

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

# **Needs, Social Support and Psychological Well-Being in the Older Person**

A thesis presented in partial fulfilment of  
the requirements for the degree of  
Master of Arts in Psychology  
at Massey University.

**Robyn Dulcie Bailey**

1998

## Abstract

The purpose of the present study was twofold. First, to investigate the relationships between functional ability, received social support and psychological well-being. Second, to determine whether formal tangible support was more effective than informal tangible support in reducing the deleterious effects of functional ability difficulties on the psychological well-being of older adults. Subjects were 89 older adults (aged 64 to 90 years) who were recruited from the A2 Service Coordination Database of the MidCentral Health Crown Health Enterprise. They were interviewed in their homes. The questionnaire was comprised of four sets of questions containing measures of functional ability, informal and formal tangible support received to help with functional ability difficulties, received general social support with three subscales (tangible support, emotional support and informational support) and psychological well-being. The results partially upheld the prediction that difficulties with functional ability would be related to lower psychological well-being; instrumental activities of daily living were related to lower psychological well-being, although this was not the case with activities of daily living. Social support was not found to be associated with psychological well-being with one exception; in the opposite direction to the hypothesis, higher levels of informal received needs-aligned tangible support were related to better psychological well-being. The results failed to confirm that formal or informal support buffered the negative impact that functional ability difficulties have on psychological well-being. Functional ability difficulties were associated with higher levels of all the forms of received social support except for informational support. The findings indicate that the problems with functional ability caused by chronic illness could be linked to lower psychological well-being in older adults. Tangible support from informal sources may be associated with better psychological well-being. The theoretical and methodological implications of the findings are discussed. It is suggested that future research investigate older adults attitudes towards receiving support from the different sources available to them.

This is dedicated to the memory of my Dad  
Gordon Nixon  
31/1/27 to 4/8/79.

It is also dedicated to my subjects  
whom I carry around in my heart,  
some who have already joined Dad.

## **Acknowledgements**

My thanks go to the many people who have helped and supported me during the time of writing this thesis. There are several people whom I would particularly like to mention.

My husband Donald for his love, support, help with finding my way around the finer points of word processing (my personal computer tutor), and satisfying my 'needs, social support and psychological well-being'!

My supervisor, John Spicer, whose guidance and constructive suggestions have helped me to develop this into a thesis.

Denise Udy, Group manager for Services for the Elderly, Disability Support and Rehabilitation, MidCentral Health, for her enthusiasm and help when I was getting this project off the ground.

Dennis Whiterod, the Head Social Worker at the Social Work Unit of MidCentral Health for his help and support.

My special thanks go to my Mum, Helen Nixon, for her encouragement, support, and help with editing and proof-reading.

# Table of Contents

<b>Abstract</b> .....	<b>ii</b>
<b>Acknowledgements</b> .....	<b>iv</b>
<b>Table of Contents</b> .....	<b>v</b>
<b>List of Tables</b> .....	<b>vi</b>
<b>INTRODUCTION</b> .....	<b>1</b>
Functional Ability, Social Support and Psychological Well-Being .....	2
Functional Ability in the Older Adult .....	2
Social Support and the Older Adult .....	5
Psychological Well-Being and the Older Adult .....	9
The Relationships Among Functional Ability, Social Support and Psychological Well-Being in the Older Adult .....	13
Functional Ability and Psychological Well-Being .....	13
Social Support and Psychological Well-Being .....	15
The 'Buffering Hypothesis' of Social Support .....	17
Functional Ability and Social Support .....	19
The Hypotheses .....	20
<b>METHOD</b> .....	<b>23</b>
Participants .....	23
Recruitment of Subjects .....	23
Demographic Information .....	24
Procedures and Measures .....	24
Measures .....	25
Statistical Analyses .....	30
<b>RESULTS</b> .....	<b>31</b>
Analyses of the Hypotheses .....	32
Hypothesis One: Functional Ability and Psychological Well-Being .....	34
Hypothesis Two: Social Support and Psychological Well-Being .....	35
Hypothesis Three: The Buffering Effect .....	35
Subsidiary Analyses .....	36
<b>DISCUSSION</b> .....	<b>39</b>
Discussion of the Hypotheses .....	39
Hypothesis One: Functional Ability and Psychological Well-Being .....	39
Hypothesis Two: Social Support and Psychological Well-Being .....	41
Hypothesis Three: The Buffering Effect .....	47
The Relationships Among Functional Ability, Social Support, Age, Gender, and Living Arrangements .....	48
Conclusions .....	52
Limitations .....	52
Implications for Future Research .....	53
<b>References</b> .....	<b>55</b>
<b>Appendix A: Letter to Potential Subjects</b> .....	<b>71</b>
<b>Appendix B: Consent Form Signed by Subjects and Investigator</b> .....	<b>73</b>
<b>Appendix C: The ADL-IADL Scale</b> .....	<b>74</b>
<b>Appendix D: Inventory of Socially Supportive Behaviors</b> .....	<b>75</b>
<b>Appendix E: Cue Cards for the ISSB and ADL-IADL Scale</b> .....	<b>77</b>
<b>Appendix F: The General Well-Being Schedule</b> .....	<b>78</b>
<b>Appendix G: Multiple Regression Tests for a Buffering Effect</b> .....	<b>82</b>
<b>Appendix H: Correlations and T-tests of Demographics with the     Study Variables</b> .....	<b>84</b>

