out in 1992-3 by Statistics New Zealand were 70% for the Life in New Zealand Survey for adults aged 65 and older (Statistics NZ, 1995). In the present study, 12% of participants reported having heart problems, 4% cancer, 4% respiratory problems, 1% diabetes, and 33% other problems (mostly arthritis and hypertension).
The means and standard deviations of health variables and those of the high and low situational loneliness groups used in the analyses are presented in Table 12. Respondents reported an average of 1.20 days spent in bed because of symptoms, and 1.68 restrictions to activities due to symptoms in the past three months. Individual scores for self-medication in the past 3 months can be viewed in Table 28, Appendix B. The most commonly taken self-medication was pain killers, followed by laxatives, indigestion tablets or mixtures, and throat lozenges. As can be seen in Table 29 Appendix B, the most frequently endorsed symptom was muscular aches and pains, followed by feeling tired. The least frequently endorsed were skin rashes and poor appetite. Muscular aches and pains were again rated highest for symptom severity, followed by feeling tired. The least severely endorsed symptoms were skin rashes and diarrhoea. These results can be seen in Table 30, Appendix B.

Table 12. Means, standard deviations, and ranges of health variables and high and low situational loneliness groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self rated health</td>
<td>5.26</td>
<td>1.07</td>
<td>3-7</td>
<td>299</td>
</tr>
<tr>
<td>Life satisfaction in comparison to others of same age</td>
<td>5.40</td>
<td>1.03</td>
<td>3-7</td>
<td>297</td>
</tr>
<tr>
<td>Symptom frequency</td>
<td>9.70</td>
<td>8.75</td>
<td>0-57</td>
<td>300</td>
</tr>
<tr>
<td>Symptom severity</td>
<td>7.26</td>
<td>7.14</td>
<td>0-38</td>
<td>300</td>
</tr>
<tr>
<td>Bed days in past 3 months</td>
<td>1.20</td>
<td>3.36</td>
<td>0-20</td>
<td>300</td>
</tr>
<tr>
<td>Number of times activities restricted in past 3 months</td>
<td>1.68</td>
<td>5.22</td>
<td>0-60</td>
<td>297</td>
</tr>
<tr>
<td>Number of self medications in past 3 months</td>
<td>4.78</td>
<td>16.52</td>
<td>0-180</td>
<td>297</td>
</tr>
<tr>
<td>Self esteem</td>
<td>33.44</td>
<td>4.28</td>
<td>18-40</td>
<td>259</td>
</tr>
<tr>
<td>Anxiety</td>
<td>4.55</td>
<td>3.27</td>
<td>0-15</td>
<td>286</td>
</tr>
<tr>
<td>Depression</td>
<td>3.40</td>
<td>2.38</td>
<td>0-15</td>
<td>289</td>
</tr>
<tr>
<td>Negative affect</td>
<td>2.76</td>
<td>0.95</td>
<td>1-6</td>
<td>249</td>
</tr>
<tr>
<td>↑ Situational loneliness group</td>
<td>58.44</td>
<td>7.76</td>
<td>46-80</td>
<td>43</td>
</tr>
<tr>
<td>↓ Situational loneliness group</td>
<td>32.36</td>
<td>6.01</td>
<td>20-45</td>
<td>254</td>
</tr>
</tbody>
</table>
Scores of 8-10 on the Hospital Anxiety and Depression (HAD) scale suggest border-line anxiety disorder, and scores higher than 10, anxiety disorder. Sixteen percent of the sample had scores higher than 8, and 7% scores higher than 10. Six percent of respondents had depression scores of 8-10 which signifies border-line depression, and 2% scores higher than 10, indicating clinical depression.

Table 13. Means, standard deviations, and approximate percentages of the total number of self reported visits to the doctor in the past year

<table>
<thead>
<tr>
<th>Visits to the doctor for</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
<th>Approximate % of total visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chron. Conditions</td>
<td>289</td>
<td>2.71</td>
<td>2.66</td>
<td>0-14</td>
<td>50.46%</td>
</tr>
<tr>
<td>Symptoms</td>
<td>289</td>
<td>2.58</td>
<td>2.58</td>
<td>0-60</td>
<td>43.44%</td>
</tr>
<tr>
<td>Depression/anxiety</td>
<td>289</td>
<td>0.17</td>
<td>1.31</td>
<td>0-20</td>
<td>2.90%</td>
</tr>
<tr>
<td>Loneliness</td>
<td>289</td>
<td>0.11</td>
<td>0.69</td>
<td>0-08</td>
<td>1.90%</td>
</tr>
<tr>
<td>Total number of visits</td>
<td>289</td>
<td>5.90</td>
<td>8.02</td>
<td>0-75</td>
<td></td>
</tr>
</tbody>
</table>

NB Because of differences in Ns and rounding of numbers percentages do not total 100.

The mean number of self reported visits to the doctor in the past year was 5.9 visits and the median 4 visits. This figure is very similar to that found in other studies of this age group (See Coulton & Frost, 1983). As can be seen on Table 13, most reported visits to the doctor were for chronic conditions and symptoms, with very few people consulting specifically for depression, anxiety, or loneliness.

Hypothesis testing of health variables

Pearson product moment correlations were calculated for both situational and chronic loneliness scores and the perceived health variables. The results of these calculations can be seen in Table 20, Appendix B. All perceived health variables except current and chronic medical conditions were significantly correlated with situational loneliness. For chronic loneliness all health
variables, with the exceptions of current and chronic medical conditions and self medication, had significant associations. As tabulated, the highest correlation for both situational and chronic loneliness was positively with symptom severity ($r = 0.68$ and $0.55$ respectively). High scores of reported symptom severity were associated with high situational and chronic loneliness scores. The lowest significant correlations for both situational and chronic loneliness were with chronic illness with $r = 0.02$ and $0.04$ respectively.

A main effects model was chosen initially to examine the overall contribution of situational loneliness and the confounding variables before the confounds were partialled out. A series of one way ANOVAS using the SAS general linear model (GLM) procedure was used to calculate main effects between independent (situational loneliness) and outcome (health) variables. As there were unequal numbers in the high and low loneliness groups, this procedure was chosen for its ability to deal with unbalanced data by utilising weighted and unweighted means. Hair, Anderson, Tatham, and Black (1995) are of the opinion that the use of only complete data is best suited for instances in which the extent of the missing data is not too large, and the intercorrelations in the data are strong, as was the case in this study. As only complete data were analysed, ANOVAS using the GLM procedure were also considered appropriate to reduce the cumulative effect of missing data on the power of the study.

Eight separate ANOVAS using the GLM procedure were calculated using situational loneliness as the independent variable and self rated health, life satisfaction in comparison to others, symptom frequency, symptom severity, self medication, restricted activity, bed days, and total number of visits to the doctor in the past year as dependent variables. As visiting more than one doctor was a discrete variable, a Chi-square test for independence of samples was performed of those who did or did not visit more than one doctor, by high and low loneliness groups. The procedures were repeated using chronic loneliness. The results of these equations for situational loneliness are demonstrated in Tables 14 and 15, and for chronic loneliness in Tables 31 and 32, Appendix B.

Before they could be entered into the tests the loneliness variables needed to be transformed into dichotomous variables. This was done by dividing situational loneliness scores into two groups using a score of 46 as a division point. Chronic loneliness scores were divided using a score of
50 as the division point for high and low groups. The rationale for these divisions has been explained in the development of the variables section in Chapter 6 on pages 119-120. Means and standard deviations for the high and low situational loneliness groups are presented in Table 12, and those for chronic loneliness in Table 27, Appendix B. Neither situational nor chronic high and low loneliness groups differed by gender or by age. Because all the focusing on and worrying about symptoms, dependent variables were positively skewed, the parametric tests were replicated with non-parametric statistical methods (Kruskal-Wallis one way analyses of variance) which both confirmed and supported the parametric results. These results are presented in Tables 33 and 34 of Appendix B.

Table 14. ANOVAS of perceived health variables by high and low situational loneliness groups

(Group 1 = low situational loneliness, group 2 = high situational loneliness)

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>R²</th>
<th>F</th>
<th>Probability</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self rated health</td>
<td>256</td>
<td>Gr1  5.45</td>
<td>0.97</td>
<td>0.17</td>
<td>60.68</td>
<td>.0001</td>
<td>1,298</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>Gr2  4.19</td>
<td>1.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>254</td>
<td>Gr1  5.63</td>
<td>0.84</td>
<td>0.29</td>
<td>123.01</td>
<td>.0001</td>
<td>1,298</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>Gr2  4.05</td>
<td>0.98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of symptoms</td>
<td>257</td>
<td>Gr1  7.64</td>
<td>6.36</td>
<td>0.32</td>
<td>236.52</td>
<td>.0001</td>
<td>1,299</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>Gr2  22.02</td>
<td>10.85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severity of symptoms</td>
<td>257</td>
<td>Gr1  5.27</td>
<td>4.54</td>
<td>0.46</td>
<td>258.47</td>
<td>.0001</td>
<td>1,296</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>Gr2  19.40</td>
<td>8.31</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self medication</td>
<td>255</td>
<td>Gr1  3.94</td>
<td>3.94</td>
<td>0.06</td>
<td>4.68</td>
<td>.0313</td>
<td>1,296</td>
</tr>
<tr>
<td></td>
<td>42</td>
<td>Gr2  9.86</td>
<td>9.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restricted activity</td>
<td>254</td>
<td>Gr1  1.04</td>
<td>4.80</td>
<td>0.09</td>
<td>29.25</td>
<td>.0001</td>
<td>1,298</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>Gr2  5.49</td>
<td>6.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Days in bed</td>
<td>255</td>
<td>Gr1  0.65</td>
<td>2.37</td>
<td>0.17</td>
<td>59.65</td>
<td>.0001</td>
<td>1,299</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>Gr2  4.44</td>
<td>5.36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of doctor visits</td>
<td>246</td>
<td>Gr1  5.30</td>
<td>7.20</td>
<td>0.03</td>
<td>9.37</td>
<td>.0001</td>
<td>1,288</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>Gr2  9.30</td>
<td>5.91</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 15. Results of Chi-square analysis of high and low situational loneliness groups by number of different doctors visited for symptoms

(Group 1 = low situational loneliness, group 2 = high situational loneliness)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Percentage proportion of those visiting more than one doctor</th>
<th>$X^2$</th>
<th>P</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>257</td>
<td>15%</td>
<td>10.23</td>
<td>.001</td>
<td>1</td>
</tr>
<tr>
<td>Group 2</td>
<td>33</td>
<td>35%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NB $X^2$ significant at $p > .01$

Regression analysis of health variables

Stepwise regression analysis was chosen to expand on the information from the ANOVA results by providing further estimations of the extent to which the loneliness components independently predicted the outcome variables. The aim of these analyses was to determine the predictive utility of loneliness variables for perceived health, symptom amplification, and focusing on and worrying about symptom variables when current medical condition, chronic medical condition, and negative affect were forced into each step of the regressions. Whenever a variable enters the regression equation, the incremental contribution it makes to the variance is independent of the variables which have been entered at the preceding step.

Depression, anxiety, self esteem, and negative affect were highly correlated and thus produced problems with multicollinearity in the analyses. Negative affect was selected as the mood variable to be entered in the regressions because it was a combination of the other three variables, and because it correlated most highly of the confounding variables with both situational and chronic loneliness. To observe the individual effects of the confounding variables on both types of loneliness a series of partial correlation analyses was performed. Tables 35-38, Appendix B demonstrate the results of four partial correlations between situational loneliness and each of the confounding variables, self esteem, anxiety, depression, and negative affect, and health outcome variables. Whilst all zero order correlations with health outcome variables were altered to some extent when the confounds were partialled out, the focusing on and worrying
about symptoms variables were most affected. This was also the case when the partial correlations were replicated with chronic loneliness in place of situational loneliness. The results of these equations can be seen in Tables 39-42, Appendix B. When self esteem was partially correlated with situational loneliness the zero order correlations for self medication and visiting more than one doctor for symptoms became non-significant. The significant zero order correlations for chronic loneliness were not altered. Anxiety had no effect on significant zero order correlations for either situational or chronic loneliness. When depression was partialled out there were no significant correlations with situational or chronic loneliness and total self reported doctor visits. For situational loneliness depression also changed the significant zero order correlations with self medication and visiting more than one doctor to non-significance. Second order correlations of negative affect and situational loneliness resulted in loss of significance for self medication and total number of self reported doctor visits. For chronic loneliness and negative affect the second order correlation with total number of doctor visits became non-significant.

Table 16 presents a summary of the results from a series of eight stepwise regression analyses in which current medical condition, chronic medical condition, and negative affect were entered on the first step, situational loneliness on the second step, and the dependent variables were self rated health, life satisfaction, symptom frequency, symptom severity, self medication, restricted activity, bed days, and total number of doctor visits respectively. Logistic regression is considered by Hair, Anderson, Tatham, and Black (1995) to be the appropriate method of multivariate analysis for comparing two dichotomous groups such as those who had visited more than one doctor and those who had not. A logistic regression was performed with current condition, chronic condition, negative affect and situational loneliness regressed on number of doctors visited and can be viewed in Table 17. The nine analyses were repeated with chronic loneliness replacing situational loneliness. The results of these equations are presented in Tables 43 and 44 in Appendix B.
Table 16. Stepwise regressions of situational loneliness on health outcome variables with current and chronic medical conditions and negative affect forced onto the first step

<table>
<thead>
<tr>
<th>Criterion variable</th>
<th>$R^2$ of current and chronic medical condition and negative affect</th>
<th>Partial $R^2$ for situational loneliness</th>
<th>Adjusted $R^2$</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self rated health</td>
<td>0.29</td>
<td>0.09</td>
<td>0.38</td>
<td>34.25</td>
<td>.0001</td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>0.37</td>
<td>0.15</td>
<td>0.51</td>
<td>72.37</td>
<td>.0001</td>
</tr>
<tr>
<td>Symptom frequency</td>
<td>0.26</td>
<td>0.18</td>
<td>0.45</td>
<td>79.06</td>
<td>.0001</td>
</tr>
<tr>
<td>Symptom severity</td>
<td>0.25</td>
<td>0.23</td>
<td>0.48</td>
<td>103.39</td>
<td>.0001</td>
</tr>
<tr>
<td>Bed days</td>
<td>0.06</td>
<td>0.11</td>
<td>0.17</td>
<td>30.23</td>
<td>.0001</td>
</tr>
<tr>
<td>Restricted activity</td>
<td>0.10</td>
<td>0.12</td>
<td>0.22</td>
<td>35.70</td>
<td>.0001</td>
</tr>
<tr>
<td>Self medication</td>
<td>0.005</td>
<td>0.01</td>
<td>0.01</td>
<td>2.22</td>
<td>.379</td>
</tr>
<tr>
<td>Total number of doctor visits</td>
<td>0.21</td>
<td>0.01</td>
<td>0.22</td>
<td>4.28</td>
<td>.0398</td>
</tr>
</tbody>
</table>

Table 17. Logistic regression of current and chronic medical conditions, negative affect and situational loneliness on whether or not respondent has visited more than one doctor for symptoms $\text{DF,1}$

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Parameter estimate</th>
<th>Standard error</th>
<th>Wald Chi-square</th>
<th>Probability</th>
<th>Standardised estimate</th>
<th>Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current medical condition</td>
<td>-0.76</td>
<td>0.38</td>
<td>4.24</td>
<td>p = .0395</td>
<td>-0.21</td>
<td>0.47</td>
</tr>
<tr>
<td>Chronic medical condition</td>
<td>-1.57</td>
<td>0.51</td>
<td>9.36</td>
<td>p = .0022</td>
<td>-0.42</td>
<td>4.82</td>
</tr>
<tr>
<td>Negative affect</td>
<td>-0.13</td>
<td>0.21</td>
<td>0.39</td>
<td>p = .5317</td>
<td>-0.07</td>
<td>0.87</td>
</tr>
<tr>
<td>Sit. Loneliness</td>
<td>-0.05</td>
<td>0.02</td>
<td>6.44</td>
<td>p = .0112</td>
<td>-0.29</td>
<td>0.95</td>
</tr>
</tbody>
</table>

All regressions for situational loneliness were significant at the $p < .05$ level except for self medication. Neither self medication nor total number of doctor visits were significant when chronic loneliness was regressed on these variables with the confounds partialed out. When the
variance accounted for by current and chronic illness and negative affect was removed, the best predictive variance for both situational and chronic loneliness was for symptom severity (23% of the total 48% variance accounted for by situational, and 18% of the total 38% accounted for by chronic loneliness) and the least for self medication, less than one percent and not significant for either situational or chronic loneliness. Situational loneliness predicted 9% of the total 38% of variance for self rated health, and 15% of the 51% for life satisfaction in comparison with others of the same age. It predicted 18% of the total 45% for symptom frequency, 11% of the 17% for bed days due to symptoms in the past three months, and 10% of the total 22% for restricted activity in the past three months. Situational loneliness predicted 1% of the total 22% of variance for total self reported doctor visits in the past year, when the contributions of current and chronic medical conditions and negative affect were forced onto the first step of the regressions.

Chronic loneliness contributed 6% of a total of 34% of predictive variance for self rated health, 8% of the total of 44% for life satisfaction, 11% of 38% for symptom frequency, 12% of 37% for symptom severity, 7% of 13% for bed days, 7% of 17% for restricted activity, and 1% of 22% for the total number of self reported doctor visits, when the variance of the confounding variables was taken into account. Both situational and chronic loneliness contributed significantly to logistic regressions of current and chronic medical conditions, negative affect, and situational or chronic loneliness on the number of different doctors visited for symptoms, although the odds ratios were low. The Wald $x^2$ for situational loneliness was 6.44, $p < .02$, OR 0.95 and for chronic loneliness 11.30, $p < .01$, OR 0.93. These calculations for situational loneliness are presented in Table 17 and for chronic loneliness in Table 43, Appendix B.

**Summary of loneliness \& health characteristics of the sample**

Seventy five per cent of respondents rated their health as good to excellent, whilst 84% were mostly satisfied to delighted with life. Forty five percent were currently being treated by their doctors, and 65% reported having an ongoing medical condition. On average, the sample reported 5.9 visits to their doctors in the past year. Both self rated health and life satisfaction were significantly correlated with situational and chronic loneliness respectively. As
hypothesised lonely people over the age of 60 years perceived their health less favourably than non-lonely people of that age. Higher mean scores for the lonely groups were reported in the univariate analyses and useful predictive variance in the regressions. This was the case for both situational and chronic loneliness. Situational loneliness predicted 9% of the 38% of variance in self rated health, and 15% of the 51% of variance for satisfaction with life in comparison to others of the same age, when current and chronic medical conditions, and negative affect were entered on the first step of the regressions.

There were also significant correlations between both symptom frequency and symptom severity and situational and chronic loneliness respectively. Results were as hypothesised in that lonely people in the 60+ age group reported the experience of bodily symptoms more frequently than the non-lonely. This was the case for both situational and chronic loneliness, with significant mean differences between groups in the predicted direction. Situational loneliness predicted 18% of the 45% of variance in symptom frequency reporting in the regression analyses with current and chronic medical conditions, and negative affect forced onto the first step.

Results also followed the direction of the third hypothesis that lonely people in the 60+ age group would report their experiences of bodily symptoms to be more severe than the non-lonely. Higher means for symptom severity resulted for both situational and chronic high loneliness groups. In a stepwise regression situational loneliness predicted 23% of the 48% of variance in symptom severity reporting when current and chronic medical conditions, and negative affect were forced into the first step.

All focusing and worrying about symptom variables were significantly correlated with situational and chronic loneliness with the exception of self medication and chronic loneliness. Mean differences in the expected directions were reported for all focusing on, and worrying about symptoms variables for both situational and chronic loneliness. However, the predictive variances in regressions with the confounds partialled out were low and did not reach significance for self medication and either situational or chronic loneliness. Neither was there significant predictive variance for chronic loneliness and self reported doctor visits.
Approximately 2% of the total number of self reported doctor visits were explicitly for the discomfort of loneliness. This result was in the hypothesised direction.

**Part 3: Situational and chronic loneliness**

The percentage frequency distributions of situational and chronic loneliness scores are portrayed in Figure 3. More situational loneliness scores fell within the 20-40 range, and more chronic loneliness scores within the 40-60 range. Scores were similar for the high end of the scale. As expected situational and chronic loneliness scores were highly correlated and no statistical comparisons were attempted. Studies designed explicitly for these comparisons with adequate measures are needed. However, the results of the analyses performed with chronic loneliness substituted for situational loneliness do indicate some areas in which further research would be valuable. Differences in mean UCLA-V3 scores, significant Pearson correlations with study variables, significant results of t-tests, ANOVAS, and regression analyses for significantly correlated sociodemographic and health variables between situational and chronic loneliness are presented in Table 18.
Table 18. Summary of differences in results when situational loneliness tests were replicated with chronic loneliness

<table>
<thead>
<tr>
<th>SITUATIONAL LONELINESS</th>
<th>CHRONIC LONELINESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Pearson correlation for situational and chronic loneliness was ( r = 0.86, p &lt; 0.0001 ).</td>
<td>Mean UCLA-V3 38.34, s.d. 10.15, median 37, mode 40, range 20-80, skewness 0.92, N = 292.</td>
</tr>
<tr>
<td>Mean UCLA-V3 36.08, s.d. 11.16, median 34, mode 27, range 20-80, skewness 1.3, N = 297.</td>
<td>Mean high loneliness group 58.44, s.d. 77.70, N = 43</td>
</tr>
<tr>
<td>Mean high loneliness group 58.44, s.d. 7.70, N = 43</td>
<td>Mean high loneliness group 57.50, s.d. 6.01, N = 44</td>
</tr>
<tr>
<td>Mean low loneliness group 32.34, s.d. 6.03, N = 254</td>
<td>Mean low loneliness group 34.94, s.d., 6.16, N = 248.</td>
</tr>
</tbody>
</table>

**Pearson correlations:**
Significant Pearson correlations with study variables for situational but not chronic loneliness were with:
- income
- education
- self medication

**Significant differences in results of t-tests, ANOVAS, and Tukey HSD tests for loneliness with sociodemographic variables:**
There were significant differences between means of situational but not chronic loneliness for:
- Those who considered their incomes insufficient and those who did not.

**Stepwise regression of significantly correlated sociodemographic variables on situational loneliness:**
- Belonging to a group with shared attitudes and values predicted 29% of the total 42% of variance accounted for by the model
- Perceived availability of a confidant accounted for a further 11%

**ANOVAs of health variables by loneliness groups:**
- There were significant differences between groups for all health variables for both situational and chronic loneliness.

**Stepwise regressions of situational and chronic loneliness with health outcome variables entering current and chronic medical conditions, and negative affect on the first step:**
- Situational loneliness contributed significantly to all health variables with the exception of self medication

**Partial correlations:**
- With depression partialled out there was no significant effect of situational loneliness on visiting more than one doctor nor on total number of reported doctor visits
- With self esteem partialled out there was no significant effect of situational loneliness on visiting more than one doctor for symptoms

**Perceived availability of a confidant accounted for 25% of the total 34% of variance accounted for by the model**
- Belonging to a group with shared attitudes and values accounted for a further 4%
- Previous occupation accounted for a further 4%

**The F statistics and predictive variance for all equations were lower for chronic loneliness, except for visiting more than one doctor for symptoms.**
- Chronic loneliness did not contribute significantly to self medication or to the number of self reported doctor visits.
- The predictive variances for all other equations were lower for chronic loneliness than situational loneliness, except for visiting more than one doctor for symptoms.

**With depression partialled out there was no effect of chronic loneliness on total number of self reported doctor visits**
As presented there are differences in the sociodemographic determinants of the two types of loneliness with income and education being associated with situational but not chronic loneliness, previous occupation associated with chronic, but not situational loneliness, and the predictive variances of perceived availability of a confidant and feeling part of a group with shared attitudes and values being reversed for the two types of loneliness. Predictive variances for all health variables in the regressions were lower for chronic loneliness, with the exception of self reported visiting of more than one doctor for symptoms. Chronic but not situational loneliness was still related to reports of visiting more than doctor when depression and negative affect were each partially correlated with both types of loneliness.
CHAPTER 8
DISCUSSION AND CONCLUSIONS:
STUDY 1

Overview

This study was designed to provide descriptions of the prevalence of moderate to severe loneliness in a 60+ age group, and of a sociodemographic profile of lonely, older, urban New Zealanders. In addition, it was to test for the effect of loneliness on health outcomes in accordance with the Barsky (1981) model of psychosocial distress, and the ways in which it might foster physician utilisation. Respondents with high loneliness scores were expected to perceive their health statuses less favourably, to amplify their symptoms, and to focus on and worry about their symptoms to a greater extent than those with low loneliness scores. The number of self reported visits to their doctors explicitly for loneliness was also expected to be very low for all participants. Results supported all hypotheses to greater or lesser extents. A further objective was to assess both situational and chronic loneliness in order to elucidate differences in the results which indicated fruitful areas for further comparative research. All references to loneliness in the discussion and conclusions relate to situational loneliness unless otherwise specified. Differences between situational and chronic loneliness are fully discussed at the end of this chapter.

Prevalence of loneliness

"Well, what about friends or neighbours?" "Well, as I say they are a bit thin on the ground for me at the moment." (Woman aged 82 years.)

The prevalence of a pervasive feeling of loneliness during much of their lives, in various samples, has been reported to be between 10-30% by Sermat (1980). Whilst loneliness, as a serious problem for adults aged more than 65 years, has been suggested to affect 12-40% of this
age group by Creecy, Berg, and Wright (1985), and more than 40% among clinical psychogeriatric populations by Weeks (1994). The different measures of loneliness utilised in other studies make accurate comparisons with the present study problematic. In addition, the low response rate to the questionnaire and the resultant loss of power in the present study analyses place restrictions on generalising from these results. Although randomly selected the final sample was not fully representative of the larger population. The study sample was similar to the census sample in regard to age, gender, employment status, and ethnicity but there is no way to verify differences between respondents and non-respondents. Respondents to the questionnaire may have been healthier than non-participants, as moderately or severely unwell older people may have been disinclined to complete the questionnaire. Elders who were experiencing both loneliness and depression may have been less inclined to respond.

It is possible that the study figure underestimates the prevalence of serious loneliness in this age group but this is speculation. However, fifteen per cent of the present study participants recorded loneliness scores which could be considered to be of clinical significance to health professionals. The cut off loneliness score for inclusion in this figure was just below the median score of respondents in an earlier study in whom neurohormonal changes had been found to be associated with loneliness (Kiecolt-Glaser et al. 1984a), and just below that of a group of divorced adults in a second study who had sought professional assistance for their loneliness (Borys & Perlman, 1985). Whether respondents were aware of or acknowledged their loneliness or not, their conditions were sufficiently severe for them to be likely to seek help. From the evidence of earlier studies (Antonovsky, 1972; Barsky, 1981; Cheng, 1992) some of them would seek assistance indirectly from their doctors. Thus they would also risk the possibility that their loneliness might not be diagnosed by the general practitioner, and that they might inappropriately occupy the sick role. If this were to happen they could suffer the effects of unwarranted interventions, and avoidable admissions to hospital, at a high cost to both themselves and to society. Seriously lonely participants would also risk the unnecessary continuation of the emotional impact of their loneliness if it were not diagnosed and treated.

Although possible differences between respondents and non-respondents and the cross-sectional nature of the study make generalising from these findings unwise these results suggest that, for healthier volunteers aged 60 and over in this region of New Zealand, the recognition and
treatment of loneliness is a problem for general practitioners and other health care workers which strongly warrants further definitive research.

**Sociodemographic profile of a lonely, older adult**

If health professionals are to recognise loneliness they need information of the indicators of the condition. Sociodemographic factors which predispose toward, or precipitate, loneliness are likely to be useful first indicators and have been identified as such in previous studies in other countries. How then did the social worlds of the lonely New Zealanders differ from those of the less lonely in this study? The sociodemographic profile of lonely, older adults suggested that, on average, they were likely to perceive their incomes to be insufficient, to be widowed, separated or divorced rather than married, to have less than seven years of education. There were significant associations between loneliness and restricted socialising due to having a disability, living alone, not having regular activity outside of the house, and having moved house in the past year. These structural background factors did not appear to be as important as predictors of loneliness as were the characteristics of their social networks. In the case of situational loneliness, whether or not the person felt that they belonged to a group with shared attitudes and values was the most crucial factor of those examined. This was followed in importance by the perceived availability of a confidant. However, for chronic loneliness perceived availability of a confidant was the most important predictor, followed by feelings of belonging to a group with shared attitudes and values, and previous occupational status.

In all analyses there was an extremely strong relationship between the perceived availability of a confidant and loneliness and between loneliness and feelings of belonging to a group with shared attitudes and values. The Weiss (1982) model of loneliness describes a distinct type of loneliness which is experienced as social isolation, when people have an intimate relationship (such as a spouse) but lack a peer group of social friends. Those with a peer group, but perceiving themselves to lack a confidant he suggests experience loneliness as emotional isolation. According to his model, non-loneliness depends equally on the perceived availability of a confidant, and of a group of peers for the fulfillment of different needs, such as intimacy and sociability. That is the presence of both types of relationship are necessary for satisfying social
needs. The confidant model of Lowenthal and Haven (1968; 1976) and Clark and Anderson (1980) demonstrates that the perceived presence versus the absence of a confidant, or confidants, is the most important feature of an older adult's social support network in terms of its impact on well-being. The present study results offer support for both models to some degree. The feeling of belonging to a group with shared attitudes and values was the most important predictor of situational loneliness, but perceived availability of a confidant added predictive variance to the regression model over and above that of belonging to a group. This result was reversed for chronic loneliness and this finding will be discussed further on in this chapter. If close emotional relationships are essential to positive functioning what happens to older people who have no nuclear family by design or loss? Perhaps older people have their intimacy needs met in the context of intimate emotional relationships within a compatible social group. It may be that people without nuclear family members require more social partners to obtain comparable levels of emotional satisfaction. Even though family members would typically comprise the inner circle of emotionally close relationships, such roles could be filled by non-kin when kin did not exist. It may be that social groups serve different functions for different age groups. This idea seems worthy of further research in that population demographics are evolving to include more single and childless older citizens.

The study data do not support the assumption that loneliness is inherent in the ageing process. Associations with age have been found in some studies, and not in others, and the association remains inconclusive. The present study finding offers support for those studies which suggest that age itself may not form a crucial variable in the development of loneliness (See Creecy, Berg, & Wright, 1985; and de Jong-Gierveld, 1987). However, the restricted age range of the study, which meant that two thirds of the sample fell into the 60-75 year age category, may have contributed to this result. Similarly, there was no significant relationship between loneliness and gender. This negative result confirms the findings of most other studies which have assessed loneliness with UCLA scales which do not ask directly whether or not a person is lonely. If such differences appear with these instruments, males are usually more lonely. Collyer (1979) reported that men have a disproportionate increase of emotional illnesses after retirement. Significant gender differences have been reported more frequently with self labeling loneliness measures, where women more typically admit to being lonely. An indirect, but not unexpected, effect of gender was that there were more females than males in the widowed category.
Although the gap in mortality figures is closing slightly (See Statistics New Zealand, 1995), New Zealand women, on average, still outlive men.