## List of Tables

Table 1: Correlations between the social support variables.....	29
Table 2: Descriptive statistics of the study variables (n=80 to 89).....	31
Table 3: Psychological well-being correlated with the social support and functional ability variables.....	33
Table 4: Multiple regression analysis of psychological well-being on functional ability, social support, age and gender.....	34
Table 5: Multiple regression analysis of psychological well-being on functional ability subscales, social support, age and gender.....	34
Table 6: Pearson's correlations between functional ability and the social support variables.....	36
Table 7: Multiple regression analysis for a buffering effect with functional difficulty and informal support in the product term .....	82
Table 8: Multiple regression analysis for a buffering effect with IADL and informal support in the product term .....	82
Table 9: Multiple regression analysis for a buffering effect with functional difficulty and formal support in the product term.....	83
Table 10: Multiple regression analysis for a buffering effect with IADL and formal support in the product term .....	83
Table 11: The Pearson's correlations that compare age with functional ability and social support.....	84
Table 12: Differences between the females and males in functional ability, and social support .....	84
Table 13: Living arrangement compared with the social support variables.....	85

## INTRODUCTION

To appreciate the problems of older adults (people 65 years of age and over) it is important to gain an understanding of their health issues, and the problems associated with these. A lowered functional ability can be very problematic for older adults. The main objectives of the present study are to investigate (1) the influence that functional ability has on psychological well-being of older adults, (2) the effect that social support can have on psychological well-being, and (3) the possibility that social support can buffer the adverse effect that functional disability may have on psychological well-being.

In section II the three main variables, functional ability, social support and psychological well-being, are defined and discussed. The first part begins by highlighting the role of functional ability in the health of older adults. Functional ability is then defined, and some reasons regarding its importance are explored. The different components of functional ability are discussed, particularly activities of daily living and instrumental activities of daily living. Finally there is a brief discussion on gender differences and functional disability.

The second part considers social support and the older person. It commences by differentiating between perceived and received support. Next the source of support - informal and formal support - is examined. This includes who provides the social support, and why the distinction between informal and formal support is important. It then identifies different categories of social support, including - tangible support, informational support and emotional support.

The final part in this section looks at psychological well-being in the older person. It begins by reviewing some of the terms used in this area, and then defines and discusses psychological well-being. Problems with past research in the area of psychological well-being and aging are examined, including confounding with health issues, and cohort differences. Lastly recent findings into psychological well-being and the older person are assessed.

Section III looks at the relationships among these three constructs. Firstly studies that show a connection between functional ability and psychological well-being are

reviewed, and the relationship is discussed. The second part in this section identifies the effect that social support, particularly tangible support, may have on psychological well-being. The effects of support from informal and formal sources on psychological well-being are then considered. Next the stress-buffering model is outlined, looking at the prospect that social support may lessen the impact that functional disability can have on psychological well-being. The possibility of support from formal sources but not informal sources, buffering the relationship between functional ability and psychological well-being relationship is also discussed. Finally the relationship between functional ability and social support is explored. This chapter then concludes with the hypotheses that were investigated in the present study.

## **Functional Ability, Social Support and Psychological Well-Being**

### **Functional Ability in the Older Adult**

As age increases, the proportion of adults with disabilities increases geometrically. For each decade from 45 to 84 years, the number of people with disabilities doubles. Thereafter, the increase per decade is between three- and seven-fold (Fillenbaum, 1985; Jones, Sloane, & Alexander, 1992). With this increase in disabilities, an equivalent rise in the level of help is required (Feller, 1983 in Bowling, 1990). The risk of physical disability increases with age as a result of chronic, degenerative illnesses. Such illnesses are prevalent in older people, and are the main cause of illness among older adults in New Zealand (Heenan, 1993).

Due to their declining health, older people have problems remaining independent. Health problems can increase the level of disability and lower the functional ability of an individual. In the literature there is widespread agreement on the definition of functional ability and its associated concepts, functional disability and functional status, which are often used interchangeably. Functional ability is defined as the ability to perform activities associated with every day living (e.g., Chappell, 1981; Falconer et al., 1992; Thorson, 1995). In general, functional ability measures survey restrictions on the performance of normal daily activities due to injury or sickness. Activities commonly assessed include dressing, bathing, cooking and shopping. Functional status may be

stable or short-term but, particularly if the cause is a chronic illness, it will frequently deteriorate (Bebbington & Charnley, 1990).

Functional ability is widely used as a measure of health, or an indicator of the level of disability. There are several reasons for its widespread use. Firstly it is the aspect of health that is often considered to be one of the most important to older adults (Guralnik, Branch, Cummings, & Curb, 1989; Thorson, 1995; Walker, 1990). They tend to assess their own health in terms of their expectations for their age, rather than in terms of the presence or absence of disease (Bury & Holme, 1990; Cockerham, Sharp, & Wilcox, 1983; Perlmutter & Hall, 1992).

The second advantage of using functional ability is that it allows for assessment of how the individual differs from the norm (Chappell, 1981). Medical diagnoses do not always indicate the individual's ability to function daily (Furner, Rudberg, & Cassel, 1995; Kemp & Mitchell, 1992; Zeiss, Lewinsohn, Rohde, & Seeley, 1996). Many of the illnesses suffered by older adults, such as Alzheimer's disease and arthritis, are chronic and progressive and get worse over time. In the early stages of many of these diseases most individuals are able to remain fully independent. As the illness develops they may become increasingly dependent, progressing to the stage where they are unable to perform even the smallest of tasks. In much research in the area of the older adult (and for older adults themselves), the important issue is not so much the diagnosis as the ability to live independently.

An assessment of functional ability helps to verify the need for community support (Kane & Kane, 1990; Skruppy, 1993). Therefore it is important to assess functional ability when deciding what assistance will be needed so that the older person can remain in the community. The information gained can also be used to educate others, particularly family members (who provide the majority of care to older adults) about the older adult's performance capacities and support needs (Kemp & Mitchell, 1992). Giving the family only a diagnosis is of limited value in helping them understand what support is needed to help the older person.

Assessing functional ability is also useful in clinical settings and institutions. Functional status measures are widely used to assess the need for, and the progress during, rehabilitation (Smith & Clark, 1995). Information about patients' functional ability can prevent professional staff from being overly pessimistic, and so unnecessarily restricting

activity (Kemp & Mitchell, 1992). Therefore functional ability is also a useful concept in clinical situations where therapy or practical aid is to be given.