No association between occupational status and loneliness was reported by Page and Cole (1991) in their study of loneliness in adults. The only significant difference in previous occupational status in the present study was that professional workers had higher mean chronic loneliness scores than semi-skilled workers. Possibly the jobs of professionals in comparison to semi-skilled workers provided more social contact for the chronically lonely. In accordance with the studies of Page and Cole (1991) and Mullins and McNicholas (1986) there was a positive relationship in the present study between those who perceived themselves to have insufficient incomes and loneliness. This may have been because of the restrictions to their lives that lack of money entails. Finances are needed to visit others, join clubs, participate in outings or travel, develop hobbies, or enjoy eating out or at home with close friends. For many people a lack of income could be a substantial obstacle to accessing their present social network, and to extending it. Having a lower income could also be a barrier to behaviours such as drinking alcohol or other compensatory behaviours for lonely people. Consistent with the studies of Baum (1982) and Liang and Warfel (1983), there were significant group differences in mean loneliness scores for educational status categories. The lowest level of education was associated with the highest loneliness scores and this group differed significantly from the two higher educational levels. Perhaps less education is associated with lower income following retirement and a reduction in opportunities to belong to social groups, or to take part in activities which would provide the chance to extend social networks. Participants with more education may be happier being on their own pursuing such hobbies as reading, or listening to music, and not depend on others for their social fulfillment to the same extent as those with lower levels of education. Skills in social relationships may have also been learnt informally during more formal study.

Intact marriage becomes more rare with advancing age. As was the case with other studies reviewed by West, Kellner, & Moore-West (1986), married participants in the present study were least lonely, followed in increasing order by the single, widowed, then separated and divorced respondents. Being married provides an ample opportunity for both the development of an intimate confiding relationship and the extension of the social network. Both marriage partners have their individual networks, plus the shared network of mutual friends and family. Dykstra
(1993) found in her study, that among those for whom partner support was available (the cohabiting), support from friends and children was of no importance to loneliness. However, among those who were unable to fall back upon a partner (the never married and the formerly married) the support from friends and children was of relatively high importance. Married respondents may also have had more financial security if both members had been working during their life times. Transport and disability problems would be decreased by the availability of a caring partner willing to help to overcome these difficulties.

Single status respondents had higher mean loneliness scores than the married, lower scores than the widowed, and lower scores than the separated/divorced categories but these differences were not significant. The group of single respondents was small with only 17 subjects. People who had remained single may have been people who enjoyed a sense of independence and control over their lives by being on their own, or at least, had found satisfying ways of occupying themselves whilst alone. They may have developed their own intimate relationships with friends and neighbours rather than family. Lang and Carstensen (1994) found that social partners other than kin could serve as intimates in old and very old age. Tucker, Friedman, Wingard, and Schwartz (1996) argued that it is not the protection which marriage itself provides, but the fact that married people do not experience the detrimental effects of being widowed, separated, or divorced, which is important. Single older persons have not experienced the devastating loss of a person with whom they may have shared their lives and homes for many years. One particularly detrimental effect of these losses may be loneliness.

The widowed, separated, and divorced have all lost an intimate relationship, or at least the possibility of one. They have suffered the emotional impact of grief and loss. Their lifestyles may have changed completely after years of stability. Some may have been forced to move to new residences. Moving house was significantly associated with increased loneliness in this study as it has been in others (See Dugan & Kivett, 1994; and Lopata, 1982). As the result of experiencing the death of a spouse, a separation, or a divorce people lose not only a partner who is accessible for confiding, but often the relationships which were maintained as part of the life style of a married couple. People who have always had, and depended on, the company of their partners may lack the confidence, and/or the skills to initiate new relationships. The separated and divorced were the loneliest category. They in particular may feel that they are unable to
initiate or sustain new close relationships, and may feel too hurt by the marital disintegration to even try. Typically, the mutual friends shared during a marriage tend to side with one or other partner following a separation or divorce.

In most studies unmarried males have been found to be the loneliest group (See West, Kellner & Moore-West, 1986). Mean loneliness scores for males in the married, widowed, and separated or divorced categories were higher than those of females in the present study, but these differences did not reach significance. The marital categories in the study demonstrated convincingly significant differences in loneliness scores among those who had been widowed, separated, or divorced and those who were married. However, the scores of those who had experienced the death of a spouse, or been separated or divorced in the past year, produced results that were in the expected directions, but did not reach significance. Loneliness scores were higher for those who had experienced either of these events than for those who had not. The time frame of these questions may have been such that grief was more important than loneliness at this time. Byrne and Raphael (1997) found that bereavement was associated with state anxiety but not loneliness at 13 months post-bereavement. Possibly there was still plenty of social support available, and/or the full impact and ongoing effects of the losses had not yet been recognised. The time factor seems the most useful explanation in light of the significant differences in loneliness of the marital status categories. This finding would indicate that support from friends and children may adequately protect single older adults from feeling lonely. Thirty eight per cent of those questioned reported the death of a close friend in the preceding year, but this result was not significantly related to loneliness scores. Once again the time frame may have been too short for differences between groups to emerge. Perhaps the fact that this is such a common experience may make this loss less devastating for this age group than it is for others. Respondents’ social networks may have been such that most people could still find other close relationships to replace the one which they had lost.

"Well, people tend to think I am isolated down here, but I'm not. There's sense I suppose because all the people round here work. I'm the only one here during the day. And I think, what if anything happened to me during the day?" (Woman aged 82 years.)
Consistent with other studies (De Jong-Gierveld, 1987; Hunt, 1978; Townsend, 1973), in this study those who lived alone were lonelier than those who did not. Although loneliness is not synonymous with social isolation, isolation is a background factor which may interfere with the development of a satisfying social network, particularly if it is also associated with transport problems or disabilities which restrict socialising. Having a disability which restricted socialising was significantly associated with increased loneliness in the present study as it was in the studies of Jones, Victor, and Vetter (1985), and Kivett (1979). Older people with disabilities are likely to consult their GPs more frequently than those without, and thus provide the doctor with ample opportunity to investigate the possibility of loneliness. Those who had no regular activity outside of their homes were also more likely to be lonely. Once again the cumulative effect of these variables is clear.

As previously mentioned, the correlational nature of the data does not allow selection of causal models from the present study findings. However, the results are congruent with the path model of cumulative deficit in the loneliness model of Creecy, Berg and Wright (1985), and with the model of de Jong-Gierveld (1987). The background factors of being married, not living alone, having more education, having sufficient income, and not having moved house in the past year may all provide more opportunities for finding a confidant, and for belonging to a similarly minded group, whilst unavailability of these opportunities may place restrictions on the social fulfillment which results from these activities. Lack of social fulfillment may then lead to the experience of loneliness, which in the present study seriously affected 15% of respondents. The interaction between personal, situational, and structural determinants of loneliness may be as significant as each factor on its own.

It is important to remember that the results of regression analyses are dependent on the variables which are entered in the model, and on the particular sample. Only 38% of the variance in loneliness was accounted for by the sociodemographic variables in the stepwise model. It is likely that personality characteristics and health variables accounted for much of the remaining variance. However, a close to forty percent chance of predicting loneliness does provide an extremely useful start to the process of recognising the condition. What the study results clearly demonstrate is that indicators of loneliness which would aid the detection of the condition are both available, and easily accessible, to general practitioners. The study results show that all the
sociodemographic factors which make up this social profile of a lonely, older New Zealander would be easily identifiable by a general practitioner if the appropriate questions were asked in a sensitive fashion. Much of this sociodemographic information is already routinely assessed during the history taking of each patient by his or her doctor. The predictive utility of these factors in alerting doctors to the possibility of loneliness points to a need for this information to be considered as foreground material for the health of older patients, rather than background information which may be kept in the patients' records and possibly never referred to again.

The study sample was randomly selected but the low response rate may have resulted in bias amongst those who responded. The present sample had a similar demographic composition to the same age population and the results were, on the whole, very consistent with those found in other studies using larger, random samples (See Mullins, Shepherd, & Andersson, 1991; Olsen, Olsen, Gunner-Svensson, & Waldstrom, 1991; and de Jong-Gierveld, 1989). In conjunction with past findings these present results indicate that a general practitioner who was alert to these correlates of loneliness could be suspicious of the presence of loneliness in older patients if one, or several of the conditions outlined in the social profile were present. That is if they perceived their incomes to be insufficient, were widowed, separated, divorced, had little education, were disabled, lived alone, had moved house in the past year, perceived themselves to have no confidant, or did not feel that they belonged to a group with shared attitudes and values. An older person fitting the study's social profile would then warrant the investigation of loneliness rather than a medical diagnosis.

**Perceived health status and loneliness**

"Well, I have had a pain in my stomach for a long time and I thought that was a good enough reason to visit the doctor, but apparently the doctor can't find anything wrong. Now I have been over to Middlemore hospital and I have had things stuck down my throat and looked in my stomach and they say I am perfectly alright." (Man aged 75 years.)

Both situational and chronic loneliness were negatively, moderately, and significantly correlated with lower ratings of health in comparison to others of the same age, with Pearson rs of -0.48 and -0.43, p<.05 respectively. They were similarly correlated with lower satisfaction with life (r = -0.65 for situational, and -0.53 for chronic loneliness, p<.05). In support of the first hypothesis that lonely people over the age of 60 years would perceive their health statuses less favourably
than non-lonely people of that age, when loneliness scores were divided into high and low groups there were significant differences among both situational and chronic loneliness groups in self rated health and life satisfaction at the p < .001 level of significance. In stepwise regressions with current and chronic medical conditions and negative affect forced onto the first step, situational loneliness predicted a further 9% of variance in self rated health, and 15% of variance for life satisfaction. Further predictive variance for chronic loneliness over and above the confounding variables was 6% for self rated health and 8% for life satisfaction.

There is considerable evidence already available that loneliness is related to self reports of perceived health status (See Mc Whirter, 1990; Schmitt & Kurdek, 1985). In the present study findings of this relationship were both strong and stable. The suffering involved with the experience of loneliness, whether or not its association with loneliness is recognised or acknowledged, may be responsible for lowered perceptions of self rated health. Alternatively, positive health habits may lead to positive self ratings of health. Poor health behaviours such as excessive cigarette smoking, or alcohol intake, or lack of exercise, may represent attempts to cope with loneliness, and may produce negative self ratings.

In all likelihood the conditions of current and chronic illness, negative affect and loneliness will be experienced simultaneously in one combination or another. As loneliness is likely to be experienced in conjunction with these variables, the additional predictive variance it adds, although not statistically large appears to have practical importance in increasing the cumulative effect of these negative factors on health perceptions. It is extremely difficult to tease out the strands of variables which are so highly correlated and longitudinal studies are required to perform this task. Most models in health research fail to provide extremely high levels of predictive variance for self rated health as was the case in this study.

Life satisfaction has a long term "life in general" orientation. It seems logical that overall feelings of satisfaction with life will colour the way in which health status is viewed. Mental outlook would be expected to overshadow all types of self perceptions. Russell (1996) found loneliness to be strongly associated with mental health measures in his study of older adults. In the present study when loneliness was regressed on life satisfaction with current and chronic medical conditions and negative affect held in the model, loneliness accounted for 15% of the
51% of total variance accounted for by the model. The four variables in the model contributed to almost half the variance in life satisfaction, and loneliness to a large proportion of this. Weeks (1994) states that the costs and consequences of loneliness represent the reverse of what is meant by the phrase “quality of life”. Hornquist and Åkerland (1987) asserted that the main conclusion in their study of loneliness and advanced alcohol abusers was that loneliness was primarily a sensitive indicator of perceived quality of life and attitude to life as a whole. The study results support the reported substantial relationship between loneliness and life satisfaction (See Schumaker, Shea, Monfries, & Groth-Marnat, 1993).

The association between loneliness and perceived health status is in all likelihood reciprocal in character, and this possibility is important. Causality may not run only from loneliness to perceived health, although the evidence of Mor-Borak and Millar (1991) indicated that social networks significantly affected the health of the frail older adults in their study, and not the other way around. However, the results of analysis of sociodemographic variables and loneliness in the study of Creecy, Berg, and Wright (1985) suggested that lower perceived health also contributes to loneliness. But regardless of the direction of the relationship, a consistent and strong relationship between loneliness and both indexes of perceived health was demonstrated in the present study. Although loneliness accounted for more of the variance in how satisfied respondents felt about their lives than it did for their self-rated health, the fact that both measures of perceived health status produced group differences in loneliness at the p < .01 level of significance offered clear support for the first hypothesis that lonely people would perceive their health statuses less favourably than those who were less lonely. The feeling of loneliness is debilitating and frustrating and its positive correlation with both perceived health measures suggests that it is an important factor in the psychological well-being of this age group. Bearing in mind that the confounding variables and loneliness together predicted approximately one third of the variance of self-rated health, and half the variance of life satisfaction, variables which were not in the regression analyses were obviously important predictors of perceived health.

As well as the results supporting the hypothesis that high loneliness scores would be associated with less favourable ratings of perceived health, they also provided evidence that lower ratings of perceived health were related to higher self-reports of physician usage in the past year. Self-rated health has been found to correlate well with the number of physician visits in older non-
institutionalised adults according to Linn and Linn (1980). Consistent with these results, both self rated health and life satisfaction were moderately, significantly and negatively related to the total number of self reported doctor visits in the present study. Lower ratings of both measures of perceived health were associated with more self reported visits to the doctor in the past year. Although the correlational design of the study does not demonstrate causality, loneliness may well have fostered physician utilisation in this sample by lowering the respondents' perceptions of the quality of their health, and thus increasing their perceived need for care.

"I don't just go to the doctor, well I didn't think I went terribly often but my doctor showed me over the years, you know all of the different types of things I had seen him for..." (Woman aged 63 years.)

How older people view their own health may be an extremely useful clinical guide as to their overall health status according to Linn, and Linn (1980). Two major consequences of low ratings of perceived health are worthy of note. Firstly, Mossey and Shapiro (1982), Kaplan and Camacho (1988), and Idler and Angel (1990) reported that self rated health is an important predictor of mortality. The first authors suggested that it might reflect a prescient understanding of subtle biological or physiological changes that lead one to perceive one's health positively or negatively, but more correctly than objectively assessed health. Perceived health may then represent a finely tuned indicator of physiological well being. It is possible, although clearly speculative, that the observed risk of mortality for persons with poor self ratings of health may, in part, reflect the importance for mortality of emotional problems such as loneliness. The decline in mortality might be due to the neurohormonal or endocrinal changes which have implicated loneliness and other emotional states. If the theory of Mossey and Shapiro (1982) is valid, individuals who rate their health as fair-poor might appropriately be identified as at higher risk of dying than their objective health status suggests, and followed with greater diligence by their physicians. It is not possible to say whether self rated health leads to good or bad functioning itself or causes good or poor perceptions of health. If the clinician knows that loneliness is linked to poor health perceptions in older adults, and that poor perceptions are associated with decreased functioning, then intervention can be planned which will alleviate the condition.

A second consequence of low ratings of perceived health is the effect of these ratings on the occupancy of the sick role. What an individual believes their health status to be is logically an
intervening variable between the objective state of their health as it might be determined by medical examination, and their occupancy or rejection of the social role of the sick person. Medical evaluation and self assessment of health status may be in agreement and the sick role appropriately accepted or rejected accordingly. Whereas physicians have been trained to identify discrete disease problems that they can manage in specific ways, patients tend to have a more global view and react experientially to their overall sense of well being, and to the extent that their symptoms disrupt their ability to function, or interfere with important life activities. An individual’s perception of their health status may differ from a medical evaluation, may be exaggerated, or unwarranted. Such faulty perceptions of health status, whether conscious or unconscious, may precede the inappropriate occurrence or rejection of the sick role. Those who expect sick-role legitimation are more likely to be older, less educated, more limited in their daily activities, and have lower subjective health ratings, according to Wolinsky and Wolinsky (1981). Whether, how, and under what conditions faulty self assessments of health status lead to the inappropriate acceptance or rejection of the sick role are important questions. Some inappropriate occupancies might be avoided if physicians were to focus on the emotional distress of loneliness and help the person to cope with this condition in a more adaptive manner.

Symptom amplification and loneliness

"Well, sometimes you feel that in the end the doctor is not really, wants to listen to you, or your, some people with the family business and all the rest of it, but they are just there to fix the aches and pains, and that's their job." (Woman aged 81 years).

Symptom frequency reports were positively, and significantly related to situational and chronic loneliness. The Pearson $r$ for situational loneliness and symptom frequency was 0.68, and that of chronic loneliness 0.55. It was hypothesised that lonely people in the 60+ age group would report the experience of symptoms more frequently than the less lonely. This hypothesis was also supported for both situational and chronic loneliness. There was a significant difference between high and low situational loneliness groups and symptom frequency. The F statistic was both high, significant at the $p < .001$ level, and in the hypothesised direction. Although the difference was slightly smaller for chronic loneliness, it was also significant and in the expected direction. Subjects in high loneliness groups for both situational and chronic loneliness reported the experience of more frequent symptoms than did the respective low loneliness groups. When
stepwise regressions with current medical condition, chronic medical condition, and negative affect forced into the first step were calculated, situational loneliness predicted 18% of the total 45% of variance accounted for in symptom frequency, whilst chronic loneliness predicted 11% of the total of 38%.

The hypothesis that lonely older adults would report the experience of symptoms to be more frequent than would the less lonely was very strongly and consistently supported. The finding of higher symptom frequency reporting by the more lonely people in this study is not surprising. There are symptoms which are part of the condition of loneliness. Five of the 16 symptoms assessed had been reported to have been experienced by the lonely participants in the studies of Gerstein and Tesser (1987), and Rubenstein and Shaver (1980). As Young (1982) pointed out, loneliness is defined in part by the presence of some negatively tinged emotion which is often the function of the attributions an individual makes in explaining his or her unsatisfactory social relationships. However, the between group difference is very strong in these results, and reflects the endorsement of both affective and somatic symptoms, and symptoms related to both loneliness and to physician utilisation. Lonely respondents could be reporting more symptoms because they are experiencing more symptoms, either as a consequence of the condition of loneliness, or, because of the experience of other medical conditions. They might be experiencing symptoms of both loneliness and other conditions. Negative emotions may influence attention to, interpretations of, and response to symptoms once they are present according to Cioffi (1991). Emotional distress and somatic distress are posited by the author to form a positive feedback loop, in which each form of suffering intensifies and perpetuates the other.

Results of the multivariate analysis also very strongly supported the hypothesis that lonely participants would report a greater frequency of symptoms than the less lonely. Mechanic (1980) asserted that symptom reporting reflects a pattern of illness behaviour formed by developmental experiences, actual occurrence of physical dysfunction, the person's psychological state, and general sense of well being. Moos and Van Dort (1977) were of the opinion that symptom reporting is elevated in those who live alone. Loneliness may contribute to frequency of symptom reporting through its influence on any, or all, of these factors. Poor health behaviours such as cigarette smoking, excessive alcohol intake, or lack of exercise which are possible
consequences of loneliness may either increase unpleasant sensations or susceptibility to common illness, or may focus attention on unpleasant bodily sensations. Loneliness then may contribute to the occurrence of bodily dysfunction and symptoms by direct influence, or more indirectly by changing behaviour patterns and thus increasing vulnerability.

To summarise, loneliness may influence symptom reporting by the production of symptoms associated with the emotional arousal and the bodily discomfort of loneliness. It may coincide with and exaggerate illness symptoms. It may increase body monitoring. It may make persons more sensitive to bodily changes. It may produce direct or indirect changes in behaviour. Each influence in turn may increase the probability that symptoms will be reported.

Watson and Pennebaker (1989) suggested that the high symptom reporting associated with negative affect is simply a nuisance factor in health studies, and is not associated with increased physician utilisation. However, in this study high levels of symptom frequency reporting remained even after negative affect had been screened from the analyses, and this symptom reporting was moderately associated with increased self reports of doctor visits in the past year. This result is consistent with other studies of psychosocial distress. The psychologically distressed respondents in the sample of older adults of Coulton and Frost (1982) for example, had a greater perceived need for medical and personal care services than those without distress, as did the lonely, older women in the study of Cheng (1992). A visit to the doctor is not an automatic response to a symptom but actually occurs in only a minority of persons who perceive themselves to be sick. However, studies provide evidence that symptoms play a key role in the initiation of care seeking (See Berkanovic, Telesky, & Reeder, 1981; and Cameron, Leventhal, & Leventhal, 1993). They are key factors in the cognitive representations of health threats. They are targets for coping, and symptom amelioration is critical for the appraisal of progress in mitigating a health threat.

"I'd say it brought about a total collapse of my whole body" (Woman aged 82 years.)

Reported symptom severity was positively, highly, and significantly correlated with both situational and chronic loneliness at the p < .05 significance level. The Pearson r for situational loneliness and symptom severity was 0.68, and that of chronic loneliness 0.55. The third
hypothesis was that lonely people in the 60+ age group would report their experiences of symptoms to be more severe than the less lonely. Differences between groups for both situational and chronic loneliness were significant at the p < .001 level of probability. Both high situational and chronic loneliness groups reported their symptoms to be more severe than did the low groups. Situational loneliness predicted 23% of the total 48% of variance in symptom severity when stepwise regressions with current medical condition, chronic medical condition, and negative affect forced into the first step were calculated. Chronic loneliness predicted 12% of the total 37% of variance for this variable. Thus the third hypothesis that lonely people would report their symptoms to be more severe than those of the non-lonely was well supported.

According to Cohen and Williamson (1991), events or conditions which add to a person’s overall distress level may enhance the apparent severity of symptoms. When the coping process results in the judgement that a symptom is serious, disruptive of ongoing activities and difficult to control, the person is likely to seek medical care. The present study results were very much the same for symptom severity as they were for symptom frequency, although slightly stronger. Hypervigilance, selective attention and the tendency to view somatic symptoms as ominous are all important elements in the amplification of symptoms. The emotional distress associated with loneliness may have heightened the sensitivity to all bodily sensations and caused respondents to amplify benign physical sensations. Loneliness distress might have led to intolerance of discomfort and preoccupation with symptoms previously ignored. The negative feelings accompanying loneliness may have had the effect of making everything, including symptoms, appear worse than they would have appeared without the presence of loneliness. Once again it is essential to consider that the variables in the study model accounted for approximately half the variance of symptom severity so that variables other than those in the model are also important. Overall, however, the evidence strongly supported the hypothesis that loneliness would be associated with the reporting of greater severity of symptoms by this age group.

Greater perceived severity was associated with increased motivation to seek medical care in the studies of Janz and Becker (1984) and Cameron, Leventhal, and Leventhal (1993). The latter authors suggested that when acutely afflicted with severe, disabling and unusual symptoms, persons almost invariably seek medical diagnosis and treatment for them. In the present study
there was a moderate, positive, and significant correlation between symptom severity reports and self reported visits to the doctor over the past year.

The results of the study analyses of loneliness, and the reporting of both symptom frequency and symptom severity, provide good evidence of a strong, stable, and positive relationship between loneliness and symptom amplification. High levels of loneliness were related to high levels of symptom amplification. Symptom frequency and symptom severity had the highest Pearson correlations with self reported visits to the doctor of all the study variables. The strength of the results indicates that symptom amplification could be seen to be a very important way in which loneliness might have fostered physician utilisation in the study sample. Increased perception of symptom frequency, and/or severity may have increased respondents' perceived need for medical care. This result warrants further examination.

**Focusing on and worrying about symptoms and loneliness**

"Well, when you get to my age you do think these things you know. I think to myself, well this is it, sort of thing". (Man aged 86 years.)

All correlations were in the predicted direction for focusing on and worrying about symptoms variables and situational and chronic loneliness except for that of self medication and chronic loneliness. The Pearson rs for situational loneliness were, with self medication 0.12, restricted activities due to symptoms 0.34, bed days due to symptoms 0.38, self reported doctor visits in the past year 0.23, and visiting more than one doctor in the past year for symptoms 0.23, p < .05. Correlations for chronic loneliness were 0.31 with restricted activities, 0.35 with bed days, 0.21 with self reported doctor visits, and 0.26 with visiting more than one doctor, with all correlations significant at p < .05.

The fourth hypothesis was that lonely people in the 60+ age group would focus on, and worry about, their symptoms to a greater extent than the less lonely. Both high situational and chronic loneliness groups reported using significantly more self medication, having more bed days due to symptoms, having more periods of restricted activity, and making more visits to their doctors in the past year than the respective low loneliness groups. There were significantly higher percentage proportions of membership of the groups who reported seeing more than one doctor for their symptoms than the groups of those who did not for both situational and chronic
loneliness. In the regression models with the confounding variables held constant, situational loneliness significantly predicted the following amounts of variance for the focusing on and worrying about symptoms variables; 11% of the total 17% for bed days, 12% of the total 19% for restricted activities, and 1% of the total 22% for self reported doctor visits. Regression models for chronic loneliness, with confounding variables held on the first step, significantly predicted the following percentage variances; 7% of the total 13% for bed days, and 6% of the total 17% for restricted activities. The contributions of situational and chronic loneliness to logistic regressions of visiting more than one doctor, with the confounding variables in the models, were both significant although the odds ratios were low.

The evidence to support the hypothesis that lonely respondents would focus on and worry about their symptoms to a greater extent than the less lonely was mixed. The result of the Kruskall Wallis Chi-square analysis for self medication and both situational and chronic loneliness was significant at p < .02. But results of the regression analyses with the confounds partialled out were not significant. The skewness of this variable may have affected the results of the regression analyses. Thus there was little evidence to suggest that loneliness was an important contributor to self medication in this study although an association between these variables had been found in this age group by Hendriks, Johnson, Sheaghan, and Coons (1991), and Jensen, Dehlin, Hagberg, Samuelsson, and Svensson (1994). There are a variety of other possible explanations for the study finding. There is evidence to suggest that loneliness is related to excessive alcohol consumption so perhaps lonely older New Zealanders are more likely to turn to alcohol than they are to pain killers, indigestion tablets or mixtures, throat lozenges, or laxatives. Perhaps results would have been different if only pain reducing medication had been measured. The mean for taking painkillers was higher than that of the other medications. However, this variable was also too skewed to use on its own. It may be that social desirability affected self reports of medication which were very low. Society may not be very accepting of high levels of self medication by its older citizens.

The number of restricted activities in the past three months due to symptoms was moderately, and significantly related to both situational and chronic loneliness in the Pearson correlations. Results from the univariate analysis offer some support for the view that loneliness contributes to the reporting of restrictions in activity due to symptoms. There was a useful amount of
predictive variance when both situational and chronic loneliness were separately regressed on this variable with the confounding variables forced onto the first step, although the overall predictive variance was low. The ANOVA analysis demonstrated that the number of reported days in bed in the last three months because of symptoms differed significantly between both situational and chronic high and low loneliness groups. There was useful predictive variance in regressions of both situational and chronic loneliness on this variable over and above that of the confounding variables although once again the overall predictive variance of the model was low. Both types of loneliness appeared to influence the attention participants paid to their symptoms to a moderate degree, as measured by their reports of restricted days of activity and bed days for symptoms.

Self reported visits to the doctor in the past year were significantly associated with both situational and chronic loneliness in the Pearson correlations but the relationship was low. The significant relationships for both types of loneliness and self reported doctor visits disappeared when partial correlations with depression and with negative affect were calculated. Possibly the reduced power of the study due to the small numbers of participants in the low loneliness groups and the time frame contributed to these results. Lonely respondents reported more consultations with their doctors over the past year than did the less lonely for both types of loneliness. The effect of loneliness on self reported physician utilisation could be indirect rather than direct in that loneliness was highly correlated with symptom amplification, and symptom amplification was strongly associated with self reported visits to the doctor. A similar relationship was demonstrated for perceived health which was associated with both loneliness, and with self reports of doctor visits. Thus loneliness might contribute to increased medical consultations through these pathways. This result is interesting and deserving of further investigation.

It may be more socially acceptable for high physician users to report the amplification of their symptoms than it is for them to report visiting their doctors too frequently. Respondents may have differed in the accuracy of their self reports of doctor visits in that those who used the medical system least gave accurate estimations of their consultations, whilst heavy utilisers deliberately, or unknowingly, underestimated theirs. Both types of lonely respondents were more likely than the less lonely to have reported visiting more than one doctor for symptoms in the past year. There was a highly significant difference in the proportion of those who had reported
visiting more than one doctor for their symptoms in that 35% of the situationally lonely group had done so in comparison to 15% of the less lonely. Whilst 37% of the high chronic loneliness group in proportion to 14% of the low lonely group reported visiting more than one doctor. Both types of loneliness contributed significantly to logistic regressions of loneliness and the confounding variables on visiting more than one doctor. The odds ratios were both low. Consulting more than one doctor for symptoms is considered to be a powerful indicator of medical utilisation by Barsky, Wyshak, and Klerman, (1986) and was strongly related to self reported doctor visits in this study. Once again there appears to be an indirect link between loneliness, consulting more than one doctor for symptoms, and physician utilisation. This factor may be of use in explaining why high levels of negative affect were not directly associated with physician utilisation in earlier studies.

To summarise, results of the univariate study analyses indicate that loneliness contributed to a low-moderate degree to focusing on and worrying about symptoms, as these measures were defined in this study. There were significant relationships between both types of loneliness and the focusing on and worrying about symptoms variables in the correlational analyses, apart from chronic loneliness and self medication, and significant differences in the predicted directions for restricted activities, bed days, self reports of doctor visits, and self reports of visiting more than one doctor for symptoms between the high and low situational and chronic loneliness groups. When the confounds were entered into the regressions there was significant predictive variance for situational loneliness and restricted activity and bed days due to symptoms, total number of self reported doctor visits and visiting more than one doctor. For chronic loneliness regressions with the confounds entered there was significant predictive variance for restricted activities and bed days due to symptoms and visiting more than one doctor. The dependent variables were all positively skewed and, although non-parametric analyses were employed to check this factor with the univariate analyses, skewness may well have affected the multivariate results and these results need to be interpreted with considerable caution. The findings need to be examined with regard to the measures employed and within the context of the exploratory nature of the study.

Overall, there is some evidence to support the contention that lonely, older participants would focus on and worry about their symptoms to a greater extent than their less lonely counterparts, in that they demonstrated higher reporting of days in bed and restricted activities due to
symptoms, doctor visits, and consulting more than one doctor. However, this hypothesis is only weakly to moderately supported by these results. Based on these findings, focusing on and worrying about symptoms, as defined and measured in this study, seemed a less useful route through which loneliness might foster physician utilisation in the study sample, than were symptom amplification and lowered health perceptions. The low correlation of self reported doctor visits during the past year and loneliness needs explanation in light of the moderate to strong relationships between self rated health, symptom frequency, symptom severity, consulting more than one doctor for symptoms, and loneliness but may be the result of the skewness of the dependent variables.

**Self reported physician visiting explicitly for loneliness**

"So when I talk about loneliness to my doctor I feel that I might look foolish or childish, as if I can't cope. He might send me into a home, that would be terrible." (Woman aged 82 years.)