Functional status consists of many components including activities of daily living, musculoskeletal factors, social factors, and cognitive factors (Fitzgerald, Smith, Martin, Freedman, & Wolinsky, 1993; Smith & Clark, 1995; Kemp & Mitchell, 1992; Scott, Macera, Cornman, & Sharpe, 1997). Two components of functional ability that are widely used in research are activities of daily living (ADL), and instrumental activities of daily living (IADL; Fillenbaum, 1985; Parker, Thorslund, & Lundberg, 1994; Scott et al., 1997). Research has focused on these two factors as they are critical for an older person to remain in the community (Lawton, 1990). ADL are personal, self-care tasks whose content tends to be universal across cultures (Katz, Ford, Moskowitz, Jackson, & Jaffe, 1963; Spector, Katz, Murphy, & Fulton, 1987). Activities assessed include tasks such as bathing, walking, and going to the toilet. IADL are activities that are needed to live in the community, and maintain a home (Kane & Kane, 1990; Kemp & Mitchell, 1992; Spector et al., 1987). Tasks measured include cooking and housework. The content of IADL measures may reflect the issues of the particular community or culture. In the Netherlands IADL assessments may include bed making, and in Britain they may include making a cup of tea (Fillenbaum, 1985). Jack, Dowland, Dourando, & Hyslop (1981) found that in New Zealand home maintenance that included gardening is of particular importance to disabled people; it was the second most common reason for accommodation being unsuitable. They also noted that gardening was the greatest area of unmet need.

Independence is particularly threatened when the ability to perform ADL tasks deteriorates. A great deal of support is required to help someone in this situation, resulting in a large increase in the risk of entering an institution (Jette, Branch, Sleeper, Feldman, & Sullivan, 1992; Jette, Tennstedt, & Crawford, 1995; Montgomery & Kosloski, 1994; Rudberg, Sager, & Zhang, 1996). If only the ability to perform IADL tasks is lowered then it is quite possible for older adults to live in the community, although they may need help (Kemp & Mitchell, 1992). Before losing the ability to perform ADL tasks, a disabled individual tends to lose the ability to do IADL tasks. This however, will differ with different illnesses (Kane & Kane, 1990). Research has shown that lowered functional ability leads to an increased risk of institutionalisation and death (Bernard et al., 1997; Jette et al., 1992; Montgomery & Kosloski, 1994;

Oxman, Freeman, & Manheimer, 1995; Scott et al., 1997). In general, although the risk of functional disability increases with age, it is not until later old age (from about 75 years onwards) that severe functional impairment is usual (Avery, Speare, & Lawton, 1989; Parker et al., 1994; Strawbridge, Kaplan, Camacho, & Cohen, 1992).

Functional disability is generally worse for older women than for older men (Bowling, Edelmann, Leaver, & Hoekel, 1989; Merrill, Seeman, Kasl, & Berkman, 1997). Women are more likely to have chronic health problems than men, and men tend to suffer from more serious, acute health problems (Bury & Holme, 1990; Penning & Strain, 1994). As a result women are far more likely to have functional disability, particularly with basic care tasks such as bathing (Penning & Strain, 1994; Strawbridge et al., 1992). Disabled women also survive longer than disabled men (Strawbridge et al., 1992). Therefore older women are more likely to have problems in functioning in the community, and hence have a greater risk of institutionalization.

In summary, functional ability is a useful dimension of the health of older adults with chronic illnesses because it measures the ability to function in the community. It is widely used in clinical situations and in research. Women, and those who are older, are likely to have more problems with functional disability. Two components of functional ability are particularly relevant to the present study - ADL and IADL. They are indicators of the level of practical support that the older adult will need to remain in the community.

## Social Support and the Older Adult

### **Received Support and Perceived Support**

As research into social support has become more sophisticated it has become clear that several distinctions are essential to the understanding of social support. One of these distinctions is between received and perceived support. A focus in the present study is social support that is required to help older adults overcome functional disability, therefore received support is particularly pertinent.

Received support (sometimes called enacted support) is the support an individual "actually receives or reports to have received" (Sarason, Sarason, & Pierce, 1994, p. 95).

Perceived support is the support that an individual believes is available if needed<sup>1</sup>. Research that differentiates between received support and perceived support has gained prominence over recent years. The issue that this dichotomy explores is 'what is it about social support that is beneficial; is it that the individual thinks s/he has people who will be supportive, or is it that the individual has actually received help?'