Antonovsky (1972), Barsky (1981), and Cheng (1992) suggested that loneliness is a hidden reason for consulting doctors, and the present study results offer strong support for this view. Approximately 2% of the total number of self reported doctor visits in the past year in the present study were made explicitly for the emotional discomfort of loneliness. Eight reports of consulting for loneliness were made and four of these were by the same participant. This is a very low figure if one considers that 15% of the participants sampled had loneliness scores of clinical significance. This response strongly supports the hypothesis that few, older adults would report that they had consulted their physicians for this reason.

Respondents may not have viewed their doctors as the most appropriate people to help them with feelings of loneliness. Perhaps lonely people, rather than visit their doctors for their loneliness either ignored it, treated it themselves, or sought help from acquaintances or from practitioners outside the medical establishment. Ignoring the condition means that the sufferer might continue to experience any immunosuppressive effects of loneliness, might endure the unpleasant effects of loneliness unnecessarily, and might risk the development of persistent loneliness. Rokach (1996) stated that distancing oneself from the experience of loneliness and attempting to ignore and deny it are the least effective of coping strategies and can at best be helpful on a temporary basis. Treating themselves could benefit some people but not others, depending on how they go
about this. Some desperately lonely persons would be incapable of treating themselves. People experiencing loneliness are less likely to have a confiding or intimate relationship. For some lonely people there are no friends to turn to. Those who do have friends may not wish to risk losing the relationship by discussing their loneliness with them. The stigmatisation of loneliness makes it unlikely that those experiencing the condition will reveal or discuss their loneliness while they are undergoing the experience. If the lonely did not consult their doctors for loneliness then perhaps they would have felt equally uncomfortable approaching other health professionals directly.

It is likely that a number of lonely respondents did not wish, or were unable, to acknowledge their loneliness. This is not surprising when, according to Peplau, Russell, and Heim (1979), lonely people are guilty of misattribution bias, in that they rarely recognise feelings of loneliness in its early phases. It is also possible that lonely individuals attributed symptoms of loneliness which were more physiological in nature, such as headaches, to other disorders like hypertension. They may have failed to associate such symptoms as poor appetite, or insomnia with loneliness. Respondents may have been ill. They may have then attributed these new symptoms of loneliness to the persistence of their illness, viewing the symptoms as a prolonged convalescence.

Some people may so fear loneliness that they fixate on the somatic aspects of their suffering to avoid confrontation with their own emotional conflict. Modes of expression and communication of emotions may be the results of the psychological adjustment strategies of suppression or repression of dysphoric affect, which if acknowledged would be too disturbing. Thus they may recognise their loneliness but refuse to acknowledge it. Presenting to a doctor with physical symptoms may be a defense against being forced to acknowledge these unacceptable levels of loneliness. Mechanic (1972) described cultural influences, such as social acceptability, as important determinants of somatic presentation. The author also found that a social desirability response bias was significantly associated with psychological symptoms, in that it was less socially desirable to report psychological symptoms than it was physical symptoms. Cognitive interpretation may transform the emotional impact of loneliness into a publicly acceptable somatic form for its expression in social contact. Loneliness sufferers may use their physical
symptoms as pleas for help, particularly if they come from a background which has discouraged crying and fussing.

Many people with undeniable subjective distress, in addition to seeking symptomatic relief, seek to convince others that the distress is real. Gortmaker, Eckenrode, and Gore (1982) pointed out that people in their prospective study of female users of a neighbourhood health centre overcame the difficulty of managing multiple stressors and minimizing stress by various forms of social contact, including care seeking. Care seeking may represent a final effort to deal with loneliness distress after other emotion-based coping processes have failed. Emotional processes of this sort may represent a separate path motivating one to seek health care. Balint (1957) argued that because the physician's province is generally limited to biomedical concerns, patients must have a somatic symptom to serve as the ticket of admission to the physician's office, and to legitimise their continuing relationship with the doctor. Consistent with the studies which found loneliness to be a hidden reason for visiting the doctor, seeking medical care explicitly for loneliness was not a strategy employed by the majority of respondents in this study. If the sociodemographic indicators of loneliness which are so easily accessible to general practitioners were ignored by the doctor, lack of recognition or acknowledgement of loneliness, and/or its somatic presentation would make the physician's diagnosis of the condition extremely difficult.

**Situational and chronic loneliness differences warranting further research**

"They say if you want friends you have to be friendly." (Woman aged 85 years.)

Young (1982) suggested that the chronicity dimension is critical in understanding loneliness because the underlying reasons for feeling friendless, unloved, and different are very dissimilar for the two types, and the interventions are necessarily different also. He asserted that chronic loneliness probably involves more long-term cognitive and behavioural deficits in relating to other people than does situational loneliness. Smollar and Younis (1982) described intimacy as the third level in their friendship model, at which stage there is a mutual acknowledgement of the needs and feelings of the other person. This stage seems difficult to reach for the chronically lonely person who is lacking in relationship skills. The study results support this supposition of
lack of relationship skills and chronic loneliness, in that situational loneliness was significantly correlated with marital status, income, and education whilst chronic loneliness was only significantly related to marital status and previous occupation, variables which involved interpersonal relationships. In the stepwise regression of sociodemographic variables on situational loneliness the variables remaining in the model were feelings of belonging to a group with shared attitudes and values and the perceived availability of a confidant, with feelings of belonging to a group with shared attitudes and values accounting for most of the predictive variance. For chronic loneliness this order was reversed with perceived availability of a confidant accounting for most of the predictive variance with smaller contributions from feelings of belonging to a group with shared attitudes and values and previous occupation. Perhaps whilst working there was some satisfaction for the chronically lonely from work related contact which compensated for the lack of intimate relationships. There has been some research undertaken into possible differences in the situational and structural antecedents and the consequences of situational and chronic loneliness but more is needed if we wish to fully understand these distinctions. In particular, the differences in sociodemographic indicators of chronic loneliness such as education and income may make this type of loneliness less easily recognisable for a general practitioner, and thus make it more likely to be overlooked as a diagnosis. More research appears to be needed of these sociodemographic differences in the prediction of situational and chronic loneliness and how they might affect physician utilisation.

In this study neither situational nor chronic loneliness were significantly correlated with current or chronic illness. In contrast to the commonly expressed view that persistent or chronic loneliness is of most concern in relation to health outcomes significant Pearson correlations for all health outcome variables were lower for chronic than for situational loneliness except for that of self reported visiting of more than one doctor. In the stepwise regressions the F statistics and predictive variances were lower for chronic loneliness on all health outcome equations than was the case for the situational loneliness regressions with the same exception. Intensity of loneliness seemed more important than duration in relation to health as measured in this study.

A further distinction between situational and chronic loneliness in the present study resulted when each type of loneliness was partially correlated with depression. The significant associations of situational loneliness with the total number of self reported doctor visits and with
visiting more than one doctor disappeared. Although the association with the total number of doctor visits was no longer significant for chronic loneliness, it was still significantly associated with visiting more than one doctor. When self esteem was partialled out the significant relationship between situational loneliness and visiting more than one doctor disappeared, but this was not the case for chronic loneliness. It remained significantly related to visiting more than one doctor. Perhaps this finding is implicated in studies which have not measured for consulting of multiple doctors and find low or no associations for psychosocial variables and physician utilisation.

The present study attempted to routinely assess chronic loneliness, as suggested by Marangoni and Ickes (1989). However, situational and chronic loneliness were so highly correlated that any subtle differences were likely to be obscured, and no statistical comparisons were made. Another study with more fine grained measurement of the variables and a bigger sample would be necessary to detect these distinctions with any clarity. The results did suggest the possibility that chronic loneliness has a lesser effect overall on health outcomes and possibly a distinct relationship with physician utilisation. There seem to be several questions which require answers if these differences between situational and chronic loneliness are to be explained. For instance, are these differences reproducible? Will they appear in comparative studies of situational and chronic loneliness? Are the health effects of situational loneliness more important than those of chronic loneliness. Does the chronicity of loneliness limit its impact on health? Do older people adapt to, or compensate for chronic loneliness, and if so, how do they do this? What happens to those with high levels of chronic loneliness if situational loneliness is superimposed? It would appear possible to suffer from both conditions simultaneously. How this combination would affect the health of older people seems worthy of investigation. Is the relationship between chronic loneliness and health similar to that of negative affect in that it is only a nuisance factor in health research which needs to be considered when studies of health are undertaken, as outlined by Watson and Pennebaker (1989)? Or, do chronically lonely adults visit more doctors rather than the same doctor on frequent occasions and thus confound studies of physician utilisation? The high level of dissatisfaction with their lives which is associated with chronic loneliness would surely affect respondents' quality of life even if it didn't affect their physician utilisation. If chronic loneliness is simply a nuisance factor, more effort could be
placed on treating situational loneliness by supporting the lonely person, or alleviating the situations responsible for the loneliness.

These findings seem to warrant further investigation as soon as possible. The differences between the forms are crucial to the type of intervention required to treat loneliness. Situational loneliness may be alleviated by altering the situation causing the loneliness, or by providing support to help cope with the situation, or by providing access to a social network from which new satisfying relationships can be found. Chronic loneliness may take longer to improve, especially in an older person who has experienced years of difficulty in forming new relationships, and has very few social interactional skills. Increasing the number of social interactions will not improve the loneliness of someone who lacks the ability to form intimate relationships. These distinctions are vitally important to health professionals in regard to the best use of resources in the provision of care for lonely, older people.

**Methodological considerations**

**Strengths**

The study allowed for a comprehensive survey of a large number of loneliness issues important to the health of this age group, and provided a great deal of information about these issues hitherto not available. The project involved a randomly selected sample which was demographically similar to the population sampled, and the use of a control group for hypothesis testing. It also employed standardised measures, in the main, or measures which had been used in previous research, which combined to make a tight experimental design. It would have been preferable to use complete instruments such as the PILL symptom measure, but an attempt to balance the highest possible validity and reliability of instrument with the shortest possible questionnaire was made. The study successfully examined a specific, proposed model, which has not been used in this way before, with appropriate measures for the model components. It also considered the effects of confounding variables. With a careful analytic approach, the resulting evidence suggests that the model is most useful for explaining ways in which loneliness might foster physician utilisation in older adults.
Limitations

The poor response rate places restrictions on the power requirements of the study. Cross-sectional research is not as clear or as powerful as longitudinal research and the research questions asked require longitudinal analysis for definitive answers. However, preliminary evidence can be gleaned from cross-sectional age comparisons, and a tight methodological approach, large sample size, and sound statistical analyses can illuminate a small number of relationships. The need to get responses from a large sample means using a highly structured questionnaire where questions are tightly defined and possible responses are usually predetermined. This method is unlikely to gather information of any great depth, particularly in such an emotive area as loneliness research, and thus tends to obscure the effects of individual differences. The benefits of large scale surveys include the size and representativeness of the sample studied, the range of variables included and the ability to introduce statistical controls to identify spurious findings. In contrast qualitative studies provide a richer view of perceptions and reactions, and a better conception of social process.

The topic of loneliness is an extremely sensitive, and for some people threatening area. The results of this study are representative of the kind of people who were willing to respond to the loneliness questions. The people who did respond did so with apparent care and interest, with most participants completing all of the questions with the exceptions of those related to age and self esteem.

Asking people about their experience of loneliness is plagued with problems of the validity of their answers in that society as whole tends to blame those who are lonely. The possibility that respondents answered in socially desirable ways cannot be excluded, despite the measure of loneliness employed being supposedly free of this bias. The anonymity of responses was a further attempt to mitigate against this factor. However, the need for anonymity negatively affected knowledge of the representativeness of the sample. Some older people may not have answered the survey because of decreased levels of motivation and interest in the world as described by Atchley (1977).
Retrospective self reports produce problems with measurement. The limitations of self reports can be partly circumvented by the use of multiple measures to triangulate, and this strategy was employed in the present study, where possible.

**Statistical procedures**

Correlational analyses always produce difficulties with the direction of relationships, with lack of causality, and with the possibility of spurious variables. Chance correlations across multiple variables may occur. Despite these difficulties such analyses provide very useful results. Whilst it is one of the surest methods of creating the best prediction model, the stepwise regression analysis technique used to test the models in this study has limitations. This method requires a large and representative sample because the statistical procedure may overfit the data. That is decisions about which variables are included and omitted from the equation are dependent on possibly minor statistical differences within the single sample. Stepwise regression analysis may exploit the chance differences thus creating an equation that is too close to the sample and may not generalise well to other same age populations. Despite these limitations, this procedure can be useful in highlighting and developing a subset of independent variables which may help one understand the dependent variables more clearly.

**Conclusions, implications, and recommendations from Study 1**

"I think I told my doctor that I was lonely yesterday when I was there to get a letter written, but I don't know whether he didn't hear me, or just thought "Here she goes again", so I never repeated it." (Woman aged 63.)

Although studies of the prevalence and sociodemographic indicators of loneliness in older adults have been carried out in other countries, no such research has been undertaken in New Zealand. The present study examined the prevalence of loneliness in this age group by estimating the extent of loneliness of sufficient severity to affect the health of respondents, and therefore likely to be of concern to general practitioners. The results suggested that approximately one in seven of those sampled was experiencing loneliness of this magnitude. It also examined the ways in which the social worlds of the lonely and the less lonely differed and provided a sociodemographic profile in relation to lonely, older adults. They were likely to perceive their
incomes to be insufficient, to be widowed, separated or divorced rather than married, and to have less than seven years of education. Significant associations were found between loneliness and restricted socialising due to physical disability, to living alone, to not having regular activity outside of the home, and to having moved house in the past year. Of crucial importance to situational loneliness was the feeling of not belonging to a group with shared attitudes and values followed by the perceived unavailability of a confidant. For chronic loneliness the most important predictor was the perceived unavailability of a confidant, with feelings of belonging to a group with shared attitudes and values, and previous occupation also contributing unique variance to the model.

Studies have also found loneliness to be associated with self reports of physician utilisation, but any mechanism for this association has neither been proposed nor explored. The present study was able to expand the Barsky (1981) model of psychosocial distress and physician utilisation, to successfully explore ways in which loneliness might foster physician utilisation in this age group. Respondents were unlikely to have visited their doctors explicitly for feelings of loneliness. They were extremely likely to have perceived a greater need for medical care through increased symptom amplification which was highly correlated with loneliness. They were also very likely to have visited their doctors because of lowered health perceptions which were associated with their loneliness. To a lesser degree lonely, older respondents focused on and worried about their symptoms more than the less lonely, and may have sought assistance from their doctors through this pathway. The study results were highly significant when the effect of loneliness on a large number of health variables was assessed. Despite the limitations of the present study, the overall consistency of the significant relationships between loneliness and the health outcome variables adds substantial weight to the evidence which supports the study hypotheses.

The study findings provide at least partial answers to the questions posed at the beginning of this project. Although the data collection limits generalisation to one geographic region, and to healthier older adults over 60 years of age who volunteered to participate in the study, it can at least be said that within these limits three main conclusions can be drawn from the findings of this research:
• Moderate to severe loneliness was experienced by one in seven of the older New Zealanders in the present study, yet extremely few respondents reported presenting to their doctors explicitly for the treatment of loneliness.

• The study results indicated that sociodemographic indicators of situational loneliness were extremely easy to recognise.

• One could conclude that symptom amplification was the most likely way in which loneliness might have fostered physician utilisation in this sample, by increasing the perceived need for care. Lowered perception of perceived health was the next most likely pathway to care, and focusing on and worrying about symptoms the least likely.

There are two important implications which arise from these conclusions:

• Because the sociodemographic indicators of loneliness are easily recognisable, the diagnosis of loneliness in older adults would be very simple for a practitioner with an awareness of the condition. However, the indicators are common enough to make loneliness easy to miss if a general practitioner does not suspect it.

• Because the lonely people in this study did not approach their doctors directly for assistance, and they amplified their symptoms and had lowered perceptions of their general health statuses, it also seems highly likely that they may have presented somatically to their doctors with vague and unexplainable symptoms.

Pennebaker (1989) suggests that the inhibition or suppression of emotional expression can lead to prolonged states of physiological arousal and somatic distress. The open acknowledgment of this distress may elicit support from others, or promote the identification and resolution of the condition. However, there are strong social prohibitions against the expression of loneliness. This places the lonely, older person in a no win situation. The inhibition of expression may have detrimental health effects, whilst the expression of loneliness may be met with disapproval and rejection from others. Older, and less psychologically minded individuals may then adopt a somatic idiom of distress in order to have their suffering acknowledged by others. The initial presentation of loneliness to the doctor may be a somatic complaint, or an associated physical disorder.
The somatic presentation of loneliness would make the diagnosis of the condition very difficult for the physician. Somatic presentation of loneliness needs to be distinguished from somatisation disorder, where a person repeatedly presents with a wide range of different somatic symptoms without any clear disturbance of mood. General medical conditions and their treatments can often mimic at least some of the symptoms of loneliness (for example, tiredness, lack of appetite, and insomnia). They are also very likely to co-exist. The physician also influences the form of the patient’s clinical presentation and subsequent illness behaviour by sanctioning or ignoring various forms of presentation. Wickramasekera (1989) described the conspiracy between doctor and patient to resist psychosocial explanations for somatic disorders.

Of particular interest and consequence in this study was the pronounced association of loneliness and symptom amplification. The patient’s perception of symptoms can be visualised as being on a continuum between amplification and damping. The social system may reinforce certain types of illness behaviour, like amplification of symptoms, by beneficial changes such as attention from medical caregivers. These reinforcers may become illness maintainers. Cheng (1990) suggested the importance of considering the functional value of somatic symptoms and the way these behaviours are maintained. Existing measures cannot distinguish between the patient’s actual experience and their conscious attempts to exaggerate distress, or to dissimulate. Recall of symptoms is influenced by contextual and demand characteristics which may lead participants to under or over estimate their actual levels. Physical symptoms are now viewed as cognitive-perceptual phenomena, that is as stimuli which are subject to complex psychosocial processes and therefore susceptible to influences beyond those explained by bio-sensory mechanisms alone. The meaning people assign to physical sensations can have profound implications for their physical and psychological health. Even if they have only subjective reality, the symptoms reported by people have significant implications for their current functioning, and further examination of the meaning and context of the relationship between loneliness and symptom amplification is required.

**Further research**

More research into loneliness is needed. Because the link between loneliness and sociodemographic factors is crucial to doctor-patient interaction if recognition of the condition is
to be addressed before the patient occupies the sick role, the possibility of developing and initiating screening for loneliness needs examination. The present study is exploratory and the measures used are very general. With further research these indicators could be refined and added to, so that screening for loneliness was simple, fast, and routine. With these requirements met, a sociodemographic profile of loneliness would assist the medical practitioner in the diagnosis of loneliness, which could then be appropriately treated. Does belonging to a social group serve different functions for younger than for older adults? Longitudinal research of this issue would be worthwhile.

As previously mentioned an urgent consideration for further research is the development of a psychometrically adequate measure of situational and chronic loneliness which is easy to administer. Once such an instrument is available research into the short term and long term effects of situational and chronic loneliness would be possible, and it is vitally needed. A comparative study of situational and chronic loneliness and their effects on health outcomes and physician utilisation in this age group would also be most useful in providing some of the answers to the questions raised by this study. We also need to know whether or not loneliness is recurrent, and whether a single experience of moderate to severe loneliness predisposes people to further such experiences. There are few longitudinal loneliness studies, and also very few using objective rather than subjective health measures. Both types of research are required to help clarify the complexities of the relationship between loneliness and health.

Summary of the discussion and conclusions

To re-iterate, the main conclusions of this study were that loneliness was a problem of sufficient severity to adversely affect the health of one in seven of the respondents sampled. However, only 2% of the total number of self reported visits to the doctor in the past year were explicitly for help with feelings of loneliness, or for problems with loneliness predisposing or precipitating conditions. A number of points have become clearer as a result of this research. A better understanding of how loneliness may present to the general practitioner has been obtained by using Barsky’s (1981) model of psychosocial distress and physician utilisation. The model provided a most useful basis for assessing possible pathways through which loneliness might
influence medical consultations in this age group because it provided a framework for the
examination of a number of disparate reported health complaints from earlier studies and the
indirect presentation of loneliness to be considered together.

In this sample the most likely ways in which loneliness might be posited to have fostered
physician utilisation were indirectly through increased symptom amplification and lowered
health perception, both leading to greater perceived need for medical care. Lonely participants
amplified both the frequency and severity of their symptoms to a greater extent than the less
lonely, and perceived their health statuses less favourably. To a lesser degree the high loneliness
group focused on and worried about their symptoms more than the less lonely. They reported
more bed days and days of restricted activity due to symptoms, more doctor visits and visiting
more than one doctor, and the situationally lonely reported taking slightly more self medication
than the less lonely. However, the relationship between situational and chronic loneliness and
self medication and self reported doctor visits disappeared when current and chronic illness and
negative affect were included in the analyses. The relationship between situational but not
chronic loneliness and self reported visiting of more than one doctor also vanished when the
confounds were accounted for. The strong relationship of loneliness to symptom amplification
and, to a lesser degree, to lowered perceived health provides a reasonable answer to the question
“How might loneliness influence physician utilisation in older New Zealanders?” but “Why do
lonely older respondents amplify their symptoms?” remains worthy of further examination. This
question will be addressed in the second study.

The sociodemographic profile of lonely, older adults in the study suggested that, on average, the
situationally lonely were likely to perceive their incomes to be insufficient and to have less than
seven years of education. Both situationally and chronically lonely respondents were likely to
be widowed, separated, or divorced rather than married, to consider themselves restricted from
socialising through physical disability, to live alone, to have no regular activity outside of the
home, and to have moved house in the past year. Chronically lonely participants were more
likely than the situationally lonely to have been professional rather than semi-skilled workers. In
a stepwise regression of these sociodemographic variables on situational loneliness loneliness
was predicted most crucially by the respondents’ beliefs that they didn’t belong to groups with
shared attitudes and values, then by a perceived lack of confidants. However, in a similar
regression of sociodemographic variables on chronic loneliness the best predictor was the perceived lack of a confidant, then feelings of not belonging to a group with shared attitudes and values, with previous professional occupation adding further unique variance to the model.

Differences in situational and chronic loneliness deserving of further research were outlined. The most urgent of these would be the development of an adequate instrument with which to measure these durational dimensions, and its use in a comparative, longitudinal study of short and long term effects of situational and chronic loneliness on health outcomes. In particular examination is needed of the differences in structural determinants and in multiple doctor consulting between the two types of loneliness.

The major implications of these finding are that, because loneliness is likely to be presented in somatic form to the physician the recognition of loneliness in older patients is mostly reliant on a high level of suspicion of this diagnosis by the doctor. Before such an index of suspicion is considered necessary by general practitioners they must appreciate the severity of the effect of loneliness on the health of older adults. The information from this study is useful in that it demonstrates that the sociodemographic indicators of loneliness are easy for the general practitioner to recognise and access. The study results also serve to alert the general practitioner to the high likelihood that amplification of symptoms, and/or lowered perception of health status will accompany the condition of loneliness. The findings, despite their limitations, also confirm those of other studies which show that older adults comprise a group who are at high risk for the detrimental health effects of loneliness, and thus provides a focus for educational campaigns for health professionals.
CHAPTER 9
RATIONALE AND BACKGROUND FOR STUDY 2

Rationale for Study 2

Medical knowledge is socially constructed. It is not simply a body of instrumental knowledge but rather the provision of a set of categories which we use to filter and construct our experience. Such terms as "depression" or "pre-menstrual tension" predispose us to notice certain features of our lives and not others and give us the vocabulary to describe these features. The beliefs which patients and doctors hold about course and prognosis of illness affect the trajectory of the condition. Medicine can be seen to be a highly specialised domain of social practice and discourse, the limits and contents of which are themselves set up by wider, but not separate, social practice. Consumers of health care do not stand apart from the effect of such discourse. They are constructed as both objects of study, and subjects of powerful discourse when dealing with the myriad of health care specialities in the contemporary system.

Physicians are an historically and geographically bounded profession organised to provide health care. Problematic relationships with patients may develop when care is organised in ways that meet the needs of the system but which have unintended consequences for the patient. This second study plans to expand current understanding of the cultural context and social construction of meanings and actions of a group of older, lonely, frequent physician users. More information is needed of the ways in which older people normalise, justify, and minimise loneliness, and of how they might transpose it into physical symptoms and/or physician visits. Information provided from this study could be used by health professionals, in addition to the information from the first study, to assist them in tailoring the provision of health care to the
needs of this age group, and thus to reduce the individual and societal costs of inappropriate primary care to the lonely older person.

The position upheld in this second study is that loneliness in older adults is silenced and repressed. This process is accomplished by the stigmatisation and trivialisation of loneliness within this age group, and by others rejecting and distancing themselves from revelations of such disturbing personal information. Ageism also contributes to the marginalisation of older adults and to their powerlessness. Their lack of negotiating power within society generally is echoed by their dependency within the medical consultation. Although this view of older people as vulnerable and oppressed may increase the perception of their reliance on others it may also persuade medical practitioners of the need to make changes to a system which supports such dependency. The aim of this second study is to further such change. The intention of this section is to background studies which support, or offer explanations for, the position that stigmatisation and ageism within society create and sustain the silencing and repression of loneliness. The proposition has been mooted that as societies become more affluent and advanced loneliness tends to increase proportionally. This progression would surely be affected by the type of social policies in place. Persistent difficulties in social relationships exist in all societies, although these are dealt with more equitably in some societies than they are in others. Affluent and advanced societies such as New Zealand could provide a social climate conducive to the reduction of loneliness.

Background

Two important conclusions of Study 1 were that loneliness was not presented directly and explicitly to the doctor by older adults, but appeared to foster physician utilisation through the routes of increased symptom amplification and lowered perceived health status. Studies such as that of Young (1982) emphasised the low rate of recognition of loneliness by general practitioners. In the view of Kirmayer, Robbins, Dworkind, and Yaffe (1993), under recognition of psychosocial distress, such as loneliness, must ultimately be attributed to the patients' unwillingness to accept exclusively psychological characterisation of their problems and to physician reluctance to pursue the diagnosis and treatment of psychosocial distress. Why should
such silencing of the topic of loneliness occur in this age group? According to Jones (1984) lonely individuals have a stigma which they can choose to identify, or not to identify. Perlman and Joshi (1989) asked why, in Goffman’s (1964) terms, they deliberately conceal their spoiled identity or keep their stigma from looming large in particular interactions. Jones (1984) reported that studies from the stigma literature point out the ambivalent nature of responses to the disadvantaged. The lonely person may be both an object of denigration or an object of sympathy. Typically the negative response is covert and the positive response overt. The author concluded that the lonely person assumes that, although initial revelations of loneliness may elicit comforting responses, the long term response to disclosure may be avoidance. In order to avoid such rejection loneliness is seldom discussed. In the study of Lau and Gruen (1992) the lonely person was rated much more negatively than the nonlonely person in psychological adjustment, achievement/competence, and sociability/congeniality. The lonely person was less liked, less preferred as a friend, and was rated as weaker, more passive, less attractive, and less sincere. The negative evaluations were found to vary according to the genders of the lonely person and the perceiver. The male lonely person was more stigmatised than the female. Female perceivers were more critical than male perceivers towards the lonely person.

Weeks (1994) claimed that lonely persons feel like outsiders and have probably internalised the public view of themselves as deficient or damaged. Thus private stigma is added to public stigma. Feelings of shame, guilt, and failure are added to those of being alone in a world they do not understand and which does not understand them. Lonely people seem then to suffer in silence. Fromm-Reichman (1959) asserted that people who are in the grip of severe degrees of loneliness cannot talk about it; and people who have at some time in the past had such an experience can seldom do so either, for it is so frightening and uncanny in character that they try to dissociate the memory of what it was like. Rokach and Brock (1997) pointed out that people tend to describe past rather than present experiences of loneliness if they do talk about it. The shame and guilt involved with loneliness may also make the older person too embarrassed or ashamed to disclose the condition. I would maintain that the diminished status which accompanies stigmatisation is increased when older adults are not allowed to work in a production oriented society.
Loneliness involves both social stigma and emotional distress. Negative moods and despair are likely to disturb those in close contact with them, who perceive a threat and cost to themselves from those with these conditions (See Coyne, 1976a; Coyne, Kessler, Tal, Turnbull, Wortman, et al. 1987). I would contend that distancing, or the tendency for others to withdraw from the sufferer, is one way for others to deal with the threat of the negativity of the lonely. Such distancing may be performed by friends and relations or by professionals. The emotional cost is lower for the more detached health professionals. It grows in proportion to the extent that the distancing is diminished and the professionals allow themselves to experience what the patient is experiencing (See Greene, Adelman, Charon, & Hoffman, 1986). Distancing can be rationalised by recourse to blaming the victim. Lerner (1966) in his “just world” theory suggests that when people are aware that someone has experienced undeserved suffering or failed to get what they deserved, they may doubt that they can trust their own environment. In order to maintain their most cherished beliefs about themselves and their worlds they blame other people for having brought the disaster on themselves. Thus they can continue thinking that such conditions will not happen to them. In my view this theory is most applicable to loneliness. The diminished status which accompanies stigmatisation may then lead to further loneliness as others disassociate themselves from the afflicted person.

Why does our society find the topic of loneliness so offensive? Concepts such as intimacy needs or needs for affiliation are well documented. For instance, Jones (1990) stated that the fear, or reality, of being excluded from social groups and intimate relationships is highly and most particularly relevant to loneliness. Fromm (1941) put forward the view that one may be physically alone, yet feel a sense of belonging through an association with ideas, values, and social patterns. Feelings of insignificance and meaningless within a universal framework are transcended through such associations. Personal relations can be seen to be necessary for teaching the norms of a society which are essential for smooth social interaction. Perhaps the fear is that should too many people be lonely and unable to contribute or benefit from social life then the society is weakened. Like high divorce rates and widespread crime loneliness could be seen to be a cause, and/or a symptom, of social decay. Social relationships are amongst the most important and complex of human activities and they can simultaneously be a source of stress and a source of satisfaction. Most people in western societies think of being without social relationships as an undesirable state which is not an acceptable or healthy way of life. Being
perceived to have social relationships serves to mark one's status as a valued and functional member of society.

One way of dealing with high levels of distress or dissatisfaction with relationships which might be seen to threaten the social structure is to trivialise or downplay such distress. Lazarus (1990) in his paper entitled "The trivialisation of distress" described the societal and professional tendency to downplay the negative and accentuate the positive as a trivialisation of distress which undermines its legitimacy and challenges the circumstances which generate it. He sees as implicit in this trivialisation that distress is treated as a condition which is unworthy or pathological, and that distressed persons have failed to cope as they should. They have failed to remain cheerful and optimistic in the face of misfortune. Thus, they are not only victims of illness but also of attitudes and judgements of the very people who say they want to help. The author is talking about people with a variety of medical conditions but, in my opinion, his views are most applicable to loneliness. According to Woodward (1991) anxiety and fears about ageing and death may also be masked by denial of another's subjectivity in a way which appears to be reassuring but in reality is silencing and repressive. She claims that when people speak personally about their own experience of old age, or their own fears of ageing and death, especially when they are old, the common response of others is to reject what they say. I would argue that talking about loneliness would produce the same effect.

When Lazarus (1990) discussed the succession of role models who demonstrate that being old is wonderful, he wondered whether the reaction of ailing older people to the unremitting portrayals of extremely favoured or heroic elderly is inspiration, envy, or despair. Later, when the author discussed loneliness he considered how the wide dissemination of the message "Friends can be good medicine" affected lonely people. Did such messages tell people who already felt lonely and deprived of warm and supportive human relationships how to correct the deficiency? He considered that the ideal social image that negative feelings be mastered was probably an added source of a sense of failure. The culturally prescribed veneration of self-control, dignity, and cheerfulness in adversity is not only the source of damaging pressure on many people but similar internal standards can impose a heavy burden.
Suffering must be named and categorised in ways which are intelligible to self and others. For centuries language has been used to categorise and marginalise as different or deficient those who do not fit the narrow definition of normality of various societies. Cultural differences have been found in the language used to describe solitude. No terms for loneliness exist in Tahitian according to Levy (1973) whilst the Eskimos have three words related to missing the company of other people, loss, and withdrawal (Peplau & Perlman, 1982). In Sweden there is only one word “ensam” which refers to both being alone and feelings of loneliness. In a comparison of Germans and Americans carried out in 1957 by Hofstätter the Germans perceived solitude as a positive phenomenon associated with such words as healthy and strong, whilst the Americans described it as highly negative and associated with fear. When this study was replicated by Czernick and Steinmeyer (1974) the German word for solitude had taken on more negative connotations. The position supported by this thesis is that when we talk about loneliness we are not reading the label for a discrete portion of nature. Instead we envisage a social meaning which has been generated by the activities of many social groups. These groups may have diverse interests. One of these groups, the medical profession, has many specialised techniques and practices which contribute to their particular view of loneliness. Both loneliness and medicine are socially constructed. These contextual qualities of both loneliness and medical knowledge point to their being particular forms of culture rather than timeless absolutes. The effect of the social environment on the language used to describe loneliness does not, however, make loneliness a myth. Neither does it deny the possibility of physiological effects accompanying the emotional experience of loneliness. It does, however, impact on the manifestations and course of loneliness.

Language has been used to categorise and marginalise groups in order to confine them to places outside the public arena in the view of Trewortha (1997). She suggests that in western societies the term “elderly” has become synonymous with powerlessness; to be deemed ready for the edges of society there to await the merciful death which will release society from the burden of caring for you. In the view of Coupland and Coupland (1993) a society that represses old age leaves us casting around in later life for warrantable social identities and accounts of our own place and purpose. The authors claimed that these ideas may help us to understand some of the origins of low levels of life satisfaction and even mental health in old age. Older, lonely people are doubly stigmatised, once for being old and again for being lonely. Although medicine has enabled
people to live longer, healthier, and more productive lives an increased expectation of life beyond the age of 75 years will extend not only the expected years of life but may significantly increase the years of disability. Big differences in dependency exist between economically advantaged and disadvantaged elders and the number of elderly is increasing. There is no consensus as to the value which younger people place on older adults, and therefore if and how they should be assisted. Seale (1996) conducted a study of the accounts given by 163 relatives, friends, and others who knew a sample of people who lived alone during the last twelve months of their lives. The author described a variety of strategies which the caregivers used for justifying or excusing placement decisions, which included criticisms of the behaviour of the people who lived alone. The author outlined the struggle of the older people living on their own to maintain a reputation for independence in the face of neighbourly surveillance for signs of slippage, and suggested that people who live alone towards the end of life face the threat of social death and loss of control due to their declining physical capacity. How to provide care which allowed the recipients to manage self-identity independently was identified as a central dilemma for the caregivers. Silencing the expression of loneliness in this age group by stigmatisation, trivialisation, and distancing can be seen to allow society to cover over and cope with this ominous and disconcerting social problem and to avoid the social change necessary to repair it.

**Social forces and the medical encounter**

The view that medicine is clearly and distinctly independent of social forces by virtue of its special status has been eroded from all directions. Wright and Treacher (1982) argued that, in contrast, both medicine and science are essentially social enterprises which define how the needs for particular relationships can be met in particular cultural and historical contexts. Foucault (1972, 1977) treated medicalisation as an aspect of rationalisation of society through the dominance of scientific categories. Medicalisation as a form of social control involves the standardisation of illness into phenomena which can be managed by bureaucratic agencies. Such a position calls into question the whole notion that one can approach the disease of human beings as if they were neutral facts rather than aspects of human interpretation, social organisation, and culture. The way in which an individual interprets or understands their disorders will depend not
upon individual whim or fancy, but significantly with the classifications of illness which are available within the culture, and by reference to general cultural values which are considered appropriate. Turner (1990) suggested that as culture has gradually become secularised, scientific procedures and beliefs have become the criteria for action, and the importance of individual discipline and regulation by bureaucracies related to the state have increased. Foucault (1972-77) stated that there is a trend to a widening of medical control and the medicalisation of deviance and disease under the common bureaucratic policing of society. He used the term "panopticism" to describe the regulation of society by the state, the police force, professional associations and social workers. Such regulation ensures that ideas and lifestyles do not diverge too far from the "normal", defined primarily by medicine. A panoptic system of surveillance by medical institutions is an element of an expanding state control of discipline and regulation of individual bodies and populations.

Turner (1990) described "The Foucault paradox" which is the contradiction between individual rights and social surveillance. The medicalisation of society involves a detailed and meticulous bureaucratic regulation of bodies in the interest of an abstract conception of health as a component of citizenship. The greater the demand for personal equality, the greater the demand for regulation and surveillance of society. Since sickness can be regarded as a form of social deviance the medical profession has a policing function within society. Turner argued that, from a sociological perspective medicine can be viewed as a major form of institutional control which in contemporary society has to some extent replaced the traditional institutions of law and religion.

Asymmetric doctor-patient power relationship

Physician-patient interaction is rooted in a power relationship which is an example of a general class of professional-client relationships (See Ainsworth-Vaughn, 1995). According to traditional sociological theory, power is awarded to professionals based on their command of an esoteric body of knowledge which they have acquired through academic training. Their training is influenced by a service orientation towards the client. The scientific foundation of medicine is that disease is a more or less accurate depiction of biological reality. It is the profession's monopoly of knowledge which is not easily accessible to the public, and its claims to a public
service outlook which legitimates the professional's command over the practitioner-client relationship. It also institutionalises client obligations to trust professionals and comply with their prescriptions (See Goode, 1961; Moore, 1971). It is the knowledge difference or competence gap which has been posited as the mechanism used to preserve the professional's dominance, or as Slack (1977) termed it, the tradition of physician paternalism and patient submission. Doctors determine the agenda for the visit and the subject, affect, and process of the discussion are largely decided on by the doctor in support of the medical point of view (See Greene, Adelman, Charon, & Hoffman, 1986). Doctors focus on listening to the patient's information and symptoms which specifically aid in making a medical diagnosis and may ignore such extraneous issues as relationship problems.

This traditional model of professional power over clients has been incorporated into the central concept of medical sociology, the sick role (Parsons, 1951). The sick role legitimises the patient's withdrawal from a number of social obligations in order that recovery may be facilitated. The patient is presumed to want to recover and to need medical assistance to do so. The release from social roles is conditional on their desire to recover. Viewing the ill person as deviant and the medical practitioner as an agent of social control implies this asymmetric power relationship. Parsons' notion that sickness is subject to social control provides a useful way into the analysis of culture in relation to illness behaviour. Becoming ill is a social process which involves other people besides the patient. Their co-operation is needed for a person to adopt the rights and benefits of the sick role - that is of the socially acceptable role of ill person. In that retired older adults deviate from the social norm of work, individualism, and activism, ageing itself could be regarded as a form of the sick role, at least in the sense that to age is to deviate. However, in the sick role the sickness has a limited duration and where the sick role is successfully occupied the patient returns to normal expectations after a brief respite from major social duties. For some groups of older people who lack resources including health, the ideals of a quick return to optimal social functioning may be entirely inappropriate and reinforce the dependency and isolation which is the experience of many. It may also add to their personal sense of failure and shame that they have not achieved their personal expectations for independence and privacy.
This traditional asymmetric power relationship has been redefined by some to a consumerist perspective in which physician and patient bargain over the terms of their relationship. Although each brings different resources to the encounter neither one is in charge. The consultation is the site of negotiated power relations between doctor and patient (See Ainsworth-Vaughn, 1995; Haug & Lavin, 1981). Whether older people have such negotiating power is highly debatable, but the issue is of vital importance in a future in which older people will form a much larger minority group. Haug (1979) suggested that the likelihood of an authority based upbringing may have socialised older age group cohorts to accept authority in their relationships with the more powerful, just as the lower levels of their educational attainment could make them less able to acquire health knowledge and thus feel able to challenge the competence gap. The stigmatisation of both age and loneliness and the diminished social status which is involved in such stigmatisation further limits their negotiating powers. It is most unlikely that lonely older adults would challenge the powerful medical system however empathetic the individual practitioner.

The extent to which patients and practitioners successfully exchange information is affected by the degree to which their realities are mutually compatible according to Mathews (1983). Problems in the medical encounter occur with incompatible frames of reference as to which information is shared. Physicians' interpretations of their patient's ill health are largely affected by their disease perspective and their medical training. Other influences include such factors as their personalities, socio-cultural background, and sub-speciality training and experience. Sociolinguistic differences between doctor and patient, the degree of shared knowledge, in particular technical knowledge, social differences of status and role, and constraints imposed by the institution of medicine such as the focus on disease rather than illness impact on the encounter. As Helman (1985) stated even agreement on the diagnostic label of the patient's condition may be no guarantee of agreement on its aetiology, prognosis, or appropriate treatment.

What is likely to be shared by both doctors and their older patients is their attitudes to loneliness. If both groups belong to a society in which loneliness has distinctly negative connotations and is stigmatised both groups will have internalised these values. Doctors are members of the wider society as well as members of their professional group. It would be surprising if they did not reflect the underlying societal attitudes towards both older people and loneliness. The amount of research into the health of older people is small in comparison to other areas of medicine. Until
recently much of this research was carried out by women who found it difficult to specialise in the high status areas of the medical profession. However, Coupland and Coupland (1993) suggested that ageism is a diverse and complex concept. They pointed out that as well as a disenfranchising discourse of ageing which permits or endorses discriminatory practices against older adults, there is also an anti-ageist discourse which seeks to redress the social injustices to this age group. For instance, the discussion document of the New Zealand Public Health Department (1997) stated that the benefits of improving the health and well being of older people and kaumatua include more positive attitudes towards older people and ageing, recognition of ageing as part of the life cycle and not a separate area of health care, and improved quality of life for a greater portion of older people and kaumatua. The authors saw a danger in that those who are promoting a sympathetic and defensive orientation to older people are perhaps contributing to society’s perception of elderly people as vulnerable and oppressed. They also emphasised the need for anti-ageists to be clear about the distinction between characteristics of ageing which are due to the physiological ageing process and those which are socially created. In their discourse analysis of ageism and anti-ageism they examined how the patients at a Geriatric Clinic talked about their health. The authors found that older people themselves can reproduce ageist assumptions whilst their doctors may resist such assumptions. Doctors may need to resist the self-disenfranchising statements of patients who blame all their health problems on their advancing age.
CHAPTER 10

DISCOURSE ANALYSIS OF LONELINESS
AND THE MEDICAL ENCOUNTER

Discourse analysis

Quantitative analysis allows for a wide overview which enables patterns to emerge but it obscures the subtleties and nuances of individual differences and intraindividual inconsistencies in behaviour. It also fails to take into account the powerful effects of language and discourse in shaping and constraining human behaviour which moves the examination from the data itself to what the data means. In order to understand why older people might present indirectly to their doctors when they are lonely a new paradigm is needed. To obtain an in depth analysis of symptom amplification, lowered perceived health status, and loneliness the telescope must be reversed so that the detail is revealed. The meaning of the symptom amplification found in the first of the present studies may be better understood by looking more closely at the function symptom amplification serves within the doctor-patient encounter, and at the context in which the behaviour occurs. One form of qualitative analysis which appears to be particularly appropriate for this purpose is discourse analysis which is a method of interpretative and subjective research totally distinct from the positivist, quantitative paradigm. Gergen (1985) considered discourse analysis to be a part of the post-modern turn in psychology toward social constructionism.

Coupland, Coupland, and Giles (1991) described conversation as the medium through which all the "isms" and most social group tensions and problems are endorsed or challenged, aggravated or relaxed, and suggest that sociolinguistics has a critical role to play in the analysis of social ageism. Discursive discourse analysis is a form of sociolinguistic analysis which highlights the
role of power in discourse. Bell and McLennan (1995) viewed ideologies as important and culturally variable sets of procedures and resources which we use to make sense of our worlds. Billig, Condor, Edwards, Gane, Middleton, and Randley (1988) described the framework by which people interpret their particular everyday experiences and relate them to the common knowledge of other members of their society as “lived ideology”. This framework is formed of shared resources such as arguments, anecdotes, imagery, and common rhetorical forms which both provide for, and limit, the interpretations which will be acceptable as natural or commonsensical in a given setting. Thus ideology is profoundly normative and useful for resisting change and maintaining the status quo. This lived ideology is flexible and speakers may adapt the resources into arguments or positions which suit the particular context or situation. This allows for the same person to present contradictory arguments. Billig (1995) pointed out that people who can position their arguments as natural, normal, or commonsense are far more likely to be heard and accepted than those who are perceived to be marginal to a particular culture. The view of this thesis is that the powerful qualitative methodology of discursive discourse analysis is most useful for highlighting the common explanatory possibilities available to older adults which reinforce the covert effects of loneliness and primary medical care, and limit much needed social change.

Coupland, Coupland, and Giles (1991) examined intergenerational differences in painful self disclosure and included as one of their topics the disclosure of loneliness. These authors concluded that older conversationalists frequently have their interactional roles and key aspects of their life span identities constructed for them by younger people. Wood and Kroger (1995) explored the potential of discourse analysis for understanding issues of ageing and in the lives of older people. They concluded that one of the major contributions of discourse analysis to research in ageing is that it shows that older people are more complex, accomplished, and interesting than they often appear to be in conventional analyses. Coupland and Coupland (1993) employed discourse analysis to demonstrate that moral imperatives about ageing impinge on the negotiated realities of older people’s lives and that the potential impact on health of their self accounts needs close examination.

May, Dowrick, and Richardson (1996) used discourse analysis to examine the social construction of therapeutic relationships in general medical practice. They examined the ways in which the
consultation is the site of negotiated power relationships between doctor and patient and is the site of the doctor's negotiation of powerful discourses of professional and institutional identity. They concluded that the bio rather than the psycho, or social dimensions of the biopsychosocial model is emphasised. In addition they suggested that the dilemma for the doctor in dealing with psychosocial problems is not diagnosis but disposal, or how best to advise the patient to resolve personal problems. Ainsworth-Vaughn (1995) also explored the power relationship of the medical encounter with ethnographic discourse analysis, and she provided an overview of the multiple ways in which power can be constructed in the medical encounter through discourse strategies and actions which she suggested are unable to be captured in terms of discourse structure.

To date, the methodology of discourse analysis has not been used in the examination of loneliness, symptom amplification, and the medical encounter, but it appears to offer the potential for extremely useful insights into the dynamics of loneliness and physician usage in older adults.

Wood and Kroger (1995, p. 84) listed three ways in which discourse analysis differs from conventional research orientations:

- It reverses the distinction between talk (discourse) and action to an emphasis on talk as action
- It reverses the view of talk (discourse) as a route to internal or external events or entities
- It reverses the focus on the elimination of variability through techniques of data reduction (statistical or qualitative) to a search for variability as a tool for understanding and as a matter of interest itself

Discourse analysis is an interdisciplinary approach to inquiry which explores the discourse used to construct the everyday world. Although Foucault (1972) uses the term "discourse" to refer to broad, historically developing linguistic practices, the present research follows Potter and Wetherell (1994) who used the term to cover all forms of spoken interaction, formal and informal, and written texts of all kinds. The authors explained that they were social scientists trying to gain a better understanding of social life and social interaction from the study of social texts or accounts. They argued that talk is not merely about actions, events and situations. It is also a potent and constitutive part of those actions, events, and situations. Potter and Wetherell claimed that people use language to construct versions of the social world. They used the term
"construct" because they considered that accounts are built out of a variety of pre-existing linguistic resources which are actively selected or omitted. The term also emphasised the consequential nature of accounts in that they construct, or build, reality. Such construction is not necessarily deliberate, but occurs without awareness as people attempt to make sense of a phenomenon. The methodology is interdisciplinary because it draws on material from many of the more traditional academic disciplines such as linguistics, cognitive psychology, anthropology, sociology, and cultural studies (See Potter & Wetherell, 1994). According to Cheek, Shoebidge, Willis, and Zadoroznyj (1996), discourse analysis involves more than content analysis, a study of semiotics, or ethnomethodology as it seeks to move the analysis into cultural, political, and social dimensions which have shaped the form and content of the language.

Underpinning discourse analysis is the notion that discourse determines and limits the range of possibilities by which reality is constructed. Such discourse finds expression in language which then constructs the meaning of the system. Language itself has been shaped by discursive frameworks which are both historically and socially situated (See Habermas (1972; 1979) and Foucault (1977; 1980; 1981). In this study discourse analysis is considered from the perspective of discursive psychology (Edwards & Potter, 1992; Harré & Gillet, 1994). Potter and Wetherell (1994, p. 35) summarised the underlying tenets of their version of discursive discourse analysis:

- Language is used for a variety of functions and its use has a variety of consequences
- The same phenomenon can be described in a number of different ways
- There will, therefore, be considerable variation in accounts
- There is, as yet, no foolproof way to deal with this variation and to sift accounts which are "literal" or "accurate" from those which are rhetorical or merely misguided thereby escaping the problems variation raises for researchers with a "realistic" model of language
- The constructive and flexible ways in which language is used should themselves become a central topic of study

In one form of discursive discourse analysis open ended interviews are typically transcribed, with discourse analysis providing a method for accessing the complex patterns of language used by people to organise their social reality. The analysis identifies these patterns in the form of multiple and overlapping "interpretative repertoires."
Interpretative repertoires according to Potter and Wetherell (1994, p. 137) are:

- "broadly discernible clusters of terms, descriptions, and figures of speech often assembled around metaphors, or vivid images"

There are good theoretical reasons and important social implications for approaching participant's discourse or social texts in their own right and not as a secondary route to things beyond the text, like attitudes, events, or cognitive processes, as advocated by Potter and Wetherell (1994, p.160). For example, focusing on these linguistic concepts allows for the likelihood that people are positioned within multiple and contradictory discourses, which has potent and optimistic implications for therapeutic and educational interventions for loneliness.

Aims of Study 2

General aims

- To understand more about the dynamics of loneliness and physician utilisation in older patients by analysis of the ways in which frequent physician users talk about loneliness, their symptoms, and their explanations and expectations of their visits to their doctors.

- To describe themes and rhetorical strategies which support the translation of emotional distress into physical symptoms, for instance by minimising, trivialising, or blaming others for their distress.

Specific aims

1. To obtain a collection of texts of a minimum of twelve accounts from people, aged 60 years or more, selected as being both frequent physician users, and lonely, by their general practitioners.

2. To apply recent developments in discourse analysis to multi-level analysis of the data.
Analyses for Study 2:

**Analysis 1:** To examine themes and interpretative repertoires which participants use to explain their frequent visits to their doctors.

**Analysis 2:** To identify and describe themes and interpretative repertoires which participants use to describe loneliness and social-emotional distress as reasons for consulting their doctors.

**Methodology for Study 2**

The basic design of this second study was a survey, using semi-structured personal interviews of 14 participants. The research questions of interest were how the discourses concerning loneliness and the medical consultations of the sample were put together, and what was gained by this construction. The interviews were designed to provide examples of conversation itself concerning these topics, not of underlying attitudes or cognitive processes. The same general points made in the methodology of Study 1 apply in regard to the ethics of the project. However, the level of explanation and assurances at the point of recruitment was greater as personal contact by the researcher was made with respondents. The assurances of confidentiality and anonymity were emphasised. The consent form and covering letter can be seen in Appendix A, pages 272 and 274.

**Sample selection**

Sample selection for discourse analysis is radically different from that of conventional research. According to Potter and Wetherell (1994) the crucial determinant of sample size for discourse analysis depends on the particular research question and on the availability of material. There is no optimal sample size, or level at which one can state that sampling is complete. Too much material may mean that the researcher may be overcome by the sheer process of reading and re-reading vast numbers of scripts. Discourse analysis is extremely labour intensive. As a large number of linguistic patterns are likely to be presented by a few recruits small samples are
generally able to provide examples of interesting and important phenomena. The material used for analysis and its origin are simply described in detail. The generalisability of results depends on the reader assessing the importance and interest of the effect described and deciding whether or not the consequences of the effect are pertinent to that particular area of social life. The issue of representativeness of the sample is not vital when the emphasis is on both the consistency and the inconsistency of accounts and how they are used in a variety of situations.

Ethical approval was obtained for the project from the University Ethics' Committee. Approval was conditional on the researcher making herself available to participants should there be any adverse reactions to the interviews. The researcher explained the study in detail, either over the telephone or in person, to thirty general practitioners who were either known to her personally, or had been recommended by colleagues as doctors with an interest in research. When questioned one doctor admitted to feelings of unease that her patients might be made to feel by the researcher that they were wasting the doctor's time. It was obvious that the study of loneliness was seen to be quite threatening to some of the physicians despite assurances to the contrary by the researcher. The doctors who had indicated a willingness to assist were contacted with a more formal letter, a copy of which can be seen in Appendix A, page 275. The criteria for inclusion in the project were:

1. That the patient was aged 60 years or over.
2. That the doctor considered that some of the patient's symptoms were unexplainable in light of the organic pathology, or lack of pathology.
3. That the patient had presented twice or more to the doctor in the last three months with unexplainable symptoms. (This criterion was selected following consultations with general practitioners.)
4. That the doctor considered the patient to be lonely.

Fourteen people were eventually referred by six general practitioners. Two referring doctors were female, and the remaining four were male. The participants consisted of older adults who had visited their doctors frequently enough to be able to remember and discuss their consultations. They may or may not have considered themselves to be lonely but were considered to be so by their physicians. Some had discussed their loneliness and/or frequent physician usage with their doctors and some had not. The choice to focus on this group was
based on the assumption that they would present clear samples of the different ways in which loneliness and its presentation to the doctor are talked about in a New Zealand culture by people of this age group. In addition, participants’ conversations represented views of patients who were seen as problematic to their doctors because they did not fit neatly into the biological model.

Collection of texts

An interview guide was written and memorised. This provided a checklist of topics which the interviewer wished to cover, which were the consultation, symptoms, relationships with and expectations of the doctor, socio-emotional distress, and loneliness. The checklist included reminders of the categories of interest to the researcher in an order which seemed likely to establish rapport (for example the more threatening questions about loneliness were sandwiched between questions about symptoms, and about visiting doctors for administrative reasons). The interview was piloted by role play and rehearsal with an experienced discourse analyst. The guide provided only a general approach. The actual questions were composed on the spot to fit the natural rhythm of the dialogue and to promote maximum, unbiased disclosure by the interviewee. In this particular study interviewing required careful considerations of the sensitivity of the subject of loneliness, of the advanced age of the participants and their tendency to divert rather easily from the topic. The referring doctors had also warned the researcher that they did not wish their patients to be made to feel that they were visiting their doctors unnecessarily. Because the stigma attached to loneliness produced reticence to questioning on this topic, the interview required careful balance on the part of the interviewer between respecting and gently challenging this reticence. As it was often nonverbal cues which guided the interviewer's judgements the logic of an interview may not necessarily be evident in a written transcript. The interviewer adopted a neutral and reflexive interviewing style in order to encourage disclosure. Interviewing techniques which allowed for diversity rather than those which eliminated it were emphasised. Interviews were audio-typed into a word processing system using a foot-pedal to stop and start the tape. The draft printouts were checked against the tapes and corrected. Transcription did not include the fine details of timing and intonation. According to Potter and Wetherell (1994) these aspects of transcribing are not crucial for many sorts of research questions and may interfere with the readability of the transcript. The completed transcripts provided approximately 250 pages of data.
Participants were interviewed in their own homes. The time frame of the interviews was reduced from 50 minutes to 40 minutes because some of the initial participants showed signs of tiredness following longer interviews. Although the interviews did not follow a set structure, with the exception of one topic, they covered definite topic areas. These topic areas can be conceived of as sectors on a wheel as can be seen in Figure 4. The wheel was devised to display the issues of importance to the study and their interrelationships. Movement from one topic to another could be seen to flow in either direction, or to stop at a particular point to allow exploration of a particular account.

Figure 4. Interview wheel

Using this diagram the interview took on a number of different routes depending on the judgement of the interviewer. Broad surface explorations of features of the topics allowed systematic focus in each sector, moving from periphery to depth. The interviewer also followed the directions of the interviewee and shifted as the interconnections arose. With all these possibilities, care was needed to ensure an adequate coverage of each sector. This coverage was facilitated by summarising each sector, a device which also allowed for intraindividual
inconsistencies in response to the same topic to be revealed. Individual questions did not need to be asked because they were covered in the course of the interview. For the topic of "symptoms", a set of structured questions covering Kleinman's Explanatory Illness Model (Kleinman, 1980) was read to each of the participants.

Kleinman (1980) considered that how we perceive, experience and cope with illness experiences is based on our explanations of sickness which are specific to the social positions we occupy and the system of meaning we employ. The patient's explanatory illness model, or how they perceive their symptoms and their therapeutic consequences are thus based on culturally approved beliefs. These beliefs focus on five issues: aetiology, onset of symptoms, pathophysiology, course of illness, and treatment.

**Key questions**

These question were not necessarily asked, but provided cues to coverage.

**A: The consultation**

Can you tell me about your last visit to your doctor?

What were the reasons for your last visit?

How would you describe your symptoms?

Why did you need tests or medication?

**B: Symptoms**

*(Kleinman's Explanatory Model).*

This model was selected because it provided comprehensive coverage of the topic of "symptoms".

Could you describe your symptoms and have you and them before?

Why does this symptom worry you? (Perceived risk).

Do you consider it to be very serious? (Perceived seriousness).

How long would it last if not treated? (Time line).
What do you think causes this symptom? (Cause).
What do you think will cure it? (Cure).
How likely are you to get it again? (Vulnerability).
What do you think you could do to avoid getting it again? (Control).

C: Relationship with and expectations of doctor

What sort of relationship do you have with your doctor?
How long has the relationship existed?
How satisfied are you with your relationship?
What did you expect your doctor to do on your last visit?
What sorts of treatment do you get from your doctor?

D: Socio-emotional reasons for visiting your doctor

What do you think of social or emotional problems as reasons for you to visit your doctor?
What do you think of social or emotional problems as reasons for others visiting their doctors?
What can people do if they have social or emotional problems?
Who is the most appropriate person to help if you have social or emotional problems?

E: Loneliness as a reason for visiting the doctor.

What do you think of loneliness as a reason for you to visit your doctor?
What do you think of loneliness as a reason for others to visit their doctors?
What can you do if you are lonely?
Who is the most appropriate person to help if you are lonely?

Overall structure of interview

Preparation

1. No interruptions were ensured
2. The tape was tested.
3. The tape was marked with an interviewee code.
Introduction

1. Introduced self as interviewer.
2. Read, or allowed participant to read information sheet.
3. Explained goals of project.
4. Checked out informed consent.
5. Recorded basic demographic information.
6. Turned on tape.

Conclusion

1. Participants were questioned about their beliefs about consultations with their doctors for administrative matters. These questions were used only to end the interview on a more neutral and less threatening topic than loneliness.
2. The last few minutes of the interview, or a few minutes once the tape was switched off, were spent thanking the person for their participation and attempting to end the interview on a positive and encouraging note.

Overview of the analysis

Two central questions underlie discursive discourse analysis. How is the particular language of the texts constructed, and what are the consequences of different types of construction? Language may be used for explaining, justifying, cajoling, persuading, to present the speaker as worthy or competent, or to accuse another. In this study themes or interpretative repertoires were identified which were used by participants to describe their reasons for visiting the doctor, and what they thought of loneliness and socio-emotional distress as reasons for consulting their physicians. The second component of the study explored how these shared repertoires were used by different recruits in a variety of contexts and with a variety of purposes. As previously mentioned, discourses or social texts appear in their own right not as measures of some underlying construct. Discourse analysis aims to describe the meaning of self representations of people in different contexts, or the range of self-images available in ordinary talk, how these images are used, and to what end. In this way what these images achieve for the speaker immediately, interpersonally, and then in terms of wider implications can be examined. In
particular discourse analysts are interested in consistencies and inconsistencies of accounts and how these are used (Potter & Wetherell, 1994). Both the researcher, and the interview questions, are seen as active and constructive.

The following section examines the particular cultural resources commonly available to older New Zealand adults when they discuss physician usage. It also describes their themes, repertoires, and strategies concerning loneliness and socio-emotional distress. For both analyses, hypotheses for the way in which the repertoires and strategies are employed, and why they are used in particular situations, are discussed in the following section. The repertoires are summarised at the conclusion of the analysis section to aid their recollection for the discussion.

**Analyses**

**Analysis 1: Themes and repertoires which explain frequent doctor visits**

The first phase of the analyses required the examination of transcripts for any themes or interpretative repertoires which participants used to explain their frequent visits to their doctors. The interpretative repertoire (See Gilbert & Mulkay, 1984; Potter & Mulkay, 1985; and Wetherell 1986) is basically a lexicon, or register, of terms and metaphors drawn upon to characterise and evaluate actions or events. Transcripts were read initially and coded into topics and themes. All references to either consultations, interactions with or feelings about their doctors, or explanations for visits were selected, and then grouped according to the similarity of wording or phrasing. Coding of interviews was inclusive in that all borderline cases, however oblique, were included. Analysis then involved a search for differences in content or form, and identification of shared features of accounts. These references were read and sorted repeatedly until two repertoires became apparent in relation to reasons for frequent physician usage.

Multiple readings of each topic and theme revealed a cluster of terms, descriptions and figures of speech which made up the Real/definite symptom repertoire. The principle of this repertoire was "I consult the doctor for real/definite symptoms for which the doctor wishes to provide ongoing medication or monitoring."
The terms used for this repertoire were firstly those which described the symptoms as needing to be real or definite as described by a 63 year old woman

\( (L = \text{interviewer}, S = \text{speaker}) \)

\[ L \text{. What sort of things would you say were good reasons for going to the doctor?} \]
\[ S \text{. Well, I don't know whether it would be a symptom of something, and I, I mean it would have to show up by, I wouldn't dream it up. It would definitely be there.} \quad (T10, L1) \]

Secondly, physical symptoms which required continuous monitoring or medication were given priority.