This dichotomy is important because research is finding that perceived support can be more predictive of other variables under investigation (e.g., well-being) than the actual amount of social support received (Kessler & McLeod, 1985; Norris & Kaniasty, 1996; Wethington & Kessler, 1986). These findings have led to the suggestion that it is the subjective interpretation of social support that is beneficial. However there will be situations when received support gives better outcomes, and is more beneficial than support that is perceived to be available (Norris & Kaniasty, 1996; Tardy, 1994). For example, it may be essential for some older people to receive help with housework to enable them to remain in the community. Clearly there must be a close relationship between perceived and received support; having received support must help give one the perception that it will also be available in the future (Krause, Liang, & Keith, 1990).

The focus in the present study is social support that is required to help older adults overcome functional disability, thus enabling them to remain in the community. Therefore received support is central to the present study. Where is all this support coming from?

### **Support Source: Informal and Formal Support**

Another fundamental distinction in social support may lie in the source of the support. There are two major categories of support givers. Informal support is the term used when family, friends and neighbours (Edelman & Hughes, 1990; Krause, 1990; Miner, 1995; Morris, Sherwood, & Morris, 1996) give the support. Formal support usually indicates support that is provided by government or other agencies (Jette et al., 1995; Logan & Spitze, 1994; Miner, 1995; Wilcox & Taber, 1991). The overriding similarity in all the research appears to be that with formal support "contractual norms govern the relationship to the older person" (Miller & McFall, 1991, p. 169). Although rarely

---

<sup>1</sup> Some researchers (e.g., Schaefer et al., 1981; Tardy, 1994) are using the term perceived support to also mean "how a person perceived a supportive action".

discussed in the literature, support from volunteers is mainly a type of formal support, generally having a contractual nature.

When an older person needs support s/he will first turn to those who are the closest: that is their informal support system. Twenty years ago there was considerable concern that the family was abandoning its elderly relatives. Research in the intervening years has thoroughly buried this myth; over 80% of the daily care in the United States given to older adults is provided by family members (Brody, 1985; Cantor, 1991; Jette et al., 1995; Logan & Spitze, 1994; Morris et al., 1996; Orbell, 1996; Tennstedt, McKinlay, & Kasten, 1994). New Zealand studies have also shown that informal carers provide the largest bulk of care to the elderly and disabled (Jack et al., 1981; Opie, 1991a). Some of this overseas research has shown that there is a normal hierarchy of support to whom the older adult turns for help; spouse, followed by adult children, with siblings, other relatives, friends and neighbours all giving decreasing amounts of support. Formal support is the last resort if help is needed; some caregivers can be quite reluctant to use it (Avery et al., 1989; Cantor, 1991; Opie, 1991a). However this support hierarchy may not necessarily apply in New Zealand.

The distinction between informal support and formal support is an important one for both researchers, and the elderly. It is also an important division for policy makers. Research, mostly from the United States and Britain, has found that policy makers are often concerned that tax-supported services may substitute for informal support even though informal support is still available (Edelman & Hughes, 1990; Orbell, 1996; Wilcox & Taber, 1991). However research is showing that this is not the case: formal care usually supplements informal care (Cantor, 1991; Kelman, Thomas, & Tanaka, 1994; Miller & McFall, 1991; Opie, 1991b; Stoller & Pugliesi, 1991; Wilcox & Taber, 1991).

Also, it is likely that social support's effectiveness may be specific to the source of the support. For example, research has found that informal support and formal support may have quite different effects on the risk of older adults being institutionalised (Cohen, Gold, Shulman, McDonald, & Wargon, 1993; Dwyer, Barton, & Vogel, 1994; Jette et al., 1995; McFall & Miller, 1992; Newman, Struyk, Wright, & Rice, 1990). Most importantly, for the present study, formal support and informal support may affect psychological well-being differently. Research that considers the impact of formal

support on psychological well-being is particularly unusual (Krause, 1990). This is discussed later in this chapter.