\( (\text{Explanation added}) \)
\[ L \text{. What would you think are good reasons (for visiting the doctor)?} \]
\[ S \text{. Well, I have got constant pain in my mouth, and then the roof of my mouth and under my tongue get very red and the saliva glands come up, and I go quite regularly to the doctor and he treats my blood pressure and he checks my mouth because it changes more or less from week to week. It is never the same two weeks running.} \quad (T13, L5) \]

Medication or monitoring then provided the rationale for further consultations, and an ongoing reason for the doctor wanting to keep an eye on the patient as is the case for an 84 year old woman:

\( (\text{Explanation added}) \)
\[ \text{......but usually when I go down (to the doctor) I have got tablets about this long, the others are on repeat, and she (the doctor) likes to see me once a month and that's why I go down mainly.} \quad (T7, L52) \]

The second interpretative repertoire which was identified in this phase of the analysis was named the Doctor as best friend repertoire. The principle of this repertoire was that the doctor was a friend of long-standing who was always pleased to see the patient. The cluster of terms describing this repertoire included firstly a mention of a longstanding relationship with the doctor as instanced by a 63 year old man:

\[ L \text{. Have you been to other doctors before that, or have you been to him for a long time?} \]
\[ S \text{. No. I have been to him for the last 20 years.} \quad (T12, L129) \]

Secondly, the repertoire included thinking of the doctor more as a friend than as a doctor. For example the words of a 66 year old woman:

\[ \text{I have known him so long I talk to him as a friend more than a doctor.} \quad (T13, L568) \]
Finally, the consultation was viewed as a social event. An illustration of this is the account of an 80 year old woman:

(Explanation added)

It is, it is. It is nice when you go (to the doctor) and I go in and he says "Hello to you", and I say "Hello P." And, oh, when I did go this day, you know, startled the knickers off him I know I did, I got in and the nurse said "Cup of tea time" see, so I was sitting there and when P. came out he looked at me, and I said "Yes, I even know when it is morning tea time." (T1, L313)

More examples of the terms taken from the transcripts and outlined in these two repertoires can be seen in Appendix C, pages 296-302.

Summary of analysis 1. Themes and repertoires for frequent doctor visits.

(a) Real/definite symptoms repertoire

Recurrent theme: I consult for real/definite symptoms for which the doctor wishes to provide ongoing medication or monitoring.

- Symptoms must be real or definite.
- Physical symptoms which require continuous monitoring or medication are given priority.
- Medication or monitoring then provide the rationale for further consultations.
- The doctor wants to keep an eye on me.

(b) Doctor as best friend repertoire

Recurrent theme: My doctor is a friend of long-standing who is always pleased to see me.

- My relationship with the doctor is long-standing.
- I think of him/her more as a friend than a doctor.
- The consultation is seen as a social event.

Analysis 2: Themes and repertoires concerning loneliness and socio-emotional distress

As was the case with the first analysis, the procedure of coding and sorting was performed to identify themes and interpretative repertoires which were used to explain loneliness and socio-
emotional problems as reasons for visiting the doctor. Again, all references to these two concepts, that is loneliness and socio-emotional problems were examined, however oblique. The first repertoire so identified was the Self loneliness and socio-emotional repertoire. The first term identified was a description of oneself as basically a very strong person as exemplified by an 82 year old woman:

*I think deep down I'm a very strong person* *(T2, L292)*

The second term included pulling oneself together and not wasting the doctor's time if these problems were experienced, as illustrated by the account of an 85 year old woman:

*I think I would just pull myself together, you know get a move on.* *(T4, L607)*

The principle of this repertoire was that the patient is a very strong person who would not bother a busy doctor with loneliness or socio-emotional problems.

The second repertoire was named the Not OK for others loneliness and socio-emotional repertoire. This cluster of terms included the view that people who visit their doctors for loneliness and socio-emotional problems are weak. An 82 year old woman provides an example:

*(Explanation added)*

*I just think they (people who visit for these conditions) need a kick in the pants, and I would be very willing to talk to them.* *(T2, L753)*

A second view was that other people should deal with these problems themselves and that the doctor is not the appropriate person to assist them with these types of problem as exemplified by the text of an 85 year old woman:

*I would think those are problems you should be able to fix up yourself, I wouldn't waste my doctor's time on it.* *(T3, L234)*

The principle of this repertoire was that other people should make the effort to deal with their own socio-emotional problems and loneliness, and not waste their doctors' time consulting explicitly for these reasons.

Garfinkel (1967) describes an "etcetera clause" as a linguistic strategy which allows novel or unforeseen instances to be brought under the umbrella of a rule. The etcetera clause built into rule systems means that these systems can be used in a variety of ways, towards a variety of ends,
and for a variety of motives. Three etcetera clauses were identified which were applicable to both the Self loneliness and socio-emotional repertoire and the Not OK for others loneliness and socio-emotional repertoire. These clauses allowed for the fact that, although it was not OK for oneself, or other people, to visit doctors explicitly for loneliness or socio-emotional problems it was permissible to discuss these difficulties with one's doctor under certain conditions. If these problems affected the person's physical health, if the person happened to be at the doctor for some other reason, or if the doctor picked up the existence of the condition or problems it was then reasonable to talk about them. With the fulfillment of any of these demands it was permissible to discuss these matters with a doctor. The following excerpts from 66, 71, and 82 year old women illustrate these clauses:

(Explanation added)
If it (loneliness) was affecting your health maybe I would,(visit the doctor), if it is affecting your nerves and you know you were just starting to feel odd, getting dizzy spells and things. (T5, L638)

Well, mainly just my mouth, and anything that happened at the same time I go there I discuss with him, but I don't go to the doctor just to talk about my problems.(T13, L187)

Yes, I do think doctors should, well I suppose get a good idea of what the patient is like when they are talking to them, and they could see perhaps that it was emotional troubles that were.... (T6, L471)

A fourth interpretative repertoire was the OK for others loneliness and socio-emotional repertoire. A cluster of terms suggested that it was reasonable for others to consult their doctors explicitly for loneliness or socio-emotional distress because the doctor might be helpful as described by a 71 year old woman:

(Explanation added)
...and I think that they (doctors) might be more compassionate towards you than maybe a good friend, but you know (T5, L475)

The doctor could, for instance, provide information about clubs to join, or agencies who might help with arranging new contacts for the lonely person as pointed out by a 75 year old man:

Some doctors are very good at, you know suggesting that you do something or join something. (T11, L334)

Others described how the doctor could give the sufferer medication to calm the distress, or offer reassurance to them as illustrated by the text of a 63 year old man:

(Explanation added
Oh, if you were really upset (by loneliness) yes the doctor would give you a sedative and its probably all you need to carry on. (T12, L190)
The principle of this repertoire was that it was a sensible and helpful procedure for others to approach their doctors directly if distressed by loneliness or socio-emotional difficulties. An instance of this was the answer, by an 85 year old woman, to the question “So you don’t think it would be wasting the doctor’s time if someone visited the doctor for socio-emotional reasons?”:

*(Explanation added)*

*Well, because I think it gives him (the doctor) an insight into what he has got to do.* (T4, L318)

The last interpretative repertoire was termed the Proviso repertoire. This repertoire applied to the three etcetera clauses for the loneliness and socio-emotional repertoires. The principle of the Proviso repertoire was that it was safe to disclose loneliness and socio-emotional problems to some doctors, but not to others as illustrated by the texts of a 63 year old and an 85 year old woman:

*I wouldn’t go to a doctor who works in the same building as doctor D. I went to him once and no I wouldn’t talk to him.* (T10, L297)

*Depends on the doctor of course. My doctor is very nice, you wouldn’t, we are on first name terms and, oh, well, she wouldn’t mind but I wouldn’t be so stupid.* (T3, L349)

**Summary of analysis 2. Loneliness and socio-emotional distress themes and repertoires.**

To summarise, the four interpretative repertoires and three etcetera clauses concerned with visiting the doctor for loneliness or socio-emotional problems were:

(a) **Self loneliness and socio-emotional repertoire**

Recurrent theme: I’m a very strong person who would not bother a busy doctor with loneliness or socio-emotional problems.

- I’m basically a very strong person.
- I would pull myself together and not waste the doctor’s time on such trivial matters.
(b) Not OK for others loneliness and socio-emotional repertoire

Recurrent theme: Others should make the effort to deal with their own socio-emotional problems and loneliness, and not waste their doctors' time consulting explicitly for these reasons.

- People who visit their doctors for loneliness and socio-emotional reasons are weak.
- They should deal with it themselves.
- The doctor is not the appropriate person.

Etcetera clauses for the Self and the Not OK for others loneliness and socio-emotional repertoires. It is not permissible either for oneself or others to disclose the distress of loneliness or socio-emotional problems to the doctor unless:

- It affects their physical health.
- The person happens to be at the doctor for some other reason.
- The doctor picks up the condition anyway.

(c) OK for others loneliness and socio-emotional repertoire

Recurrent theme: Consulting the doctor explicitly for socio-emotional reasons and loneliness is a sensible and helpful procedure for other people.

- It is reasonable for others to consult with their doctors explicitly for loneliness and socio-emotional distress.
- The doctor might help them by providing information, medication, or reassurance.

(d) Proviso repertoire

Recurrent theme: It is safe to disclose loneliness and socio-emotional problems to some doctors and not to others.

- It depends on the doctor.

Further examples from the transcripts of the terms which make up these four interpretative repertoires and the etcetera clauses are provided in Appendix C, pages 302-311. The initial component of the analyses has concentrated on the identification of themes and repertoires which older adults use to explain the frequency of their consultations and their reasons for visiting their doctors indirectly for loneliness and for socio-emotional problems. The second component examines the functional aspects of these explanations, that is how these constructions are used, and to what purposes.
How the interpretative repertoires and etcetera clauses were used

This second phase of the analysis consists of forming hypotheses about the functions and effects of the differences or similarities in content or form of these accounts, and searching for linguistic evidence to support them. Such evidence is validated by four factors. The first of these is coherence. Exceptions to the hypotheses need examination and the provision of explanations of their special status is required. Evidence may be validated by examining participant’s orientation to such exceptions. What do they do when confronted with inconsistencies in their accounts? New problems which arise from ways in which they deal with inconsistencies require attention. The major source of validation for discourse analysis, according to Potter and Wetherell (1994) is fruitfulness. The authors define fruitfulness as the scope of an analytic scheme to make sense of new kinds of discourse, and to generate novel explanations.

Self presentation

What then were the functions and consequences of these interpretative repertoires and etcetera clauses which have been identified as characterising the accounts of these lonely older adults? Billig (1987) defines "rhetoric" as the use of discourse to persuasive effect. People may put their discourses together in the same way because they are seeking to achieve the same results, that is to produce similar persuasive effects. In this study the participants were all speaking to the same interviewer "A psychologist". An immediate imperative for each one was to address this asymmetry of social status with global self presentations which emphasised their good features and presented the speakers as worthy and competent. They had all been requested by their physicians to take part in a project concerned with reasons for visiting their doctors. Whilst some acknowledged the frequency of their consultations and others did not, there was a common necessity to manage any potential accusations of misappropriate use of their general practitioners' time. It is hypothesised that the Real/definite symptoms repertoire, the Doctor as best friend repertoire, the Self loneliness and socio-emotional repertoire, the Not OK for others loneliness and socio-emotional repertoire, and the OK for others loneliness and socio-emotional repertoire, and the three Etcetera clauses were used consistently, albeit without awareness, by all participants as rhetorical devices which aided construction of versions of accounts which served these functions.
For example:

(Explanation added)
S: They (the doctors) know I wouldn't go if I didn't have something worthwhile you know to go for
L: What do you mean by worthwhile?
S: Well, some real complaint. (T3, I387, woman of 85)

Nietszche (1974) claimed that scientific theories are forms of language and not facts and that they are historically and culturally bound interpretations. Helman (1990) is of the opinion that the model of modern medicine is mainly directed toward discovering and quantifying physicochemical information about the patient rather than less measurable social and emotional functions. Kleinman, Eisenberg, and Good, as early as 1978 supported this view, suggesting that Western doctors' view of clinical reality assumes that biologic concerns are more basically "real" than psychological and socio-cultural issues. Therefore the critical task for the physician is to decode a patient's discourse by relating symptoms to their biological referents in order to diagnose a disease entity. The Real/definite symptoms repertoire is also used by the patients in this study without a direct appeal to higher status, but with emphasis on the reality and objective nature of their symptoms. This rhetoric functions to convince both themselves and the interviewer of the interviewee's "good patient" behaviour. For example, from a 63 year old woman asked by the interviewer for some of the reasons she would consider required a visit to the doctor:

Well, I don't know if it would be a symptom of something, and I, I mean it would have to show up by, I wouldn't dream it up. It would definitely be there. (T10, I3)

In modern medicine there has been a shift from traditional history taking by listening to the patient's description of symptoms and how they developed, to the examination with tests for objective physiological signs. Young (1981) pointed out that knowledge which determines how medical patients behave is constituted from a flow of intentions, observations, and expectations. It is constantly formulated as the actors monitor their own behaviour and its effects. Freidson (1970) suggested that if people perceive themselves to be sick and in need of specialised help they are likely to find support in their own cultural context only if they show evidence of symptoms that the others perceive to be illness, and if they interpret them in the way others find plausible.
The pressure to be accountable and intelligible to others sustains and gives power to certain communal organisations of self experience (See Gergen, 1987; Shotter, 1984). People who fill specific social positions, such as "good patient" or "rational man" are expected to act in the appropriate way. People learn to play the role of "good patient" through socialisation. In the early 1700s the old system of fear of physical restraint and enforced idleness for patients in mental institutions was replaced with a new regime of personal conscience and hard work. In the view of Turner (1990) the importance of terror as a form of control was replaced by the anxiety of individualised conscience, or in his words "Organised guilt in the interests of order" (Turner, p. 65). An example of this is provided by the words of an 82 year old woman:

(Explanation added)
So that's the only time that I thought it was my duty to tell her (the doctor) why I was so upset. (T1, L401)

Self surveillance can then be seen to be a vital part of dealing with personal guilt and anxiety by presenting oneself as both "rational" and "good" and avoiding the possibility of being labelled "mad" or "bad". The dire results of such a label are outlined by an 81 year old woman:

L So when you feel that, talking about loneliness to your doctor that you might look foolish or childish as if you couldn't....
S Yes, as if I can't cope.
L Can't cope?
S He might send me into a home, that would be terrible (T14, L538)

An important aspect of warranting one's actions, making them appear reasonable and justifiable, is being able to present different kinds of the self appropriately. Varying constructions of the self are brought into play in the process. In constructing the self in one way, other constructions are excluded. Thus in presenting themselves as "good patients" users of the Real/definite symptoms repertoire also precluded themselves from being "bad patients". Potter and Wetherell (1994) saw the ability to divide the self in language (I and me) as a very useful accounting strategy. Through it one can disavow responsibility, manage accusations, claim credit and so on. "The doctor wishes to keep an eye on me" is an example of disavowing personal responsibility for the number of visits to the doctor, which then become another example of "good patient" behaviour. This behaviour is illustrated by the response of a 63 year old woman in reply to being questioned about her reasons for visiting her doctor:

.... probably to have my tablets replaced. I am on blood pressure tablets, and, um, a moduretic tablet for fluid retention, and oh, and I have one for sleeping as well, a small one."(T10, L69)
This woman has earlier pointed out:

".... I don't just go to the doctor, well I didn't think I went terribly often but my doctor showed me over the years you know of all the different things I had been to see him for and ah, so anyway, um, a bit (T10, L18)"

The term account can be used to refer generally to any passage of talk or writing, or to the more technical term which marks discourse produced when people are explaining actions which are unusual, bizarre, or in some way reprehensible (Potter & Wetherell, 1994, p. 74). Two main species of the latter form of accounts are justifications and excuses (For a typology of these see Semin & Mansted, 1983). Austin (1961) suggested that when people are accused of acting in a bad, untoward, or shocking way two options are open to them. They can justify the situation by claiming that the actions are in fact good, sensible, or at least in part permissible in the circumstances, or excuse themselves by admitting the relevant acts were bad in some way but claim that their performances were influenced or caused by some external agency. The authors emphasised the point that people are not inventing these accounts anew, but drawing from a range of pre-existing cultural resources. All participants managed potential or suspected accusations of inappropriate physician usage with justifications of their behaviour which drew on the shared rule of their health culture, the Real/definite symptoms repertoire. This repertoire was used in accounts to provide a justification for frequent physician usage by appealing to a higher authority. A higher status and powerful person, the doctor, commanded them to attend. As has already been described, this strategy served two functions. It enabled interviewees to disavow responsibility for their consultations, and to claim credit for being "good patients" who were aiding the general practitioner by attending as requested.

In the three examples below use is made of a formulation, or rhetorical ploy, which Pomerantz (1986) called the extreme case formulation. This particular form takes whatever evaluative dimension is used to its extreme limits. The formulation makes use of such words as everybody, or very, or in these cases only, usually, and mainly. The persuasive nature of the use of the Real/definite symptoms repertoire as a reason for consultations is highlighted by the revelation of this rhetorical device.

*For example: (Emphasis added)*

L If you went to the doctor again would you expect anything different?

S No. No. Oh, I only go for my three month checkup to make sure, to make sure that the tablets I'm on for angina are doing their job. (T1, L137, 82 year old woman).
And:
S If I have run out of tablets I think may be it is time to go for a visit again, that is the only thing, and then I would pick up on the moduretic. (T10, L141, 63 year old woman).

The Doctor as best friend repertoire is also used as a justification for frequent visiting, by first appealing to the higher status of the doctor and then emphasising the positive reaction of this high status person to the consultations. If the doctor was not happy with the frequency and reasons for my consultations she would not be so pleased to see me, and spend so much time talking with me. The "good patient" behaviour is warranted and supported.

For example: (Explanation added)
S She (the nurse) said "You'll shock the knickers off him" (the doctor), so we just chuckled about that and he was delighted (to see her), he really was, he was delighted. (T1, L114, 80 year old woman).
And:
L He must be quite a close friend by this stage. (after 25 years)
S Oh, he is. Yes, I can talk with him and discuss things with him that I can't discuss with anybody else because I have no family". (66 year old woman, T13, L568).

Global self presentation and self surveillance are also furthered by the use of the Doctor as best friend repertoire. On the surface this appears to contradict the Real/definite symptoms repertoire in that with this function the doctor is no longer given higher status, but rather the mutuality of the relationship is accentuated. However, on closer examination the Doctor as best friend repertoire can be seen to be once again warranting or supporting the "good patient" behaviour by emphasising the wonderful relationship with the doctor which results from this behaviour. In the immediate situation much effort is needed to persuade the interviewer of the harmonious nature of the doctor-patient relationship, to reinforce the appropriateness of the consultative behaviour, and also to present the person as worthwhile. The Doctor as best friend repertoire serves these purposes. However, this doctor-patient relationship can be seen to be very fragile and to need constant attention if it is to be maintained. Any lapse by the patient from the Real/definite symptoms repertoire may jeopardise the relationship and place the person at great risk of appearing foolish, being rejected by their doctor, or worse still being placed in an institution. They may in fact be seen as "bad patients". In the illustration below pain is seen as more "real" than lack of sleep.

For example: (Explanation added)
L Do you have sleeping tablets?
S No. I have panadol and digestics, they are the only things I have.
L Have you ever asked for sleeping tablets?
S No. I have felt I should at times, but I haven't been game to. (T11, L168, 75 year old man).
And:
L  No, so you wouldn't discuss it (loneliness) with him (the doctor)
S  No, it is too personal really.
L  Is it? Why do you feel it is too personal? Do you not discuss personal things with your doctor? I mean you have known him for twenty years.
S  Yes, no I do but, um, I don’t like to feel foolish, childish, you know.
L  You said that before, that was interesting. What do you mean by foolish and childish? What...
S  I should be stronger.
L  You should be stronger, so it's a kind of weakness?
S  A weakness, yes.
L  To not handle it yourself? (T14, L463, 81 year old woman).

Global self-presentations can be achieved with particular kinds of formulations which emphasise either good or bad features. On close examination the Not OK for others loneliness and socio-emotional repertoire and the OK for others loneliness and socio-emotional repertoire can be seen to be serving the same ends. They are both useful strategies for self-justification of patients' own reasons for consultations by criticising or blaming others. Even the most generous use of the OK for others repertoire is followed either by a denial of the appropriateness of this action for oneself, or by an admonition for others that they have allowed loneliness or socio-emotional distress to develop to this extent.

For example: (Explanation added)
L  That is why I wonder you see if people do go and talk to their doctors about it, (loneliness), if they would feel comfortable doing that. Do you think older people would feel comfortable?
S  I think that they would with their doctor, but I know that people don't want to hear you moaning about being on your own. I, for instance, I have been on my own. I know that people aren't interested in you saying "Look, I am lonely", you know, "I hate life." You just can't go round moaning, so you have got to keep it to yourself and get on with it. (T5, L407, 71 year old woman).

And:
L  You think it would be all right to go along and say to the doctor, and say that they are lonely.
S  Yes. "Can you help me?" I don't see any difficulty.
L  No, but you wouldn't go yourself?
S  No.
L  Can you tell me why?
S  I think I would just pull myself together, you know, get a move on. (T4, L601, 85 year old woman).

When incompatibility of accounts is brought to the attention of the interviewee in Tape 4 above she deals with it by returning to the Self loneliness and socio-emotional repertoire and describes herself as a strong person who would pull herself together, and get a move on. Thus others were portrayed as rather weak to have reached a stage where they required medical assistance. Both the Self loneliness and socio-emotional repertoire and the Not OK for others loneliness and socio-emotional repertoire were used to enhance global self-presentation by comparison with others who are presented as not strong enough to manage on
their own. The OK for others loneliness and socio-emotional repertoire appears to be a more subtle form of the Not OK for others loneliness and socio-emotional repertoire. They serve the same function when they enhance the self-presentation of the speaker. In addition, the OK for others loneliness and socio-emotional repertoire further enhances their self-presentation by showing them to be caring and compassionate towards those weaker than themselves. For example:

L No, would you think its O. K. for other people to do that? (Go to the doctor for loneliness)
S Well, I guess other people have rights and they do what they feel.
L Yes, but you think that was a reasonable reason for going to the doctor?
S Not really.
L No.
S It depends. I don't know if there is degrees of loneliness or not but I know that I get very lonely at times and I still don't go and see the doctor about it.

According to Drew (1986) it can be sensible to be inexplicit in self presentation as this strategy may actually be more persuasive than explicitness. Challenging a perceived accusation without generating strong disagreement, for instance by the use of the OK for others loneliness and socio-emotional repertoire rather than the Not OK for others loneliness and socio-emotional repertoire could also be considered sensible in the light of the imbalance in social status between the interviewee and the interviewer.

The Etcetera clauses are also hypothesised to provide indirect strategies for dealing with problems like loneliness and socio-emotional distress which do not fit the Real/definite symptoms repertoire. For those who choose to use the Self loneliness and socio-emotional repertoire and the Not OK for others loneliness and socio-emotional repertoire fear of rejection by the doctor as a "time waster", or appearing unable to cope on one's own and being in need of institutionalisation can be tentatively addressed by use of these culturally acceptable strategies. They offer a way of putting a toe in the water to test whether or not the doctor is open to disclosure of these conditions. The Etcetera clauses provide a prescription for this age group for the presentation of loneliness.

An example of "I just happened to be there" being used as an indirect attempt to talk to the doctor about loneliness is illustrated, below. In this case the doctor, as far as the patient is concerned, deliberately did not "pick it up". Fear that this is an unacceptable topic which has been rejected seems to be the reason for not repeating the request as shown.
I've been to Dr. D. for all sorts of things. I think I told him (that she was lonely) yesterday (when she was there to get a letter written), but I don't know whether he didn't hear me, or just thought, thought "Oh, goodness, here she goes again." But, ah, so I never repeated it. (T10, L439, 63 year old woman).

The Proviso repertoire is also used as a justification for approaching the doctor indirectly with problems which do not fit the Real/definite symptoms repertoire. It may be to the speaker's advantage to make a request indirectly because it allows the recipient to reject it without making the rejection obvious. Drew (1984) suggested that on the whole people prefer to head off undesirable acts like rejection before they happen.

For example: (Explanation added)
L Do you think they (other patients) are wasting the doctor's time (by consulting for loneliness and socio-emotional distress).
S Yes. I do.
L Yes. Do you think the doctor feels like that?
S Depends on the doctor of course. My doctor is very nice. You wouldn't, we are on first name terms, and, oh well, she wouldn't mind, but I wouldn't be so stupid.

And later:
L Right. Do you think doctors are trained to deal with that (socio-emotional distress)?
S Oh, yes, oh my doctor would be very helpful for anyone who went, and wouldn't show that she didn't think it necessary for them to go. (T3, L564, 85 year old woman)

However, an alternative position which suggests the possibility for positive change towards a more direct approach to the doctor is illustrated by the following excerpt. This woman appears to be aware of the need to ask for what you want rather than wait for it to be provided. She hasn't quite reached that stage herself though:

Childish, yes, you know that I couldn't manage on my own, that's the thing when you live alone you have to strike out for yourself and sometimes one becomes quite aggressive. I had a sister in law who became like that and we all used to say "Quieten girl, quieten down girl," but she was on her own much longer than me. And its that feeling that if you don't, you know, you will have to go without whatever it is you want, you know you have to go without. (T14, L291, 81 year old woman).

In the immediate situation the use of all the repertoires and etcetera clauses was to enhance self presentation and to emphatically deny any suggestion of overuse or misuse of their physicians. Wider social implications of the way in which these repertoires were used included support for the culturally approved notion of "the good patient" who does not waste the doctor's valuable time, and for the notions of independence and individual responsibility required of New Zealand's older citizens in an individualistic society. The Self loneliness and socio-emotional repertoire and the Not OK for others loneliness and socio-emotional repertoire are consistently used to minimise loneliness and socio-emotional distress by contrasting them with the Real/definite symptoms repertoire. The consultations are not initiated by the doctor and
the conditions do not produce real/definite physical symptoms requiring ongoing monitoring and medication. The individuals are weak and have failed to pull themselves together in the first place. Symptoms are petty and treatment of them wastes the doctors’ time.

For example: (Explanation added)
(1) L And the same with loneliness, if somebody went with loneliness you don’t think that the doctor is the place to go?
(2) S That is wasting the doctor's time.
(3) L Do you...
(4) S I would, there are plenty of other people and you should have plenty of friends and plenty of people ringing you up.
(5) L What if you didn’t. What if you were somebody you know that used to have plenty of friends but somehow you have moved, or they have all gone away or something?
(6) S They say if you want friends you have to be friendly.
(7) L Yes, I think that's very true but even some friendly people are sometimes in a situation where there isn't anybody to be friendly with.
(8) S Yes.
(9) L I think some people do get lonely.
(10) S Oh, yes.
(11) L But you don't think the doctor is the place to go with it?
(12) S It is just wasting the doctor's time and wasting money going there, I think. (T3, IS72, 85 year old woman)

Utterances have been numbered for convenience. The above account is not just a description of the rule it is also an explanation, and it provides prescriptions for how others should behave, "They say if you want friends be friendly (6)." It also places the blame for loneliness squarely on the individual "You should have friends and plenty of people ringing you up (4)."

Asymmetric doctor-patient power relationships

The Proviso repertoire was hypothesised to function as an explanation, or rationale for the immense power differential between doctor and patient which then justified or underpinned the use of all the other repertoires and etcetera clauses. As well as having power because of skills and expertise the doctor has the power to control the description of the condition of loneliness, or to control the language which is used to talk about it. The implications of this justification in wider terms were the participants’ acceptance of the asymmetric power structure and thus their support for the status quo. The Self loneliness and socio-emotional repertoire, the Not OK for others loneliness and socio-emotional repertoire, and the OK for others loneliness and socio-emotional repertoire also accentuate the extensiveness of the imbalance of power between the doctor and the older patient. The use of the metaphor “keeps an eye on me” was also commonly used to support the ongoing surveillance of the individual body by the doctor.
The relationship is asymmetric in that the patient is in a dependent and the physician in a superordinate position with the doctor having the power to decide whether or not to describe loneliness in bio or psychosocial terms, and whether or not to describe loneliness as an illness which is appropriate for treatment.

For example:
Well, sometimes you feel that in the end the doctor is not really, wants to listen to you, or your, some people with the family business and all the rest of it, but they (doctors) are just there to fix the aches and pains, and that's their job. And if they think that you are a little beyond them then they can send you somewhere else (T1, L536, 82 year old woman)

There are differences in social status and expertise between the older patient and the doctor. Major structural inequalities between the doctor and patient exist in terms of education, knowledge, skill, social standing and prestige. In a study of older patients Cartwright and O’Brien (1976) found that middle-class patients’ consultations with their doctors lasted for 6.2 minutes whereas consultations for working class patients lasted for 4.7 minutes. There were also different responses in relationship to gender, age, and social status reported by Haug and Lavin (1981) in their study of doctor-patient power relationships. The older patients were less likely than the younger to challenge the doctors’ opinions. In wider terms the Proviso repertoire with its underlying theme of “It depends on the doctor” is used for an explanation, or rationale for the legitimate professional power of the doctor to make choices as to how illness is described. This repertoire is used in the construction of an explanation of the immense power differential between patient and doctor. It is also used to explain the lack of negotiating power of the older patient.

For example:
L Yes. So when you feel that, talking about loneliness to your doctor that you might look foolish or childish as if you couldn’t.
S Yes, as if I can’t cope.
L Can’t cope?
S He might send me into a home, that would be terrible.... (T14, L538, 81 year old woman)

The sick role provides a semi-legitimate channel of withdrawal from adult responsibilities and a basis of eligibility to care by others, and is one way for lonely people to increase access to potential relationships.

This point is illustrated by the text of an 80 year old woman:
I have meals on wheels, I have to have a lady who comes in and does my housework for me, and I have, well for the first time two weeks ago I go up to the community centre. They pick me up and do my shopping. See my daughter had to do all my shopping, I haven’t been able to do all that. (T6, L94)
The Proviso repertoire explains the need to present to the doctor in the culturally acceptable manner, that is with physical symptoms, if the older person desires to enter the socially acceptable role of ill person. The doctor’s co-operation is needed for this to happen.

An utterance is not just a description of a rule it also formulates the nature of the action and the situation and has a number of practical consequences. “It depends on the doctor” has consequences which then help shape the construction of further accounts in that it legitimises the asymmetric power structure. “Good patients” follow doctors’ orders without question. This is exemplified by the account of an 80 year old woman:

*Well, I have always gone to doctor C. He has been my doctor for many years and I trust him implicitly and he has looked after me. I suffered from polymyalgia and that’s the reason I have to keep in touch, and he keeps an eye on me.* (T6, L10)

Wright and Morgan (1990) described a type of problem patient as a person who reacted to the power dynamics of the doctor-patient relationship. Older people are most unlikely to fall into this category. Older, lonely patients are unable to challenge the system given the asymmetrical power relations and the medical model which locates problems in individuals. The patient’s expert character in deciding to consult the doctor terminates once the patient enters the clinic. Social differences in power and knowledge create a set of conflicting discourses between patient and doctor which in turn may produce situations of low trust and minimal confidence. The implication of social research into doctor-patient interaction is that the doctor-patient relationship is characterised as much by conflict and misunderstanding as it is by agreement. Patients employ entirely different languages of disease and have conflicting interests. The patient may be seeking reassurance, the doctor may be attempting to communicate specific technical information. with respect to specific symptoms as illustrated by the text of a 63 year old man:

*Yes, you can talk about anything, like when I visit my family doctor we can talk about anything other than sicknesses and it seems to give you a bit of a lift.* (T12, L746)

Both parties form models of what is wrong, what should be done, what the consequences of the problem and its treatment are based on their own reasoning and background knowledge. A number of the lonely people interviewed located their medical problems in their mouths or faces. An instance of this was that of a 66 year old lady:

*I have had these problems since 1982 which was caused by a separation from my husband and nerves get you in a funny place, and my nerves got me in the mouth. That was how it affected me.* (T13, L22)
Doctors are more likely to intervene than to abstain from medical action, since it is better to be wrong in a situation where the therapy will not kill the patient than to be wrong where failing to recommend therapy in a situation where the disease may well kill the patient. It is unlikely that repeated complaints of facial pain will not be treated with medication. An example of the doctor's power to define the language used to describe symptoms and illness and of an inability to challenge the doctor is that, already mentioned, of a 63 year old woman:

(Explanation added)
I think I told him (the doctor) yesterday (that she was lonely) but I don't know whether he didn't hear me or just thought, oh goodness, here she goes again. But, ah, so I never repeated it.

These power relations and patterns of domination and subordination are both produced and sustained by the Proviso repertoire, whether or not loneliness is disclosed depends on the doctor. The text of a 75 year man illustrates this point:

(Explanation added)
L. Yes, do you think all doctors are right, the right people for you to go to when you are upset or distressed?
S. Oh, I don't think so. I wouldn't go to a doctor, the doctor who works in the same building as doctor D. I went to him once and no, I wouldn't talk to him

As people become older, either by design or compulsion they are forced out of roles involving full time responsibility and commitment. The text of a 63 year old widower emphasises this point:

No, I have no hobbies whatsoever. I used to be a sales manager for Dunlop before it was bought out by Australia and I worked the other side of the Bombay Hills, and I made all my friends down there and I haven't any friends in Howick, or just my immediate neighbours which I don't see very much. (T12, L251)

Where there is compulsory retirement current levels of life expectancy will mean that older people, and especially women because of their greater longevity, may experience a considerable period of dependency when older adults who lack a kinship system are forced into dependency on the state. The basic premise of the Proviso repertoire, that whether or not older people disclose their loneliness or socio-emotional problems during medical consultations depends on the doctor, highlights two aspects of their dependency. They are dependent on doctors for medical care, and they are dependent on doctors as powerful representatives of the state.
Consistencies and inconsistencies of accounts

Consistency and inconsistency are variable states which may themselves be used as argumentative or rhetorical strategies. In this study the inconsistencies in accounts were dealt with, in all but one case, by use of the Etcetera clauses. An extremely good example of the ways in which an account was constructed to deal with inconsistency was that of a patient who had consulted her doctor because of socio-emotional distress, Tape 1 below. Each speaker's utterances are numbered to aid reference.

For example: (Explanation added)
(1.) S No, oh well perhaps I'm a person that can sort of cope on their own.
And later:
(2.) S Well, I had occasion to go to the doctor when my son did something I didn't approve of, and I got myself into a bit of a state over that.
(3.) L Hmmm, hmmm.
(4.) S And the next time I went to the doctor my blood pressure was all up and everything, and I explained to her what was happening, just so that she would get the picture that I hadn't suddenly got neurotic or anything like that.
(5.) L Yes.
(6.) S And she said "Oh, I'm very pleased you told me. That's all gone. So that's the only time that I thought it was my duty to tell her why I was so upset.
(7.) L Did you go just for that?
(8.) S No, no.
(9.) L You had another reason?
(10.) S Well, it was my three monthly, I had been saving these things up for my three monthly check.
And later:
(11.) S I wouldn't go (to the doctor), well I suppose there are emotional reasons that do bring on physical symptoms.
(12.) L But you wouldn't go to the doctor just for emotional reasons?
(13.) S No, I think I'd try and work it out for myself. (Tape 1: 82 year old woman.)

The participant persuaded the interviewer of the appropriateness of this action despite her inconsistent use some time earlier, and again later, of the Self loneliness and socio-emotional repertoire which vetoed her performance of this action (1, 13). As can be seen in her account she excused her visit by admitting the consultation and pointing out that the doctor needed the full picture of what was happening (4). She offered an extreme case formulation as a further excuse, "So that's the only time" (6), justified the consultation with an appeal to the stipulated rules of the health institution and morality "her duty" to tell the doctor (6).

In order to aid her global self presentation she reports her doctor's pleasure at her behaviour (6), and finishes off with two etcetera clauses: 1. "The upset was affecting her physical health" (4), and 2. "She just happened to be there" for her three monthly visit (10).
The single exception to the use of the *Etcetera clauses* to deal with incompatible accounts was that of one participant who admitted to consultative behaviour which was for reassurance. This can be seen in Tape 9, below where utterances have again been numbered for ease of presentation. The patient offered as an excuse that consultations were "off the record". He admits the behaviour which he describes in metaphorical terms (12), and mitigates it by virtue of having the best of intentions. However, his fear of not being treated for what may prove to be a fatal condition gets the better of him on occasions, especially because he is on his own (22, 24). The patient aged 86 years is one of the oldest of the interviewees. He has earlier made use of the Real/definite symptoms repertoire (1), the Self loneliness and socio-emotional repertoire and the Not OK for others loneliness and socio-emotional repertoire (3, 9), all of which are incompatible with his "off the record" consultations. The patient does use the Real/definite symptoms repertoire but reverses it and admits that he wants the doctor to keep an eye on him (12). It is possible that the admission has "just slipped out" even though he was fighting against it, as described in Tape 4, below.

*For example: (Explanation added)*

Yes, and they fight against doing it (acknowledging the real reason for the consultation), or some of it just slips out. (85 year old woman, T4, L158).

Or perhaps he has decided that he can trust the interviewer with this disclosure as it is quite late in the interview. He is quick to point out that this lapse in the Real/definite symptoms doesn't happen very often (16).

*For example: (Explanation added)*

1. S ...Well I have to go (to the doctor) to get my medicine replaced.

And later:

2. L What would you think of people doing that (consulting for emotional reasons)

3. S Stupid.

4. L Do you?

5. S You can always get over these things with a little common sense.

6. L Yes, you don't think you have to bother the doctor.

7. S No.

And later:

8. L You wouldn't go for that sort of reason? (socio-emotional)


And later:

10. S If I am sick, if I feel bad or anything like that, but then of course I have to go every three months to the doctor to get my replenishment for..

11. L For your warfarin?

12. S ...medicines, tablets, but I go occasionally without being, you know off the record sort of thing, and ah, just to have a look at me you know, if I am not feeling just the right thing and
Application

The last phase of discourse analysis is its application. Miller (1980) advocated giving the information away as freely as possible, whilst Mulkay (1986) suggested that the researcher open up dialogue with the people who have been researched. The former approach has been used by the writing of this thesis, and the intended publication of articles generated by this research. The information is also to be shared with general practitioners by the provision of seminars.

Summary of Study 2

To summarise, the study attempts to describe how the discourses and accounts of older, lonely, frequent physician users are put together to portray their actions and beliefs about medical consultations in contextually appropriate ways. Attention was concentrated on two main areas of the transcripts. Initially, all reasons for consulting doctors in reference to both self and others were examined. The second area of interest encompassed accounts of loneliness or socio-emotional distress as reasons for consulting a doctor. Two interpretative repertoires for frequent physician usage, three interpretative repertoires for socio-emotional distress and loneliness, three etcetera clauses, and a proviso repertoire were identified, and outlined as emerging from the texts. Further investigation was carried out which involved examination of the ways in which the interpretative repertoires and etcetera clauses were used. This produced hypotheses as to how these images were used and to what end, and what they achieved for the speaker immediately, interpersonally, and then in terms of wider social implications. That these interpretations are
those of the researcher and may not be shared by others is freely acknowledged. However, the hypotheses do provide an explanation for the way in which the repertoires and strategies are used which, in my view, is supported by the transcripts.

Specifically it was hypothesised that, in the immediate situation, both the Real/definite symptoms repertoire and the Doctor as best friend repertoire were used by the interviewees for two purposes. One was to present themselves as worthy and competent in light of the asymmetry of social status between themselves and the interviewer. The other was to manage potential accusations of misappropriate physician usage by justifying their behaviour with appeals to higher authority, disavowal of responsibility, and persuading themselves and the interviewer of their "good patient behaviour" in regard to consulting the doctor. To this end they also employed the rhetorical device of the extreme case formulation.

At an interpersonal level the Self loneliness and socio-emotional repertoire and the Not OK for others loneliness and socio-emotional repertoire were hypothesised to be used to minimise loneliness and socio-emotional distress by contrasting them with the Real/definite symptoms repertoire. Consulting for loneliness and socio-emotional problems was not for real/definite symptoms, it was not initiated by the doctor, it did not require ongoing medication or monitoring unless the sufferers have been too weak to pull themselves together. Self presentation was enhanced by the criticism of others inherent in the OK for others socio-emotional and loneliness repertoire which apparently supported other people consulting their doctors for these conditions.

The wider implications of the use of all repertoires which were identified were hypothesised to be twofold. First, and very importantly, it allowed the study participants to see themselves, and be seen by others as "good patients" and "rational" people. The second implication was that the use of the repertoires sustained the dominant asymmetric power relationship between doctor and patient which gives the doctor the power to define illness categories. The Proviso repertoire, which suggested that whether or not loneliness or socio-emotional problems were discussed with the doctor was dependent on the doctor, served to explain, rationalise, and underpin the dominant power structure which permits the doctor to decide how the term loneliness is defined and described. That is to decide if the condition is considered to be worthy of treatment, or whether
it is a waste of the busy doctor’s time. Because of the possibility of dire consequences if the doctor holds the latter view, the lonely older adult is fearful within the doctor-patient consultation about disclosing a condition which may be unacceptable to the physician. The dependency of the older person within this doctor-patient encounter echoes the other forms of dependence which often accompany growing older.

The function of the Etcetera clauses was suggested to be the provision of a socially acceptable method for accessing medical care for loneliness and socio-emotional problems for this age group. The clauses provide a socially agreed upon, indirect route to the doctor, for older adults with these conditions. It is permissible to discuss loneliness with the doctor; if it affects your physical health, if you happen to be visiting the doctor for some other reason, and if the doctor picks the condition up. However, the individual doctors decide whether or not they wish, or are able, to diagnose, acknowledge, or treat the condition of loneliness in older adults. At a societal level it is deemed appropriate that this should be the case.
Conclusions

It is argued that loneliness is a health risk to older adults deserving of greater recognition by medical practitioners. Evidence is also presented to support the view that loneliness in older adults is stigmatised and repressed in western societies. This common condition has been linked to increased reporting of health complaints and physician usage in this age group which has the potential for detrimental consequences for both the individual and for society. No model for the ways in which loneliness may foster primary medical care has previously been proposed or explored. The first study of this thesis was based on the Barsky (1981) model of social and emotional distress and doctor visiting. It was hypothesised that lonely, older adults would perceive their health less favourably, report their symptoms to be more frequent and severe, and focus on and worry about their symptoms to a greater extent than the non-lonely. In addition, few would report consulting their doctors explicitly for loneliness. The study also examined the prevalence of moderate to severe loneliness in this age group. Sociodemographic variables which might predispose towards, or precipitate, loneliness were also assessed in order to obtain a socio-demographic profile of a lonely, older adult which might facilitate the recognition of loneliness by general practitioners. Differences in the duration of loneliness indicating a need for further research were also explored.

A low response rate which restricted the power requirements of the first study, and the cross-sectional nature of the study design limit the generalisability of the findings. However, loneliness was considered a problem for one in seven of those sampled. Lonely participants were
most unlikely to present directly to their doctors with loneliness. They were more likely to consult because they perceived themselves to be less well generally and, particularly, because they viewed their symptoms to be more frequent and severe than did the less lonely participants. The social profile of these lonely, older adults provided indicators of loneliness which were easily accessible to the medical profession. Situational loneliness was associated with less education and lower perceived sufficiency of income, with a greater likelihood of being widowed, separated or divorced, and with living alone. It was also linked with considering physical disabilities to restrict social activities, a perceived lack of confidants, not belonging to a group with shared attitudes and values, having no regular activities outside of the home, and having moved home in the past year.

Using two distinct paradigms which included a quantitative study followed by a qualitative study allowed for both macro level and micro level explorations of loneliness and doctor-patient interactions for this age group. The second study investigated the dynamics of loneliness and doctor visiting by analysis of the discourses which older people use to explain their reasons for seeking medical care. The research offered an opportunity to explore the doctor’s part in the medical consultation for loneliness from the older person’s perspective. Possible explanations for the indirect presentation of loneliness to the doctor were sought. The study identified a number of themes, or interpretative repertoires, and rhetorical strategies which emerged from the texts of a group of older adults who were considered by their doctors to be both lonely and to be frequent physician users. An examination of the ways in which these themes and strategies were used by participants provided an insight into the culturally and historically specific social prescriptions for the ways in which older people present to their medical practitioners with loneliness. It was permissible to discuss loneliness and psychosocial issues with the doctor: if they affected your physical health; if you happened to be consulting the doctor for some other reason, or if the doctor “picked up” the problem. The main functions of the interpretative repertoires and etcetera clauses was hypothesised to be the self presentation of the patient as a “good patient”, and the support of the asymmetric power relationship of doctor and dependent older patient. Whether or not loneliness was defined as a condition worthy of discussion with the doctor depended on the point of view of the individual practitioner.
A major obstacle to the treatment of loneliness is apparent from the findings of the two project studies. The older patient is unlikely to present directly to the doctor when experiencing moderate to severe loneliness. This conclusion raises a number of questions. Who is responsible for alleviating loneliness in this age group? Is it older people themselves? An age related reduction in social contact is a well established finding in social gerontology. Establishing and maintaining satisfying social bonds is quite difficult for many people. It is even more difficult for older people to form new, intimate attachments, to increase their possibly depleted networks, or to feel part of a society which places scant value on the attributes of its older citizens. Socioemotional selective theory (Carstensen, 1991) argues that, relative to younger people, older people are less motivated to engage in emotionally meaningless but perhaps otherwise functional social contact, and make social choices based on the potential for emotional rewards derived from social interaction. Lang and Carstensen (1994) stated that the social worlds of very old people appear to be characterised by a high density of contact with emotionally meaningful social partners. It would seem then that older people know what they need in order to prevent loneliness, but are not always able to obtain it. If they cannot alleviate the condition themselves they then require assistance, and health professionals would seem to me to be the appropriate body to address this issue.

It appears increasingly obvious that existing medical practices are not appropriate for all the problems faced within the health field. Unfortunately, the general practitioner often receives insufficient education in the social sciences and is ill-equipped to deal with the interactional and social problems presented by patients, in particular older people. The medical world today may be enormously more ramified and specialised but now, as in the past, medical knowledge is inseparable from social relationships and social experiences. The disease entity needs to be seen as a social construct, as a socially generated way of grouping phenomena which endows them with particular significance. What is needed is the development of structures, institutions, and relationships which are conducive to forms of medicine able to deal with social problems such as loneliness.
Recommendations

Although limitations are imposed on the generalisability of the results due to the design of, and response to, the studies, the consistency of the findings of both studies suggests that loneliness is not openly addressed by older New Zealanders within the medical consultation. In addition, symptom amplification was considerably increased in those experiencing high levels of loneliness. Based on these findings the following recommendations are provided:

- A public health initiative to further investigate the problem of loneliness in older New Zealanders. This initiative could look at such matters as ethnic differences in the experience of loneliness, the support available, the type of support services needed to best reduce the effects of loneliness, and education of health professionals concerning loneliness.

- A public education response to the stigmatisation of loneliness, aimed at reducing the need for those experiencing loneliness to hide the condition.

- Education initiatives for general practitioners which would include teaching them:
  - To examine, and make necessary changes to, their own attitudes towards loneliness.
  - To understand the need to maintain a high index of suspicion, and not rely on patients raising the possibility that they are suffering from loneliness.
  - To look for symptoms, review additional risk factors, consider differential diagnoses, assess the evolution, severity, and duration, of loneliness.
  - To distinguish between transient, situational and chronic loneliness.
  - To be aware of the need to explore safety concerns such as the likelihood of self harm or substance abuse by lonely, older patients, or contributing stressors to loneliness, or available support during the experience of the condition.
  - How to monitor the older person who is experiencing loneliness, educate them about the causes and consequences of loneliness, and assist then with lifestyle changes which would alleviate the condition.
  - How to refer on to organisations which are prepared to intervene.
To be aware of the salience of easily recognisable sociodemographic factors which may predispose or precipitate towards loneliness.

To appreciate the type of assistance required by the referring practitioner if the patient is referred on, that is whether or not the referring doctor needs to take over management, to offer opinion and advice about further treatment, to participate in joint management of the patient.

To be cognisant of cultural issues and how to deal with them.

To gain an insight into privacy issues and the involvement of family and support networks for the older adult who is experiencing loneliness.

**Emerging issues**

Whilst treating loneliness would increase costs to the health sector, the resultant reductions in primary care consultations, and improved treatment outcomes, would be likely to result in significant economic and social benefits to the community as a whole in the medium term. Loneliness is a multifaceted disorder. There are many different treatment options and combinations of interventions which may be used to target the various symptoms. There is a serious iniquity in the New Zealand mental health service provision at present whereby only the most seriously ill are able to access the services. This affects the treatment options for lonely, older people. Currently general practitioners in New Zealand receive the same subsidy regardless of the length of consultation. Consultations for loneliness may take longer than those for a physical disorder. Consequently there may be a disincentive for general practitioners to search diligently for the condition. Some older patients are very resistant to the idea of psychological therapy which may thus be less acceptable than medication. The doctor may be most helpful in overcoming such reluctance. The choice of the most beneficial treatment will involve both the cost to the individual and to the health sector. The current shortfalls in, and barriers to, the provision of good clinical care for loneliness have been highlighted. Work is needed to identify changes which will reduce these barriers and promote improved access to primary health services for lonely older adults. The key to the treatment of loneliness is that people are offered treatments which have proven efficacy. In very general terms the most appropriate interventions at present include the removal where possible of obstacles which block
the older person's access to social networks, support for those experiencing situations which predispose toward or precipitate loneliness, and supportive counselling and ongoing monitoring of the person experiencing the condition. The essential component to strengthening health provision is to take a co-ordinated approach to health service provision for loneliness.

**New foci for research**

Some other studies which suggest themselves from the findings of the work reported here are:

- The development of a simple measure to enable doctors to screen their older patients for loneliness.
- The development of a single, satisfactory instrument with which to measure both situational and chronic loneliness. This would enable comparative research between these two types of loneliness and health outcomes to be attempted. It would also facilitate examination of distinctions between the two types of loneliness in regard to the perceived availability of a confidant and feelings of belonging to a group with shared attitudes and values.

- More studies of the meaning of loneliness to older people.
- More use of discourse analysis to investigate loneliness issues.
- Further research into appropriate interventions for loneliness.

To conclude, a number of points have become clearer as a result of this research. Although specific to this sample, sociodemographic and prevalence data concerning older New Zealanders has been provided. Some answers, again relevant to this sample at least, have been offered to the question of how loneliness might foster physician utilisation in this age group. Why lonely older adults present indirectly to their doctors has also been illuminated. Illness behaviour is structured and patterned according to specific expectations in the interaction between doctor and patient. Disease and sickness are products of general values relating to that which is esteemed significant within a given society. A better understanding of why, and how, this occurs could be helpful to doctors and other health professionals in order that high quality medical service is provided to older people.
REFERENCES


Zola, I. K. (1972). Studying the decision to see the doctor. Advances in Psychosomatic Medicine, 8, 216-236.
APPENDIX A

CONSENT FORMS AND COVERING LETTERS STUDIES 1 and 2

DOCTORS' LETTER STUDY 2

QUESTIONNAIRE STUDY 1
Consent to Participation In Research

Title of project: Reasons for Visiting the Doctor

Researcher: Loma Hector-Taylor

I have been given and have understood an explanation of this research project. I have been given an opportunity to ask questions about the study, and have them answered.

I understand that I may withdraw myself, or any information I have provided at any time (before data is completed), without having to give reasons.

I agree to take part in this research.

Signed:

Name: (Please print clearly)

Date:

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN SUBJECTS ETHICS COMMITTEE on June 15th/1994 for a period of two years, from 15/6/94.

Reference 1994/145
Consent to Participation In Research

Title of project: Reasons for Visiting the Doctor

Researcher: Loma Hector-Taylor

I have been given and have understood an explanation of this research project. I have been given an opportunity to ask questions about the study, and have them answered. I understand that I may withdraw myself, or any information I have provided at any time (before data is completed), without having to give reasons.

I agree to take part in this research.

I consent to the audio-taping of my interview.

Signed:

Name:

Address:

Phone number:

(Please print clearly)

Date:

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN SUBJECTS ETHICS COMMITTEE on 12th April 1995 for a period of two years, from 12/4/95 to 12/4/97.

Reference 1995/032
PARTICIPANT INFORMATION SHEET

PROJECT TITLE: REASONS FOR VISITING THE DOCTOR

You are invited to take part in a research project concerning the reasons for visiting the doctor of people over the age of 60 years. You may visit your doctor for many reasons other than treatment for medical problems. Sometimes you may want information, sometimes you may want a letter written or a form signed, and sometimes you just want to talk to your doctor when feeling distressed, upset, or lonely. I am interested in the reasons that older people have for visiting their doctors. Their reasons are often very different from those of other age groups. Information which you provide about your health needs, could help doctors to organise their practices in ways which would better meet the requirements of your particular age group. They could, for instance, provide faster or easier access to the doctor, or faster referrals for assistance for non-medical problems.

To investigate your reasons for visiting the doctor I would like you to fill in one questionnaire about your health, and your personal, and social needs. This will take you about 15-20 minutes to complete. Your information, and that of others, will show the pattern of people’s visits to their doctors. It is important to say that the questionnaire will not have your name on it, and I am not collecting information that will identify individuals in any way. Your responses to the questionnaire will remain confidential to the research, and will not be shown to anyone not directly concerned with the project.

It is also important to say that there are no "right" or "wrong" answers; I am just interested in your own view of things.

I hope that this study will give me valuable information about how people, in the 60+ age group, feel about their health, and why they visit their general practitioners. Should you have any questions about the study, or any worries after completing the questionnaire, you are welcome to ring Loma Hector-Taylor at 37-37599, ext. 6539, or Dr Peter Adams at 37-37599, ext. 6538. If you have any ethical concerns which you do not wish to address directly to the researcher, these may be addressed either to The Chair, Dr N. Dawson; telephone 37-37599, ext. 6204, University of Auckland Human Subjects Ethics Committee, (c/o Registry, University of Auckland), or to the Head of the Department of Psychiatry and Behavioural Science, Professor I. Fallow, School of Medicine, Park Rd, Auckland.

Finally, it is important that you note the following:

1. You are under no obligation to participate in this project.
2. You can withdraw your consent at any time.
3. Although the results of the study will have little direct benefit for you, they may increase knowledge about what people require from their visits to the doctor.

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN SUBJECTS ETHICS COMMITTEE on....../...... for a period of ...... years, from ....../....../......

Reference ....../......
PARTICIPANT INFORMATION SHEET

My name is Loma Hector-Taylor. I am a student at The University of Auckland conducting research and enrolled for a PhD Degree in the Department of Psychiatry and Behavioural Science at the Auckland School of Medicine. I am conducting this research for the purpose of my doctoral thesis on "Reasons for Visiting the Doctor in a 60+ Population", and have chosen this field because my experiences as a registered psychologist in private practice have highlighted the need for information about this topic. You are invited to take part in my research project, and I would appreciate any assistance you can offer me. As part of my thesis I am interviewing a number of people, over the age of sixty years, about their reasons for visiting their doctors. You may visit your doctor for many reasons other than treatment for medical problems. Sometimes you may want information, sometimes you may want a letter written or a form signed, and sometimes you just want to talk to your doctor when feeling distressed, upset, or lonely. I am interested in the reasons that older people have for visiting their doctors. Their reasons are often very different from those of other age groups. Information which you provide about your health needs, could help doctors to organise their practices in ways which would better meet the requirements of your particular age group. They could, for instance, provide faster or easier access to the doctor, or faster referrals for assistance for nonmedical problems.

To investigate your reasons for visiting the doctor I would like you to take part in an interview, at your home. Interviews would take about an hour of your time. I would prefer to audio tape the interview but this would only be done with your consent and could be turned off at any time, or you can withdraw information. All information you provide in an interview is confidential and your name will not be used on the tape. Thank you very much for your time and help in making this study possible. If you have any queries, or wish to know more, please phone me at home on 521-0898, or write to me at:

Department of Psychiatry and Behavioural Science
The University of Auckland
Private Bag 92019
Auckland
Phone 3737599, ext. 6539

My supervisor is:
Dr Peter Adams
Department of Psychiatry and Behavioural Science
The University of Auckland, Private Bag 92019, Auckland, Phone 3737599 extn. 6538

The Head of Department is:
Dr Robert Kidd
Department of Psychiatry and Behavioural Science
The University of Auckland, Private Bag 92019, Auckland. Phone 3737599 ext. 6750

For any queries regarding ethical concerns please contact:
Dr Noel Dawson
Chair, The University of Auckland Human Subjects Ethical Committee, The University of Auckland,
Finance Registry, Private Bag 92019, Auckland. Phone 3737599 extn.6204.

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN SUBJECTS ETHICS COMMITTEE on 12th April, 1995 for a period of two years, from 12.4.95/12.4.97. Reference 1995012.
Dear Doctor,

I would be most appreciative if you could generate subjects for my present research study. My initial study, just completed, was a survey of 505 subjects over the age of 60, which explored the relationship of loneliness to health outcomes. Preliminary results support the hypothesis that some lonely, elderly people transform their distress into physical symptoms. The second study is aimed at an examination of loneliness and physician utilisation in fine detail, in a small number of subjects.

I propose to conduct semi-structured interviews of approximately one hour, which will be used to facilitate discussion about the participant’s ideas and beliefs about loneliness in general, and about their ideas, rationale, and expectations of their doctors concerning the physical symptoms of their last consultation. If you could identify any of your patients who fulfil the following criteria, and ask them to participate in my study I would be most grateful.

The criteria for inclusion are:

1. That they are aged 60 years or over
2. That you consider that their some of their symptoms are unexplainable in light of the organic pathology, or lack of pathology
3. That they have presented to you twice or more in the last three months
4. That you consider them to be lonely

All that would be required of you would be for you to ask them to participate in the research and give them my contact phone number, which is 521-0898.

I thank you very much indeed in advance for your help,

Loma Hector-Taylor
Thank you for agreeing to participate in this study. This questionnaire contains six pages of questions. Please answer every question. There are no right or wrong answers, simply give your answers. You may feel like completing the questionnaire over several days, but I would appreciate its return within one week.

If you have any queries about the questionnaire please call Loma Hector-Taylor on 373-7599 Ext. 6539.

When you have completed all questions, on all six pages, please place your questionnaire in the self-addressed envelope and put it in the mail.
In which year were you born? 19

Are you female or male? (Please circle)

Would you say you are? (Please circle the number)
- European ........................................... 1
- Maori .................................................. 2
- Polynesian .......................................... 3
- Other (please specify) ................................ 4

How many years did you spend at school?
- Less than seven years .................................. 1
- More than seven years ................................ 2
- More than ten years ................................... 3

Did you complete any course at a Technical College or University? Yes/No

What is, or was your occupation? Please indicate if retired.

Occupation ______________________________________________________ Retired Yes/No

Is your income sufficient for your needs? Yes/No

Are you? (Please circle the number)
- Single .................................................. 1
- Married ............................................... 2
- Widowed ............................................. 3
- Separated or divorced ................................ 4

Now for some possible health reasons for visiting the doctor: (Please circle the number)

<table>
<thead>
<tr>
<th>Compared with others of your own age, how would you rate your health at present?</th>
<th>How do you feel about your life as a whole?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terrible 1</td>
<td>Terrible 1</td>
</tr>
<tr>
<td>Very poor 2</td>
<td>Unhappy 2</td>
</tr>
<tr>
<td>Poor 3</td>
<td>Mostly dissatisfied 3</td>
</tr>
<tr>
<td>Fair 4</td>
<td>Mixed 4</td>
</tr>
<tr>
<td>Good 5</td>
<td>Mostly satisfied 5</td>
</tr>
<tr>
<td>Very good 6</td>
<td>Pleased 6</td>
</tr>
<tr>
<td>Excellent 7</td>
<td>Delighted 7</td>
</tr>
</tbody>
</table>

Is your doctor currently treating you for any condition? (Please specify)

Do you have any of the following ongoing medical conditions? (Please circle the number)

- Problems with your heart ........................................ 1
- Problems with your lungs ....................................... 2
- Any form of cancer ........................................... 3
- Diabetes .................................................... 4
- Any other condition (Please specify) .......................... 5

How many times have you visited a doctor for the above conditions in the past 12 months? _____ times.

How many times have you been in hospital for the above conditions in the past 12 months? _____ times.
IN THE PAST THREE MONTHS, how frequently have you experienced the following complaints? (please tick)

<table>
<thead>
<tr>
<th>Complaint</th>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headaches</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Difficulty with sleeping</td>
<td></td>
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<tr>
<td>Poor appetite</td>
<td></td>
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<tr>
<td>Feeling tired</td>
<td></td>
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<tr>
<td>Feeling irritable</td>
<td></td>
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<tr>
<td>Coughs</td>
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<tr>
<td>Sore throats</td>
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<tr>
<td>Muscular aches or pains</td>
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<tr>
<td>Indigestion</td>
<td></td>
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<tr>
<td>Heartburn</td>
<td></td>
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<tr>
<td>Congested or stuffy nose</td>
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<tr>
<td>Skin rashes</td>
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<tr>
<td>Diarrhoea</td>
<td></td>
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<tr>
<td>Constipation</td>
<td></td>
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<tr>
<td>Shortness of breath</td>
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<tr>
<td>Pains in your stomach</td>
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</tbody>
</table>

HOW SERIOUS overall has the complaint been?

<table>
<thead>
<tr>
<th>Very serious</th>
<th>Quite serious</th>
<th>Not serious</th>
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</thead>
<tbody>
<tr>
<td></td>
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</table>

In the past three months, how many days in bed have you had because of the above conditions? ______ days.

In the past three months, how many times have you been unable to perform your usual activities because of the above complaints? ______ times.

In the past 12 months, how many times have you visited a doctor for these complaints? ______ times.

How many different doctors have you seen in the past 12 months for the above complaints? ______.

In the past three months, how often have you bought the following medicines from a shop and taken them:

- Pain killing tablets . . . . . . . . . . . . times.
- Indigestion tablets or mixture . . . . . . . . . times.
- Throat lozenges . . . . . . . . . . . . . . . . times.
- Laxatives . . . . . . . . . . . . . . . . times.
Now some possible social and relationship reasons for visiting a doctor:

IN THE PAST TWO WEEKS, how often have you felt the way described in each of the following statements? (Please tick the box of your choice)

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often have you felt that you were &quot;in tune&quot; with the people around you?</td>
<td></td>
<td></td>
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<tr>
<td>How often have you felt that you lacked companionship?</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>How often have you felt that there was no one to turn to?</td>
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<tr>
<td>How often have you felt alone?</td>
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<tr>
<td>How often have you felt part of a group of friends?</td>
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<tr>
<td>How often have you felt that you had a lot in common with people around you?</td>
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<tr>
<td>How often have you felt close to people?</td>
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<tr>
<td>How often have you felt your interests and ideas were not shared by those around you?</td>
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<tr>
<td>How often have you felt outgoing and friendly?</td>
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<tr>
<td>How often have you felt close to people?</td>
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<tr>
<td>How often have you felt left out?</td>
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<tr>
<td>How often have you felt your relationships with others were not meaningful?</td>
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<tr>
<td>How often have you felt that no one really knows you well?</td>
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<tr>
<td>How often have you felt isolated from others?</td>
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<tr>
<td>How often have you felt that you could find companionship when you wanted it?</td>
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<tr>
<td>How often have you felt that there were people who really understood you?</td>
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<td>How often have you felt shy?</td>
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<td>How often have you felt that there were people around you, but not with you?</td>
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<td>How often have you felt that you could talk to?</td>
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<tr>
<td>How often have you felt that there were people you could turn to?</td>
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</table>
LOOKING BACK OVER YOUR LIFE, how often have you felt this way?

<table>
<thead>
<tr>
<th>Question</th>
<th>Never</th>
<th>Rarely</th>
<th>Often</th>
<th>Always</th>
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<tr>
<td>How often have you felt that you were “in tune” with the people around you?</td>
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<tr>
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<td>How often have you felt shy?</td>
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<tr>
<td>How often have you felt that people were around you but not with you?</td>
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<tr>
<td>How often have you felt that there were people you could talk to?</td>
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<tr>
<td>How often have you felt that there were people you could turn to?</td>
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</tr>
</tbody>
</table>
Continuing with possible social reasons for visiting your doctor:

Does lack of transport limit your social activities?                     Yes/No
Does a physical disability stop you from socialising?                 Yes/No
Do you live alone?                                                     Yes/No
Do you feel part of a group who share your attitudes and values?      Yes/No
Do you attend some regular activity outside your home?                Yes/No

Do you have a person with whom you:
Feel very close                                                        Yes/No
Discuss important things                                              Yes/No
Visit uninvited                                                        Yes/No
Ask for help if needed                                                 Yes/No
Ring up (or seek out) for a chat when you feel like company          Yes/No

In the past year:
Has your husband or wife died?                                        Yes/No
Has a very close friend died?                                          Yes/No
Have you been divorced, or separated?                                 Yes/No
Have you moved house?                                                  Yes/No

How many times in the past year have you visited a doctor for any of the above reasons? ____ times.

Finally, some emotional, or mood changes which might give you reason to visit a doctor:

Please tick the box which best describes your feelings.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel that I am a person of worth, at least on an equal basis with others.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel that I have a number of good qualities.</td>
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</tr>
<tr>
<td>All in all, I am inclined to feel that I am a failure.</td>
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<tr>
<td>I am able to do things as well as most people.</td>
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<tr>
<td>I feel I do not have much to be proud of.</td>
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<tr>
<td>I take a positive attitude towards myself.</td>
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<tr>
<td>On the whole, I am satisfied with myself.</td>
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</tr>
<tr>
<td>I wish I could have more respect for myself.</td>
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<td></td>
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<tr>
<td>I certainly feel useless at times.</td>
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<tr>
<td>At times I think I am no good at all.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Please read each item below and UNDERLINE the reply which is closest to how you have been feeling OVER THE PAST THREE MONTHS. Don't spend too long over your answers. Your immediate reaction will be more accurate.

I feel tense or "wound up":
Most of the time
A lot of the time
From time to time, occasionally
Not at all

I still enjoy the things I used to enjoy:
Definitely as much
Not quite so much
Only a little
Hardly at all

I get a sort of frightened feeling as if something awful is going to happen:
Very definitely, and quite badly
Yes, but not too badly
A little, but it doesn't worry me
Not at all

I can laugh and see the funny side of things:
As much as I always could
Definitely not so much now
Not at all

Worrying thoughts go through my mind:
A great deal of the time
A lot of the time
From time to time, but not too often
Only occasionally

I feel cheerful:
Not at all
Not often
Sometimes
Most of the time

I can sit at ease and feel relaxed:
Definitely
Usually
Not often
Not at all

I feel as if I am slowed down:
Nearly all of the time
Very often
Sometimes
Not at all

I get a sort of feeling like butterflies in the stomach:
Not at all
Occasionally
Quite often
Very often

I have lost interest in my appearance:
Definitely
I don't take as much care as I should
I may not take quite as much care
I take just as much care as ever

I feel restless, as if I have to be on the move:
Very much indeed
Quite often
Not very often
Not at all

I look forward with enjoyment to things:
As much as I ever did
Rather less than I used to
Definitely less than I used to
Hardly at all

I get sudden feelings of panic:
Very often indeed
Quite often
Not very often
Not at all

I can enjoy a good book, or radio or TV programme:
Often
Sometimes
Not often
Very seldom

How often have you visited a doctor in the past 12 months for the above reasons? ____ times.

Thank you for completing this questionnaire. Please check that you have answered all the questions on all six pages, and signed the consent form, before placing them in the stamped envelope and posting it.
APPENDIX B
ADDITIONAL TABLES FOR
RESULTS OF STUDY 1
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Note: * = p < .05
Table 20. Correlations of situational and chronic loneliness scores with health outcome and confounding variables

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Note: * = p < .05
**Table 21. t test statistics, means, and standard deviations of sociodemographic variables by chronic loneliness**

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**Table 22. ANOVAS and Tukey HSD means, standard deviations, and pair wise comparisons of sociodemographic groups by chronic loneliness**

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<tr>
<td>Single</td>
<td>16</td>
<td>38.55</td>
<td>9.84</td>
<td>4.25</td>
<td>p = .0058</td>
<td>3</td>
<td>Group 2 differs significantly from groups 3 and 4</td>
</tr>
<tr>
<td>Married</td>
<td>160</td>
<td>36.54</td>
<td>8.87</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Widowed</td>
<td>88</td>
<td>40.67</td>
<td>12.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep/divorced</td>
<td>33</td>
<td>41.87</td>
<td>9.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‡ 7 years</td>
<td>18</td>
<td>46.33</td>
<td>15.01</td>
<td>6.09</td>
<td>p = .0026</td>
<td>2</td>
<td>Group 1 differs significantly from group 3</td>
</tr>
<tr>
<td>‡ 10 years</td>
<td>136</td>
<td>37.88</td>
<td>9.81</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>↑ 10 years</td>
<td>134</td>
<td>37.23</td>
<td>9.46</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socioeconomic status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional</td>
<td>50</td>
<td>40.08</td>
<td>10.23</td>
<td>2.66</td>
<td>p = .0231</td>
<td>5</td>
<td>Group 1 differs significantly from group 5</td>
</tr>
<tr>
<td>Manager/exec</td>
<td>14</td>
<td>40.14</td>
<td>9.94</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clerical</td>
<td>88</td>
<td>37.89</td>
<td>8.32</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skilled</td>
<td>38</td>
<td>40.05</td>
<td>8.36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-skilled</td>
<td>46</td>
<td>34.32</td>
<td>10.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unskilled</td>
<td>3</td>
<td>33.67</td>
<td>8.74</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 23. t test statistics, mean chronic loneliness scores, and standard deviations for loneliness predisposing variables by chronic loneliness (t corrected for unequal variance).**

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean loneliness score</th>
<th>t statistic</th>
<th>Significance</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has transport</td>
<td>237</td>
<td>37.95</td>
<td>-1.51</td>
<td>p = .1345</td>
<td>89.7</td>
</tr>
<tr>
<td>No transport</td>
<td>54</td>
<td>40.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disabled</td>
<td>40</td>
<td>41.88</td>
<td>-2.17</td>
<td>p = .0350</td>
<td>49</td>
</tr>
<tr>
<td>Not disabled</td>
<td>250</td>
<td>37.76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lives alone</td>
<td>100</td>
<td>40.66</td>
<td>-2.75</td>
<td>p = .0065</td>
<td>189.1</td>
</tr>
<tr>
<td>Shares home</td>
<td>190</td>
<td>37.16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part of group</td>
<td>217</td>
<td>35.77</td>
<td>6.69</td>
<td>p = .0001</td>
<td>91</td>
</tr>
<tr>
<td>Not part of group</td>
<td>73</td>
<td>46.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out of home activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has activity</td>
<td>211</td>
<td>37.36</td>
<td>2.53</td>
<td>p = .0058</td>
<td>287</td>
</tr>
<tr>
<td>No activity</td>
<td>78</td>
<td>41.06</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Perceived confidant

<table>
<thead>
<tr>
<th>Has confidant</th>
<th>251</th>
<th>36.97</th>
<th>6.91</th>
<th>p = .0001</th>
</tr>
</thead>
<tbody>
<tr>
<td>No confidant</td>
<td>34</td>
<td>48.91</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 24. t test statistics, mean chronic loneliness scores, and standard deviations for loneliness precipitating variables experienced in the past year by chronic loneliness.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean Loneliness score</th>
<th>t</th>
<th>Significance</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death of a spouse</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death</td>
<td>23</td>
<td>38.20</td>
<td>0.08</td>
<td>p = 9.346</td>
<td></td>
</tr>
<tr>
<td>No death</td>
<td>257</td>
<td>38.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death of a close friend</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death</td>
<td>102</td>
<td>38.12</td>
<td>0.77</td>
<td>p = 0.786</td>
<td></td>
</tr>
<tr>
<td>No death</td>
<td>181</td>
<td>38.31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separation/divorce</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep/div</td>
<td>24</td>
<td>40.50</td>
<td>2.3</td>
<td>p = 0.274</td>
<td></td>
</tr>
<tr>
<td>Not sep/div</td>
<td>262</td>
<td>38.11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moved house</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moved</td>
<td>36</td>
<td>42.11</td>
<td>-2.47</td>
<td>p = 0.0175</td>
<td></td>
</tr>
<tr>
<td>Not moved</td>
<td>251</td>
<td>37.72</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 25. Significant variables remaining in the model following stepwise regression of significantly correlated sociodemographic variables and chronic loneliness.

Overall multiple regression $R^2 = 0.33, F(28.06, p = 0.0001, df = 227)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Parameter estimate</th>
<th>Standard error</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived confidant</td>
<td>-2.67</td>
<td>0.43</td>
<td>37.82</td>
<td>0.0001</td>
</tr>
<tr>
<td>Group</td>
<td>-4.77</td>
<td>1.36</td>
<td>12.31</td>
<td>0.0001</td>
</tr>
<tr>
<td>Occupation</td>
<td>-1.36</td>
<td>0.37</td>
<td>13.64</td>
<td>0.0003</td>
</tr>
</tbody>
</table>

Table 26. Variance accounted for by significant variables remaining in the model following stepwise regression of sociodemographic variables on chronic loneliness.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Partial $R^2$</th>
<th>Adjusted $R^2$</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidant</td>
<td>0.25</td>
<td>0.25</td>
<td>73.73</td>
<td>0.0001</td>
</tr>
<tr>
<td>Group</td>
<td>0.04</td>
<td>0.29</td>
<td>12.91</td>
<td>0.0004</td>
</tr>
<tr>
<td>Occupation</td>
<td>0.04</td>
<td>0.32</td>
<td>12.61</td>
<td>0.0005</td>
</tr>
</tbody>
</table>

Table 27. Means and standard deviations of high and low chronic loneliness groups.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low trait loneliness</td>
<td>248</td>
<td>34.94</td>
<td>6.16</td>
</tr>
<tr>
<td>High trait loneliness</td>
<td>44</td>
<td>57.50</td>
<td>6.01</td>
</tr>
</tbody>
</table>

Table 28. Means and standard deviations of types of self medication in the past three months, and total medication scores.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indigestion mixture or tablets</td>
<td>1.24</td>
<td>7.60</td>
<td>0-90</td>
</tr>
<tr>
<td>Pain killing tablets</td>
<td>1.92</td>
<td>8.60</td>
<td>0-90</td>
</tr>
<tr>
<td>Symptom</td>
<td>Mean</td>
<td>Standard deviation</td>
<td>N</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>------</td>
<td>--------------------</td>
<td>----</td>
</tr>
<tr>
<td>Throat lozenges</td>
<td>0.96</td>
<td>5.53</td>
<td>0-30</td>
</tr>
<tr>
<td>Laxatives</td>
<td>1.24</td>
<td>9.09</td>
<td>0-90</td>
</tr>
<tr>
<td>Total self medication score</td>
<td>4.78</td>
<td>16.52</td>
<td>0-180</td>
</tr>
</tbody>
</table>

Table 29. Ranked means and standard deviations of symptom frequency

Table 30. Ranked means and standard deviations of symptom severity
Table 31. ANOVAS of health variables by high and low chronic loneliness groups (Group 1 = low loneliness, group 2 = high loneliness)

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Group 1 Mean</th>
<th>Group 2 Mean</th>
<th>S.D.</th>
<th>R²</th>
<th>F</th>
<th>P</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self rated health</td>
<td>255</td>
<td>Grp1 5.41</td>
<td>Grp2 4.43</td>
<td>0.98</td>
<td>0.10</td>
<td>34.43</td>
<td>0.0001</td>
<td>1.298</td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>253</td>
<td>Grp1 5.60</td>
<td>Grp2 4.27</td>
<td>0.86</td>
<td>0.21</td>
<td>78.29</td>
<td>0.0001</td>
<td>1.296</td>
</tr>
<tr>
<td>Symptom frequency</td>
<td>256</td>
<td>Grp1 08.13</td>
<td>Grp2 18.96</td>
<td>7.70</td>
<td>0.19</td>
<td>69.37</td>
<td>0.0001</td>
<td>1.299</td>
</tr>
<tr>
<td>Symptom severity</td>
<td>256</td>
<td>Grp1 05.67</td>
<td>Grp2 16.48</td>
<td>5.26</td>
<td>0.29</td>
<td>120.12</td>
<td>0.0001</td>
<td>1.299</td>
</tr>
<tr>
<td>Self medication</td>
<td>253</td>
<td>Grp1 4.00</td>
<td>Grp2 9.30</td>
<td>16.43</td>
<td>0.01</td>
<td>3.9</td>
<td>0.0492</td>
<td>1.296</td>
</tr>
<tr>
<td>Restricted activity</td>
<td>253</td>
<td>Grp1 1.19</td>
<td>Grp2 4.93</td>
<td>4.87</td>
<td>0.07</td>
<td>21.37</td>
<td>0.0001</td>
<td>1.299</td>
</tr>
<tr>
<td>Bed days</td>
<td>256</td>
<td>Grp1 0.71</td>
<td>Grp2 4.05</td>
<td>2.41</td>
<td>0.13</td>
<td>45.33</td>
<td>0.0001</td>
<td>1.286</td>
</tr>
<tr>
<td>Total number of doctor visits</td>
<td>245</td>
<td>Grp1 5.43</td>
<td>Grp2 8.45</td>
<td>8.16</td>
<td>0.02</td>
<td>5.37</td>
<td>0.0212</td>
<td>1.289</td>
</tr>
</tbody>
</table>

Table 32. Results of Chi-square analysis of high and low chronic loneliness and whether or not respondent has visited more than one doctor for symptoms (Group 1 = low loneliness, group 2 = high loneliness).

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Percentage proportion of those visiting more than one doctor</th>
<th>X²</th>
<th>P</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>256</td>
<td>14%</td>
<td>12.39</td>
<td>.001</td>
<td>1</td>
</tr>
<tr>
<td>Group 2</td>
<td>44</td>
<td>37%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 33. Results of Kruskall Wallis Chi-square analysis of high and low situational loneliness groups and health outcome variables (Group 1 = high loneliness, group 2 = low loneliness)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Chi-square</th>
<th>DF</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restricted activity because of symptoms</td>
<td>Grp1 43</td>
<td>Grp2 254</td>
<td>40.68</td>
<td>1</td>
<td>0.0001</td>
</tr>
<tr>
<td>Days in bed because of symptoms</td>
<td>Grp1 43</td>
<td>Grp2 257</td>
<td>35.94</td>
<td>1</td>
<td>0.0001</td>
</tr>
<tr>
<td>Visited more than one doctor for symptoms</td>
<td>Grp1 43</td>
<td>Grp2 257</td>
<td>10.20</td>
<td>1</td>
<td>0.0014</td>
</tr>
<tr>
<td>Total number of doctor visits</td>
<td>Grp1 43</td>
<td>Grp2 246</td>
<td>28.67</td>
<td>1</td>
<td>0.0001</td>
</tr>
<tr>
<td>Self medication</td>
<td>Grp1 42</td>
<td>Grp2 255</td>
<td>25.06</td>
<td>1</td>
<td>0.0001</td>
</tr>
</tbody>
</table>
Table 34. Results of Kruskall Wallis Chi-square analysis of high and low chronic loneliness groups and health outcome variables (Group 1 = high loneliness, group 2 = low loneliness)

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Chi-square</th>
<th>DF</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restricted activity because of symptoms</td>
<td>Group 1 44 Group 2 253</td>
<td>29.89</td>
<td>1</td>
<td>0.0001</td>
</tr>
<tr>
<td>Days in bed because of symptoms</td>
<td>Group 1 44 Group 2 256</td>
<td>25.53</td>
<td>1</td>
<td>0.0001</td>
</tr>
<tr>
<td>Visited more than one doctor for symptoms</td>
<td>Group 1 41 Group 2 256</td>
<td>28.67</td>
<td>1</td>
<td>0.0001</td>
</tr>
<tr>
<td>Total number of doctor visits</td>
<td>Group 1 44 Group 2 245</td>
<td>15.82</td>
<td>1</td>
<td>0.0001</td>
</tr>
<tr>
<td>Self medication</td>
<td>Group 1 44 Group 2 253</td>
<td>20.27</td>
<td>1</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

Table 35. Zero-order and partial correlations of health variables with situational loneliness (Controlling for self esteem, N=258)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Zero-order r</th>
<th>Partial r</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self rated health</td>
<td>-0.48*</td>
<td>-0.41*</td>
<td>5.29</td>
<td>1.09</td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>-0.65*</td>
<td>-0.57*</td>
<td>5.42</td>
<td>1.03</td>
</tr>
<tr>
<td>Symptom frequency</td>
<td>0.62*</td>
<td>0.58*</td>
<td>9.60</td>
<td>8.57</td>
</tr>
<tr>
<td>Symptom severity</td>
<td>0.68*</td>
<td>0.62*</td>
<td>7.41</td>
<td>7.24</td>
</tr>
<tr>
<td>Restricted activity</td>
<td>0.34*</td>
<td>0.32*</td>
<td>1.82</td>
<td>5.51</td>
</tr>
<tr>
<td>Bed days</td>
<td>0.38*</td>
<td>0.35*</td>
<td>1.23</td>
<td>3.38</td>
</tr>
<tr>
<td>Self medication</td>
<td>0.12*</td>
<td>0.10</td>
<td>4.16</td>
<td>14.72</td>
</tr>
<tr>
<td>Total number of doctor visits</td>
<td>0.23*</td>
<td>0.19*</td>
<td>5.90</td>
<td>8.22</td>
</tr>
<tr>
<td>Visited more than one doctor</td>
<td>0.23**</td>
<td>0.18</td>
<td>1.18</td>
<td>0.39</td>
</tr>
<tr>
<td>Self esteem</td>
<td></td>
<td></td>
<td>33.44</td>
<td>4.08</td>
</tr>
<tr>
<td>Loneliness</td>
<td></td>
<td></td>
<td>36.02</td>
<td>11.31</td>
</tr>
</tbody>
</table>

N.B. * p=.0001, ** p=<.02, *** p=<.05.

Table 36. Zero-order and partial correlations of health variables with situational loneliness (Controlling for anxiety, N=273)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Zero-order r</th>
<th>Partial r</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self rated health</td>
<td>-0.48*</td>
<td>-0.43*</td>
<td>5.29</td>
<td>1.08</td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>-0.65*</td>
<td>-0.58*</td>
<td>5.41</td>
<td>1.04</td>
</tr>
<tr>
<td>Symptom frequency</td>
<td>0.62*</td>
<td>0.54*</td>
<td>9.57</td>
<td>8.65</td>
</tr>
<tr>
<td>Symptom severity</td>
<td>0.68*</td>
<td>0.61*</td>
<td>7.25</td>
<td>7.06</td>
</tr>
<tr>
<td>Restricted activity</td>
<td>0.34*</td>
<td>0.30*</td>
<td>1.70</td>
<td>5.30</td>
</tr>
<tr>
<td>Bed days</td>
<td>0.38*</td>
<td>0.37*</td>
<td>1.16</td>
<td>3.27</td>
</tr>
</tbody>
</table>
### Table 37. Zero-order and partial correlations of health variables with situational loneliness
(Controlling for depression, N275)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Zero-order $r$</th>
<th>Partial $r$</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self rated health</td>
<td>-0.48*</td>
<td>-0.32*</td>
<td>5.28</td>
<td>1.09</td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>-0.65*</td>
<td>-0.51*</td>
<td>5.40</td>
<td>1.05</td>
</tr>
<tr>
<td>Symptom frequency</td>
<td>0.62*</td>
<td>0.51*</td>
<td>9.62</td>
<td>8.82</td>
</tr>
<tr>
<td>Symptom severity</td>
<td>0.68*</td>
<td>0.59*</td>
<td>7.27</td>
<td>7.12</td>
</tr>
<tr>
<td>Restricted activity</td>
<td>0.34*</td>
<td>0.19*</td>
<td>1.68</td>
<td>5.27</td>
</tr>
<tr>
<td>Bed days</td>
<td>0.38*</td>
<td>0.29*</td>
<td>1.20</td>
<td>3.32</td>
</tr>
<tr>
<td>Self medication</td>
<td>0.12*</td>
<td>0.09</td>
<td>4.31</td>
<td>15.43</td>
</tr>
<tr>
<td>Total number of doctor visits</td>
<td>0.23*</td>
<td>0.02</td>
<td>5.83</td>
<td>8.13</td>
</tr>
<tr>
<td>Visited more than one doctor</td>
<td>0.23*</td>
<td>0.11</td>
<td>1.18</td>
<td>0.38</td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
<td>3.43</td>
<td>2.39</td>
</tr>
<tr>
<td>Loneliness</td>
<td></td>
<td></td>
<td>36.10</td>
<td>11.38</td>
</tr>
</tbody>
</table>

N.B. * $p<.001$, ** $p<.02$, *** $p<.05$.

### Table 38. Zero-order and partial correlations of health variables with situational loneliness
(Controlling for negative affect, N242)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Zero-order $r$</th>
<th>Partial $r$</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self rated health</td>
<td>-0.48*</td>
<td>-0.33*</td>
<td>5.30</td>
<td>1.00</td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>-0.65*</td>
<td>-0.48*</td>
<td>5.44</td>
<td>1.04</td>
</tr>
<tr>
<td>Symptom frequency</td>
<td>0.62*</td>
<td>0.50*</td>
<td>9.29</td>
<td>8.37</td>
</tr>
<tr>
<td>Symptom severity</td>
<td>0.68*</td>
<td>0.55*</td>
<td>7.26</td>
<td>7.11</td>
</tr>
<tr>
<td>Restricted activity</td>
<td>0.34*</td>
<td>0.36*</td>
<td>1.47</td>
<td>3.89</td>
</tr>
<tr>
<td>Bed days</td>
<td>0.38*</td>
<td>0.33*</td>
<td>1.22</td>
<td>3.39</td>
</tr>
<tr>
<td>Self medication</td>
<td>0.12*</td>
<td>0.11</td>
<td>4.05</td>
<td>14.60</td>
</tr>
<tr>
<td>Total number of doctor visits</td>
<td>0.23*</td>
<td>0.11</td>
<td>5.36</td>
<td>6.71</td>
</tr>
<tr>
<td>Visited more than one doctor</td>
<td>0.23*</td>
<td>0.15**</td>
<td>1.18</td>
<td>0.39</td>
</tr>
</tbody>
</table>

N.B. * $p<.001$, ** $p<.02$, *** $p<.05$. 
Table 39. Zero-order and partial correlations of health variables with chronic loneliness (Controlling for self esteem, N258)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Zero-order r</th>
<th>Partial r</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self rated health</td>
<td>-0.43*</td>
<td>-0.36*</td>
<td>5.29</td>
<td>1.09</td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>-0.53*</td>
<td>-0.46*</td>
<td>5.42</td>
<td>1.03</td>
</tr>
<tr>
<td>Symptom frequency</td>
<td>0.52*</td>
<td>0.48*</td>
<td>9.58</td>
<td>8.59</td>
</tr>
<tr>
<td>Symptom severity</td>
<td>0.55*</td>
<td>0.49*</td>
<td>7.42</td>
<td>7.25</td>
</tr>
<tr>
<td>Restricted activity</td>
<td>0.31*</td>
<td>0.27*</td>
<td>1.83</td>
<td>5.52</td>
</tr>
<tr>
<td>Bed days</td>
<td>0.35*</td>
<td>0.31*</td>
<td>1.22</td>
<td>3.38</td>
</tr>
<tr>
<td>Self medication</td>
<td>0.17</td>
<td>0.09</td>
<td>4.17</td>
<td>14.74</td>
</tr>
<tr>
<td>Total number of doctor visits</td>
<td>0.21*</td>
<td>0.18*</td>
<td>5.89</td>
<td>8.24</td>
</tr>
<tr>
<td>Visited more than one doctor</td>
<td>0.26*</td>
<td>0.22*</td>
<td>1.18</td>
<td>0.39</td>
</tr>
<tr>
<td>Self esteem</td>
<td>33.42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loneliness</td>
<td>38.40</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N.B. * p=<.001, ** p=<.02, *** p=<.05.

Table 40. Zero-order and partial correlations of health variables with chronic loneliness (Controlling for anxiety, N272)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Zero-order r</th>
<th>Partial r</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
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<td>-0.43*</td>
<td>-0.37*</td>
<td>5.30</td>
<td>1.08</td>
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<tr>
<td>Life satisfaction</td>
<td>-0.53*</td>
<td>-0.44*</td>
<td>5.41</td>
<td>1.04</td>
</tr>
<tr>
<td>Symptom frequency</td>
<td>0.52*</td>
<td>0.42*</td>
<td>9.57</td>
<td>8.67</td>
</tr>
<tr>
<td>Symptom severity</td>
<td>0.55*</td>
<td>0.46*</td>
<td>7.26</td>
<td>7.07</td>
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<tr>
<td>Restricted activity</td>
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<td>0.25*</td>
<td>1.71</td>
<td>5.31</td>
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<tr>
<td>Bed days</td>
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<td>0.33*</td>
<td>1.15</td>
<td>3.27</td>
</tr>
<tr>
<td>Self medication</td>
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<td>0.09</td>
<td>4.36</td>
<td>15.51</td>
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<tr>
<td>Total number of doctor visits</td>
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<tr>
<td>Loneliness</td>
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<td></td>
<td>10.29</td>
</tr>
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</table>

N.B. * p=<.001, ** p=<.02, *** p=<.05.
Table 41. Zero-order and partial correlations of health variables with chronic loneliness (Controlling for depression, N=275)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Zero-order r</th>
<th>Partial r</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self rated health</td>
<td>-0.43*</td>
<td>-0.30*</td>
<td>5.28</td>
<td>1.09</td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>-0.53*</td>
<td>-0.40*</td>
<td>5.40</td>
<td>1.05</td>
</tr>
<tr>
<td>Symptom frequency</td>
<td>0.52*</td>
<td>0.42*</td>
<td>9.62</td>
<td>8.83</td>
</tr>
<tr>
<td>Symptom severity</td>
<td>0.55*</td>
<td>0.46*</td>
<td>7.28</td>
<td>7.13</td>
</tr>
<tr>
<td>Restricted activity</td>
<td>0.31*</td>
<td>0.19*</td>
<td>1.69</td>
<td>5.28</td>
</tr>
<tr>
<td>Bed days</td>
<td>0.35*</td>
<td>0.27*</td>
<td>1.19</td>
<td>3.32</td>
</tr>
<tr>
<td>Self medication</td>
<td>0.17</td>
<td>0.09</td>
<td>4.32</td>
<td>15.46</td>
</tr>
<tr>
<td>Total number of doctor visits</td>
<td>0.21*</td>
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<td>5.83</td>
<td>8.14</td>
</tr>
<tr>
<td>Visited more than one doctor</td>
<td>0.26*</td>
<td>0.18*</td>
<td>1.18</td>
<td>0.38</td>
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<td>Depression</td>
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<td>Loneliness</td>
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<td>10.34</td>
</tr>
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</table>

N.B. * p<.001, ** p<.02, *** p<.05.

Table 42. Zero-order and partial correlations of health variables with chronic loneliness (Controlling for negative affect, N=242)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Zero-order r</th>
<th>Partial r</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self rated health</td>
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<td>-0.27*</td>
<td>5.30</td>
<td>1.01</td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>-0.53*</td>
<td>-0.34*</td>
<td>5.44</td>
<td>1.04</td>
</tr>
<tr>
<td>Symptom frequency</td>
<td>0.52*</td>
<td>0.38*</td>
<td>9.27</td>
<td>8.39</td>
</tr>
<tr>
<td>Symptom severity</td>
<td>0.55*</td>
<td>0.40*</td>
<td>7.28</td>
<td>7.12</td>
</tr>
<tr>
<td>Restricted activity</td>
<td>0.31*</td>
<td>0.28*</td>
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<td>3.87</td>
</tr>
<tr>
<td>Bed days</td>
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<td>0.28*</td>
<td>1.21</td>
<td>3.39</td>
</tr>
<tr>
<td>Self medication</td>
<td>0.17</td>
<td>0.07</td>
<td>4.07</td>
<td>14.63</td>
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<tr>
<td>Total number of doctor visits</td>
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<td>6.72</td>
</tr>
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<td>0.26*</td>
<td>0.21*</td>
<td>1.18</td>
<td>0.39</td>
</tr>
<tr>
<td>Negative affect</td>
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<td></td>
<td>2.76</td>
<td>0.96</td>
</tr>
<tr>
<td>Loneliness</td>
<td></td>
<td></td>
<td>38.11</td>
<td>10.37</td>
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</tbody>
</table>

N.B. * p<.001, ** p<.02, *** p<.05.
Table 43. Stepwise regressions of chronic loneliness on health outcome variables with current and chronic medical conditions and negative affect forced into the first step

<table>
<thead>
<tr>
<th>Criterion variable</th>
<th>R² of current and chronic medical conditions and negative affect</th>
<th>Partial R² for chronic loneliness</th>
<th>Adjusted R²</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self rated health</td>
<td>0.29</td>
<td>0.06</td>
<td>0.34</td>
<td>19.76</td>
<td>0.0001</td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>0.37</td>
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<td>0.44</td>
<td>32.43</td>
<td>0.0001</td>
</tr>
<tr>
<td>Symptom frequency</td>
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<td>0.11</td>
<td>0.38</td>
<td>42.52</td>
<td>0.0001</td>
</tr>
<tr>
<td>Symptom severity</td>
<td>0.25</td>
<td>0.12</td>
<td>0.37</td>
<td>44.70</td>
<td>0.0001</td>
</tr>
<tr>
<td>Bed days</td>
<td>0.04</td>
<td>0.07</td>
<td>0.13</td>
<td>19.69</td>
<td>0.0001</td>
</tr>
<tr>
<td>Restricted activity</td>
<td>0.07</td>
<td>0.06</td>
<td>0.17</td>
<td>21.13</td>
<td>0.0001</td>
</tr>
<tr>
<td>Self medication</td>
<td>0.005</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total number of doctor visits</td>
<td>0.21</td>
<td>0.01</td>
<td>0.22</td>
<td>3.46</td>
<td>0.0642</td>
</tr>
</tbody>
</table>

Table 44. Logistic regression of current and chronic medical conditions, negative affect and chronic loneliness on whether or not respondent has visited more than one doctor for symptoms

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Chi-square for covariates including chronic loneliness 39.85, DF4, p = 0.001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current medical condition</td>
<td>Parameter estimate</td>
</tr>
<tr>
<td></td>
<td>-0.82</td>
</tr>
<tr>
<td>Chronic medical condition</td>
<td>1.70</td>
</tr>
<tr>
<td>Negative affect</td>
<td>-0.14</td>
</tr>
<tr>
<td>Chron. Loneliness</td>
<td>-0.07</td>
</tr>
</tbody>
</table>
APPENDIX C
EXAMPLES OF INTERPRETATIVE
REPERTOIRES
N.B. L: = Interviewer, S: = Speaker: All material in brackets in the examples is added by the researcher to aid clarity of presentation.

Analysis 1. Themes and repertoires used to explain frequent consultations.
1. "The real/definite symptoms repertoire" :

(a.) Symptoms must be real or definite.

For example:
Tape 10: 63 year old woman
Line 1
L: What sort of things would you say were good reasons for going to the doctor?
S: Well I don't know whether it would be symptom of something, and I, I mean it would have to show up by, I wouldn't dream it up. It would definitely be there.
L: What sort of symptom do you mean, a physical symptom?
S: Oh yes, a physical symptom, you know something...
L: Like?
S: Like my cough at the moment, that would, I have asked Dr. D. about that so um yes it would have to be something definite. I might show it to my daughter and say "What do you think of this? Do you think I should go and do something about it?" If I got a little bit of eczema and I showed it to my doctor yesterday, and I have had this for some time and I thought "Oh, well I am here" so I was there for something else so I may as well show you this. Yes so otherwise it would have to be a definite symptom. I don't just go.
L: A physical symptom?
S: Yes it would be a physical symptom, I just don't go the doctor, well I didn't think I went terribly often but my doctor showed me over the years you know of all the different types of things I have been to see him for and ah, so anyway, um, a bit...

Tape 11: 75 year old man.
Line 395
S: I think it is the type of person, some people would go to the doctor for any reason, others they would have to have a definite reason.

Tape 3: 85 year old woman
Line 386
L: Yes, and you enjoy going? (to the doctor).
S: I am not afraid to go and they are most interested. They know I wouldn't go if I didn't have something worthwhile you know to go for.
L: What do you mean by worthwhile?
S: Well, some real complaint.
And later:

Line 412

L: ...which ones (symptoms) do you think are real, that you should go to a doctor for, and which ones are not?
S: Well, I have shaky hands and I have had them for years. One time they thought I might be getting Parkinson's disease but it didn't turn out...
L: Well, I'm glad of that.
S: And I do take half of a tablet in the morning and half a tablet at night for it.
L: So that is a real symptom?
S: Yes.

(b.) Physical symptoms which require continuous monitoring or medication are given priority.

For example:

Tape 5: 71 year old woman.

Line 16

L: So, if you were to think back and to think about the sort of symptoms...
S: Oh, my back. I've got a back problem and I have had that I suppose since I was in my twenties, and now it is degeneration of the spine, so F gives me anti-flammatories, and otherwise if I didn't take them the back seems up and I can hardly walk, so you know the discs. But also I have a girl that is very good. Am I talking loudly enough?
L: Yes, yes, that is lovely.
S: Who is very good at massage. She is a physiotherapist and she does home visits, comes once a week and she just massages it and keeps it going.
L: And you find that is helpful?
S: Very helpful, and I take half an anti-flammatory a day, just you know to keep my back going.

Tape 13: 66 year old woman.

Line 4

L: So, I'd just like to ask you about the sorts of symptoms you think are good reasons for somebody to go and visit their doctor. What would you think are good reasons?
S: Well, I have got constant pain in my mouth, and then the roof of my mouth and under my tongue get very red and the saliva glands come up, and I go quite regularly to the doctor and he treats by blood pressure and he checks my mouth because it changes more or less from week to week. It is never the same two weeks running.

Further on in the interview:

Line 139

L: Right, and how often would you go to see him? (the doctor).
S: Oh, maybe the last time was a week ago, but it was three weeks, no it would be two to three weeks if I can hold out that long, but if it is getting very painful I will go and see him just at ...
And later still:
Line 187

S: I don't go for the sake of going, I go for him to have a look at my mouth and tell me because I can't see as well as he can with his, I can see with my torch but he can see better. Looking into my mouth to see what it is like.

c). Medication or monitoring then provide the rationale for further consultations.

For example:
Tape 7: 84 year old woman.
Line 51

L: Does your doctor visit you here now?
S: She has never offered, she has been, F. called once but usually when I go down, I have got tablets about this long, the others are on repeat and she likes to see me once a month so that is why I go down mainly.

Tape 1: 82 year old woman.
Line 137

L: Could you tell me what happened and why you were there (at the doctor)
S: Oh well, I go for a three monthly check up because I have angina.
L: Yes.
S: And uh, blood pressure and I have to make sure that the tablets they are giving me are doing the job.

Tape 2: 82 year old woman.
Line 613

L: O.K. So, um, the symptoms that you think would be ... severe pain would be a good reason for going to the doctor?
S: Oh, I don't know, I had to go to the doctor to get the prednisone see.
L: So that, you needed some?
S: I was on them for two years.
L: So you had to keep going back to get it.

Tape 10: 63 year old woman.
Line 68

L: So what did you go for?
S: I don't remember, probably to have my tablets replaced. I am on blood pressure tablets, and, um, a moduretic tablet for fluid retention, and oh, and I have one for sleeping as well, a small one.

(c). The doctor wants to keep an eye on me.

Tape 2: 82 year old female
Line 630

L: Good. And when you go to the doctor you usually expect to have some sort of medication? Is that what you go for?
S: Well, I go because J. (the doctor) wants to keep an eye on me, and you see I'd been the night before and had blood taken.
Tape 6: 80 year old woman.
Line 10
S: Well, I have always gone to Doctor C. He has been by doctor for many years and I trust him implicitly and he has looked after me. I suffered from polymyalgia and that's the reason I have to keep in touch, and he keeps an eye on me.

Tape 13: 66 year old woman.
Line 187
S: I don’t go for the sake of going, I go for him to have a look at my mouth and tell me because I can't see as well as he can with his, I can see with my torch but he can see better. Looking into my mouth to see what it is like

Recurrent theme of repertoire:

I consult for real/definite symptoms for which the doctor wishes to provide ongoing medication or monitoring.

2. "Doctor as best friend repertoire":

(a). The relationship with the doctor spans a long period.

For example:
Tape 12: 63 year old man.
Line 129
L: Have you been to other doctors before that, or have you been to him for a long time?
S: No, I have been to him for the last 20 years.

Tape 13: 66 year old woman.
Line 207
L: Mmmm, that is a long relationship.
S: Yes it would be even longer than that, 25 I would say. Because my son is 33 now and I dare say we went to him around about the age he would have been then would be more like 25 years I think. The longest Dr. Y. has been in H., I don't know just how long he has been in H.

Tape 14: 81 year old woman.
Line 190
L: How long have you been going to him?
S: Oh well, I have been here in Auckland 20 years so I have been going to him all that time...

(b). I think of him/her more as a friend than a doctor
For example:

Tape 6: 80 year old woman.
Line 108

L: Isn't that good! And do they (Community Helpers) take you down to the doctor or does your daughter take you down there?
S: No. The doctor calls on me. But last Thursday I thought, I felt so well, I thought I will give him a shock, so I rang the nurse and I said to make an appointment with P., we are on first name basis, and I'll come down and see him. She said "You'll shock the knickers off him", so we just chuckled about that, and he was delighted (to see her), he really was, he was delighted.

Tape 5: 71 year old woman.
Line 814

L: ...you were describing her (the doctor), could you tell me a bit about that again?
S: Well, she is um, she is in her, about, I think she is 36, somewhere around there and she looks about 16. She is about five foot and she looks just like a teenager. She has got this long hair and she is just lovely, just a gorgeous little girl.
L: And you really feel that she is a friend?
S: I do, and she has been good to my family, and um, when my aunt was up here at the Adventist (Hospital)
L: Adventist
S: She was dying of cancer and F. (the doctor) came up and then, I suppose she was only about 26, and the matron came into the room and when F. had gone she said "Who is this F.M?" and I said "Oh, she has just started out" and it might have been longer and she said "I am most impressed". She is a real sweetie, I think she is just delightful.

Tape 12: 63 year old man.
Line 743

L: Right, and that with a good doctor who is the right person that you can talk to about anything that you want to, that you have a good relationship?
S: Yes, you can talk about anything, like when I visit my family doctor we can talk about anything other than sicknesses and it seems to give you a bit of a lift.

Tape 13: 66 year old woman.
Line 568

S: I have known him so long I talk to him as a friend more than a doctor.
L: Yes, it has moved a bit from being the doctor, that he is a very close friend?
S: Yes, yes, he is a very close friend...
L: And it goes a long way back?
S: It goes for a long time yes.
L: Mmm, because you do run out of those sort of people don't you?
S: You do yes, and he is the one I know is always going to be there.
L: Right.
S: And he is there if I need to go and talk to him.
And later on:
Line 603
S: ...and he was very interested in my brother in law because he had a big bowel operation
L: Mmm, so he was keen to find out about that?
S: Yes, and his diagnosis of it was the right one, the ones my sister was telling me about what he is having were wrong, what my doctor said was right.

(c). The visit is seen as a social event.

For example:
Tape 2: 82 year old woman.
Line 688
L: Isn't that lovely. So you feel they are receptive to talking to people others might not be?
S: No, and also the chemist round the corner, this S.D. who I knew from before, so...
L: So the whole setting is nice isn't it?
S: Its very pleasant.
L: Yes, very nice, very nice to go to the doctor and everything, that's good isn't it.
S: And I could not go to her for some weeks but of course the last six I've been going every week because the warfarin has come down to three I think. Last Friday, Thursday when I went she said "Oh, its marvellous" she said "So much better".
L: So you enjoy your visits?
S: Oh thoroughly, thoroughly.

Tape 7: 84 year old woman.
Line 269
L: Good. And you feel like you could talk about anything you want?
S: I think I could, yes. I could talk to his wife even if I thought I couldn't to him.
L: Right. Do you enjoy going to see them (the doctors) or is it a kind of um...
S: No, no its a day out.

Tape 6: 80 year old woman.
Line 313
S: It is, it is. It is nice when you go there (to the doctor) and I go in and he says "Hello to you", and I say "Hello, P." And, oh when I did go this day, you know, startled the knickers off him I know I did, I got in and the nurse said "Cup of tea time" see, so I was sitting there and when P came out he looked at me and I said "Yes, I even know when it is morning tea time". (laughs).

Tape 13: 66 year old woman.
Line 684
L: That is lovely isn't it that you have got such a good relationship with him.
L: And what about the nurses and the, are they nice too?
S: They are lovely, yes they are all lovely.
L: So it is quite an event going there?
S: Oh, it is. It is nice, it is like going to a friend's place, yes.

Tape 14: 81 year old woman
Line 179
L: Do you enjoy your visits (to the doctor)? I found that with a lot of people I interviewed that they did enjoy going along.
S: Yes, it is a bit of a scream really, you know he larks about a bit you know, pats you on the shoulder and all sorts, you know, makes you feel better.

Recurrent theme of repertoire:
The doctor is a friend of longstanding who is always pleased to see me.

Analysis 2 Interpretative repertoires and themes for socio-emotional problems and loneliness as reasons for visiting the doctor.

1. "Self loneliness and socio-emotional repertoire"

(a.) I'm basically a very strong person.

For example:
Tape 1: 82 year old woman.
Line 350
S: No, oh well perhaps I'm a person that can sort of cope on their own.

Tape 2: 82 year old woman.
Line 292
S: I think deep down I'm a very strong person. My husband...

Tape 10: 63 year old woman.
Line 574
S: Anyway, I will just have to put up, I was talking to one of my friends and she said "You are strong, you are strong". And I thought about that and I thought oh, I guess I am going to have be. I don't usually take...

(b.) If I experienced these problems I would pull myself together and not waste the doctor's time.

For example:
Tape 4: 85 year old woman.
Line 554
L: So you wouldn't feel very happy going along and talking (to the doctor) about emotional things?
S: No.
L: No.
S: I think I have always sort of felt...
A wee bit louder if you don't mind.
No, I've always felt rather British, that it was (laughs) not appropriate.
Stiff upper lip?
A stiff upper lip, that is what I am trying to say (laughs).
Yes, you'd deal with it yourself?
I think so.
And loneliness the same?
Yes.

And later:

Line 601
You think it would be alright to go along and say to the doctor, and say that they are lonely?
Yes. Can you help me? I don't see any difficulty.
No, but you wouldn't go yourself?
No.
Can you tell me why?
I think I would just pull myself together, you know get a move on.

Tape 9: 86 year old man.

Line 247
What would you think about people doing that? (Visiting the doctor for socio-emotional reasons)
Stupid
Do you?
You can always get over these things with a little commonsense.

Tape 3: 85 year old woman.

Line 229
Right. Now some people in my study went because of emotional reasons, they might have had an argument with the neighbour over the fence, or something like that.
That is the last reason I'd go (Laughs)
Is it?
I would think those were problems you should be able to fix up yourself, I wouldn't waste my doctor's time on it.

Tape 5: 71 year old woman.

Line 569
No, I wouldn't go myself. I'd make sure that I felt that I wasn't lonely. I would do something about it myself, and join in with, join in with organisations and things like that, that is what I'd do. I mean at times I get lonely here but it really doesn't worry me.

Tape 14: 81 year old woman.

Line 463
No, so you wouldn't discuss it (loneliness) with him (the doctor)
No, it is too personal really.
Is it? Why do you feel it is too personal? Do you not discuss personal things with your doctor? I mean you have known him for twenty years.
Yes, no I do but, um, I don't like to feel foolish, childish, you know.
You said that before, that was interesting. What do you mean by foolish and childish? What...
I should be stronger.
L: You should be stronger, so it's a kind of weakness?
S: A weakness, yes.
L: To not handle it yourself.

And later:
Line 538
L: Yes. So when you feel that, talking about loneliness to your doctor that
you might look foolish or childish as if you couldn't...
S: Yes, as if I can't cope.
L: Can't cope?
S: He might send me into a home, that would be terrible....

Recurrent theme of repertoire:
I'm a very strong person who would not bother a busy doctor with loneliness or socio-emotional problems.

Other repertoires:

(1.) "The not ok for others loneliness and socio-emotional repertoire."

(a.) People who visit their doctors for loneliness and socio-emotional reasons are weak.

For example
Tape 2: 82 year old woman.
Line 751
L: That's really good. So what would you think of people spending a lot of
money going to the doctor for loneliness then?
S: I just think they need a kick in the pants, and I would be very willing to
talk to them...

Tape 9: 86 year old man.
Line 247
L: What would you think about people doing that? (Visiting the doctor for
socio-emotional reasons)
S: Stupid.
L: Do you?
S: You can always get over these things with a little common sense.

Tape 11: 75 year old man.
Line 243
L: No, no, so that what do you think of other people going for that reason
(socio-emotional)
S: Oh, I think they might be a little weak.

(b.) They should deal with it themselves.

For example
Tape 3: 85 year old woman.
Line 440
S: Oh, well if they want to pay the money and go to the doctor they could,
but I wouldn't.

L: No, you think it is a waste of money?
S: Yes, I think they should be able to sort that out themselves.

And later:
Line 561
L: Right. Do you think that doctors are trained to deal with that? (emotional problems)
S: Oh, yes, oh my doctor would be very helpful for anyone who went and wouldn't show that she didn't think it necessary to go.

And later:
Line 572
L: And the same with loneliness, if somebody went with loneliness you don't think that the doctor is the place to go
S: That is wasting the doctor's time.
L: Do you...
S: I would, there are plenty of other people and you should have plenty of friends and plenty of people ringing you up.
L: What if you didn't. What if you were somebody you know that used to have plenty of friends but somehow you have moved, or they have all gone away or something?
S: They say if you want friends you have to be friendly.
L: Yes, I think that's very true but even some friendly people are sometimes in a situation where there isn't anybody to be friendly with.
S: Yes.
L: I think some people do get lonely.
S: Oh, yes.
L: But you don't think the doctor is the place to go with it.
S: It is just wasting the doctor's time and wasting money going there, I think.

The doctor is not the appropriate person.

For example
Tape 1: 82 year old woman.
Line 536
S: Well, sometimes you feel that in the end the doctor is not really... wants to listen to you or your, some people with all their family business all the rest of it, but they are just there to fix the aches and pains and thats their job...

Tape 6: 80 year old woman.
Line 391
L: But if you were upset about something else would you go to the doctor because you were upset?
S: I wouldn't even think about it. Why go to the doctor?

Recurrent theme of repertoire:
Others should make the effort to deal with their own socio-emotional problems and loneliness, and not waste their doctors' time consulting explicitly for these reasons.
Garfinkel (1967) describes an "etcetera clause" as a strategy which allows novel or unforseen instances to be brought under the umbrella of a rule. The etcetera clause built into rule systems means that these systems can be used in a variety of ways, towards a variety of ends, and for a variety of motives. Three etcetera clauses were identified which were applicable to both "The self loneliness and socio-emotional repertoire" and "The not ok for others loneliness and socio-emotional repertoire".

Etcetera clause (1.) I wouldn't go to the doctor for loneliness or socio-emotional distress "Unless it was affecting my health".

For example
Tape 1: 82 year old woman.
Line 393
S: Well I had occasion to go to the doctor when my son did something that I didn't approve of, and I got myself into a bit of a state over that.
L: Hmm, hmm.
S: And the next time I went to the doctor my blood pressure was up and everything and I explained to her what was happening, so that she would get the picture that I hadn't suddenly got neurotic or anything like that.
L: Yes.
S: And she said, "Oh, I'm very pleased you told me". But we settled all that. That's all gone. So that's the only time that thought it was my duty to tell her why I was so upset.
L: Did you go just for that? Was that the...
S: No, no.
L: You had another reason?
S: Well, oh, it was my three monthly, I had been saving all these things up for my three monthly check.

Tape 5: 71 year old woman.
Line 320
S: Yes I do, myself I think that it is such a small thing that I wouldn't worry a doctor about anything like that.
L: No, unless you were really upset?
S: Unless you were really, really, it was affecting your health, then you might take yourself off and explain it all.
L: How do you think it might affect your health?
S: Well you start to worry, sort of get anxiety, and get nervy.

And later:
Line 376
L: And you would go directly to the doctor and say "Look I am, I feel...
S: I am really lonely and it is sort of affecting my health. And it would be easy to get lonely, I think its...
And later:
Line 638

S: If it was affecting your health maybe I would, if it is affecting your nerves and you know you were starting to feel just odd, getting dizzy spells and things.

Tape 7: 84 year old woman:
Line 419

L: So you wouldn't think the doctor was the right person. Do you think they are trained to deal with these. (Socio-emotional problems and loneliness)
S: Well, I wouldn't have thought so.
L: No.
S: Yet they must, if it is bad, I suppose if it is very bad and it is affecting your health, otherwise...

Etcetera clause (2.) I wouldn't mention loneliness or socio-emotional distress to the doctor
"Unless I happened to be there for something else".

For example
Tape 7: 84 year old woman.
Line 339

L: Mmmm, would, do you think they (doctors) are better to stick to more physical reasons?
S: Yes, I think so, but if the other (socio-emotional distress) came and if there was trouble, perhaps you could mention it when you were talking to him, but I wouldn't go specially just for that. I have never been a, I don't know, I have never been to any of them about my mentality or whatever.

Tape 10: 63 year old woman.
Line 533

L: Oh that, so you wouldn't consider something like that a reason for going to the doctor then?
S: Because I was feeling lonely?
L: Mmmm.
S: No, I just happened to say it yesterday while I was there, I just said "Oh, I feel lonely". Probably you don't expect him to do anything about it anyhow.

Tape 13: 66 year old woman.
Line 547

S: You are best to cope on your own as best you can, but there are some things you need to discuss,
L: Right, and what sorts of things would they be?
S: Well, mainly just my mouth and anything that has happened at the same time go there I discuss with him, but I don't go to the doctor just to talk about my problems.
Etcetera clause 3. I wouldn't mention loneliness or socio-emotional distress to the doctor
"Unless she picks it up herself."

For example
Tape 1: 82 year old woman.
Line 471
S: Yes, I do think doctors should, well I suppose get a good idea of what
the patient is like when they are talking to them, and they could see
perhaps that it was emotional troubles that were...

Tape 4: 85 year old woman.
Line 433
S: I can remember my husband (who was a doctor) used to say that
there was quite a lot of digging before you came to the real cause. They
would come to with something, some sort of obvious cause and the real
cause takes a lot of digging out, and I think there is a lot of that around.
I think that is about isn't it?

And later:
Line 453
L: I think that is true, psycho-social issues are linked. You can't just sit
there and say "Do this, do all", you know give them an indication often
because people want to let it (the problem) out very gradually, it
sometimes takes quite a time.
S: Yes, and they fight against doing it, or some of it just slips out.

Tape 8: 80 year old man.
Line 385
S: Well, it depends on you know how they feel themselves I think.
I mean when I went through that depression stage for a while, I certainly
didn't, well he (the doctor) picked it up, I didn't pick it up, he did.

Tape 11: 75 year old man.
Line 362
L: Right, so you don't see much difference between physical symptoms and
mental symptoms.
S: No, no, the doctor would soon sort them out.

(2) "The ok for others loneliness and socio-emotional repertoire".

(a.) It is reasonable for others to visit their doctors for socio-emotional reasons and
loneliness.

For example
Tape 5: 71 year old woman.
Line 689
L: And loneliness, just go over that again. You would or you wouldn't go
(to the doctor) for loneliness?
S: No, I wouldn't.
L: You wouldn't.
S: No, I wouldn't.
L: Alright, but you think some people do and is that ok?
S: Oh, yes, if um, some people might find a doctor would help them more than them trying to sort of look around for something to make, you know, somewhere to go to make a friend.

Tape 8: 80 year old man.
Line 546
L: What about people who are, that, they have not always been lonely but through circumstances, like may be older people whose intimate person has died? (and visiting the doctor)
S: Well, I think that, yes. I think they want to talk and have a companion somebody that will really...
L: Married for a long time and...
S: Yes, I think so, somebody that they can really, you know can really dive in and talk to and...
L: Well, do you think people of that sort would use their doctor, and do you think they should use their doctor?
S: If they feel comfortable with their doctor, yes, I should think, wouldn't you?

Tape 4: 85 year old woman.
Line 318
L: So you don't think it would be wasting your doctor's time (visiting for socio-emotional reasons)
S: Well, because I think it gives him an insight into what he has got to do.

(b.) The doctor could help them by providing information, medication, or reassurance.

For example
Tape 4: 85 year old woman.
Line 371
L: But do you think it is appropriate that they (doctors) should provide reassurance, just reassurance, rather than physical...
S: Well, she was treated for other things but she became very reliant on his opinion. She was always popping in. I think the doctor if he can should give reassurance.

Tape 5: 71 year old woman.
Line 473
S: I think they (doctors) might be able to help the (lonely) person though.
L: Well, they might.
S: They might be able to, and I think they might be more compassionate towards you than maybe a good friend, but you know...
L: Sort of not make judgements about you?
S: No, that is right.

Tape 8: 80 year old man.
Line 502
S: Well yes, I think that he (the doctor) could help them for loneliness.
L: Well, what do you think? This is what I want to know because either the doctor is the right person or...
S: Well, I think, ah, I think again it would be for medication wouldn't it really for loneliness, or what?

Tape 10: 63 year old woman.
Line 805
L: Right, and if we go back to the loneliness again with these other people, do you think it is ok for other people to go to the doctor when they are lonely?
S: When they are lonely.
L: Mmmm.
S: Oh, I think so.
L: Yes, you think that was alright.
S: Yes, I think so, you know. He might suggest some sort of buck you up tablet, or, or, yes, um...

Tape 11: 75 year old man.
Line 334
S: ...Some doctors are very good at, you know, suggesting that you do something or join something.
L: Yes, they are quite, so you think they have got those sorts of skills.
S: They have, yes.

And later:
Line 590
L: And what about if you were lonely. You said that you weren't but for people who are, if they went along would you feel that in some way they were wasting the doctor's time?
S: I don't think so. The doctor may be able to do something for them, put them in touch with the right people.

Tape 12: 63 year old man.
Line 190
S: Oh, if you were really upset, yes the doctor would give you a sedative and its probably all you need to carry on.

Recurrent theme of repertoire:
Consulting the doctor explicitly for socio-emotional reasons and loneliness is a perfectly sensible and helpful procedure for other people.

There is a proviso repertoire which is used with the three etcetera clauses and "The ok for others loneliness and socio-emotional repertoire."

"The proviso repertoire".
It depends on the doctor.

For example
Tape 3: 85 year old woman.
Line 346
L: Do you think you are wasting the doctor's time? (Visiting for loneliness)
S: Yes, I do.
L: Yes, do you think the doctor feels like that?
S: Depends on the doctor of course. My doctor is very nice, you wouldn't, we are on first name terms and, oh well, she wouldn't mind but I wouldn't be so stupid.

Tape 4: 85 year old woman.
Line 290
L: So would you think that the doctor would be the appropriate person then if you had an upset of that sort?
S: Yes, I think so only if you have a, only if you know the well, or if he knows your situation well.

And later:
Line 386
L: Very interesting. One rule for them and one rule for me.
S: I think, I don't know. I think if I were really bothered, if I knew the doctor well as an old friend, then I might but I don't think it would be particularly a doctor, would be as a friend, an old friend.

Tape 9: 86 year old man.
Line 559
L: Mmmm. Do you think that doctors are receptive to lonely people?
S: Well, some are, some aren't. I have got a very, very business minded doctor in mind (laughs)

Tape 10: 63 year old woman.
Line 297
L: Yes, do you think all doctors are right, the right people for you to go to when you are upset or distressed?
S: Oh, I don't think so. I wouldn't go to a doctor, the doctor who works in the same building as Dr D. I went to him once and no I wouldn't like to talk to him.

Tape 11: 75 year old man.
Line 297
L: Mmmm, yes, and do you think it would be alright for those sorts of people (lonely) if they...
S: I think it would be alright if they went to the doctor if he could do something.
L: Do you think all doctors would be happy to see them?
S: Not all of them, they are like the rest of the people, some would, some wouldn't.

Recurrent theme of repertoire:

It is safe to disclose socio-emotional problems and loneliness to some doctors and not to others.
APPENDIX D

PAPER GENERATED BY RESEARCH
STATE VERSUS TRAIT LONELINESS IN ELDERLY NEW ZEALANDERS

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Summary.—305 elderly people in Auckland, New Zealand were administered state and trait versions of the Revised UCLA Loneliness Scale, Version 3, and a battery of psychosocial and health measures. The Pearson correlation for scores on the loneliness measures was .86. Neither age nor gender was predictive of state or trait loneliness scores. Less education, insufficient income, and living alone were predictive of state but not trait loneliness. Having experienced the death of a spouse within the past year was predictive of trait but not state loneliness. The predictive variance for all health outcome variables was lower for trait than state loneliness.

According to West, Kellner, and Moore-West (1986), some data suggest that loneliness has an adverse effect on health, possibly through immunologic impairment or neuronendocrinal changes. This is of particular concern for elderly adults who may already be suffering from immune suppression associated with aging. Loneliness may be transiently or situationally induced or be a chronic or dispositional condition. Marangoni and Ickes (1989) suggested that the probable importance of the distinction between state versus trait loneliness warrants routine assessment in research.

In the present study 300 New Zealanders over the age of 60 years, randomly selected from six Auckland electoral rolls which had been stratified for age in a previous study, and 205 similarly aged recruits from senior citizens’ organisations were administered a questionnaire which requested information concerning sociodemographic data, predisposing and precipitating variables for loneliness, and perceived health status. They also twice completed the Revised UCLA Loneliness Scale, Version 3 (Russell & Cutrona, 1983), responding in the time frame of the last two weeks as a measure of state loneliness and to the instruction “looking back over your life” as a measure of trait loneliness. The UCLA Loneliness Scale has been used previously in a similar fashion by Gerson and Perlman (1979).

The mean age of the sample was 71.3 yr. (SD: 6.6; range: 60 to 90 years). The means for state and trait loneliness, respectively, were 36.7 and 38.2 (SDs: 10.7 and 10.6, Mdn: 35 and 38, modes: 38 and 40, ranges: 20 to 80 and 20 to 80, and group numbers: 500 and 494). The Pearson correlation

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for scores on state and trait loneliness was .86. Stepwise regression analyses with chronic and current illness and negative affect held constant suggested that the best sociodemographic predictors of state loneliness were the unavailability of a confidant, not belonging to a group with shared attitudes and values, living alone, being widowed, separated, or divorced, having less than 10 years of education, and perceiving one's income to be insufficient ($R^2 = .07, F = 11.24, p = .0001, df = 432$). The best predictors of trait loneliness were unavailability of a confidant, not belonging to a group with shared attitudes and values, death of a spouse within the past year, and being widowed, divorced, or separated ($R^2 = .02, F = 10.53, p = .0013, df = 426$).

The significant predictive variances of state and trait loneliness for self-rated health were, respectively, 8% ($R^2 = .29, F = 29.94, p = .0001, df = 366$) and 5% ($R^2 = .28, F = 25.39, p = .0001, df = 393$), for satisfaction with life in comparison to others of the same age 18% ($R^2 = .46, F = 37.74, p = .0001, df = 366$) and 9% ($R^2 = .39, F = 49.81, p = .0001, df = 389$), for symptom frequency 19% ($R^2 = .39, F = 38.93, p = .0001, df = 366$) and 10% ($R^2 = .37, F = 38.05, p = .0001, df = 389$), for symptom severity 22% ($R^2 = .42, F = 63.44, p = .0001, df = 366$) and 12% ($R^2 = .39, F = 34.93, p = .0001, df = 389$), for days in bed due to symptoms 9% ($R^2 = .14, F = 8.58, p = .0001, df = 366$), and less than 1% ($R^2 = .17, F = 9.71, p = .0001, df = 389$). State loneliness also significantly predicted 2% of total visits to the doctor ($R^2 = .26, F = 17.59, p = .0001, df = 366$), whilst trait loneliness significantly predicted less than 1% of restricted activity due to symptoms ($R^2 = .17, F = 8.36, p = .05, df = 393$), and 1% of self-medication ($R^2 = .05, F = 4.25, p = .0009, df = 386$).

Neither age nor gender was predictive of state or trait loneliness. Whilst insufficient income, fewer years of education, and living alone were significant predictors of state loneliness, this was not the case for trait loneliness. Having experienced the death of a spouse within the past year was predictive of trait but not state loneliness. The predictive variance for all health outcome variables was lower for trait than state loneliness.

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