### **Categories of Social Support**

Over the last two decades, the realisation that social support is a broad, multifaceted concept has led to a differentiation between the types of social support. Different classification systems have been used, but generally there are five distinct categories of social support (Cutrona, 1990; Sarafino, 1994). Tangible or instrumental support involves the giving of practical help, such as bathing, housework and handling finances. This is the type of support that is particularly necessary to help older adults remain in the community. Emotional support involves the receiving of love, care and empathy. It is particularly important in times of stress. Informational support (also called guidance and appraisal support) refers to the giving of information and guidance. It may involve feedback to the person receiving the support. Esteem support involves the support that aids with self-esteem. Such support may include encouragement and generally involves valuing the individual. Social companionship (also called belonging support, and network support) involves the feelings of belonging in a group with whom one can do things.

Clearly some of these types of support will be highly related. Some researchers (Laireiter & Baumann, 1992; Pearlin, Aneshensel, Mullan, & Whitlatch, 1995; Silverstein & Bengtson, 1994) have even suggested that they can fall into two general categories; instrumental, which encompasses tangible and informational support, and expressive (or psychological) support which includes emotional support, esteem support and social companionship. Schaefer, Coyne, and Lazarus (1981) found that emotional and informational were highly correlated, although neither was strongly related to tangible support. This finding suggests that informational support may have some emotional elements (or vice versa), with tangible support being a separate construct. The Inventory of Socially Supportive Behaviors (Barrera, Sandler, & Ramsay, 1981) is a measure which was designed to assess different types of support and is used in the present study. It has found to have three factors: non-directive or emotional support, guidance and feedback (essentially informational support), and tangible assistance (Caldwell & Reinhart, 1988; Walkey, Siegert, McCormick, & Taylor, 1987). Good research that compares these different types of support is hard to find in the area of

gerontology. Often research has used small, non-representative samples, and focused on very specific problems such as stroke or coronary victims.

The findings are mixed as to how gender and age affect the amount of social support received. Penning and Strain (1994) found that, regardless of disability, women were more likely than men to receive help from others. However, Stone (1988, in Penning & Strain, 1994) reported that older men tended to get more help from others (mostly informal helpers) for jobs like cooking, housework and shopping. In another study, Wolinsky and Johnson (1991) did not find any association between gender and the number of formal home services received. Chappell and Blandford (1991) found that the source of the support, but not the amount received was related to the gender of the care receiver: men with informal support tended not to receive assistance from formal sources. Logan and Spitz (1994) reported that older age, but not gender, was associated with the use of home-based formal services. Here there are clearly issues related to gender roles and marital status. Men are much more likely to report having problems with tasks that have traditionally been seen as female tasks, and women are much less likely to report that these jobs are part of their caring duties for a disabled relation - particularly a husband (Dwyer & Seccombe, 1991).

The current study examines received social support from three different perspectives. One, it considers the source of support in terms of informal and formal support. Two, it focuses on social support that matches specific needs: This is done by assessing the support that is provided to overcome problems that arise due to functional disability. Thirdly it inquires into three different categories of support; tangible support, emotional support and informational support. The first two aspects, informal and formal support, and support that matches needs are combined, the third is examined separately. What then, is the effect of receiving support on the well-being of the older adult? The next part discusses the psychological well-being of the older adult.

## Psychological Well-Being and the Older Adult

### **What is Psychological Well-Being?**

In many fields including gerontology and social psychology the terms psychological well-being, subjective well-being, morale, quality of life and life satisfaction are all used to mean basically the same thing; there is often little to distinguish between them

in broad terms (George, 1990; Lawton, Kleban, & diCarlo, 1984; Ryff, 1989a; Wenger, 1992). Hence they are all used as constructs of psychological well-being, as are depression, mental health and psychological distress (Fitzpatrick, Newman, Archer, & Shipley, 1991; Friedman & King, 1994; Lebowitz & Niederehe, 1992; Thompson & Heller, 1990). Also the same instrument is often used to measure these different terms.

These terms, to a greater or lesser extent, have been used to describe the individual's perceptions of overall life quality and inner experience (George, 1990; Lawton, 1996; Shmotkin, 1990). From here the exact definition of psychological well-being diverges. One approach differentiates affect from life satisfaction or a related construct. Lawton, for example, considers quality of life to be part of psychological well-being, and positive and negative affect to be part of quality of life. Huebner and Dew (1996; also Balatsky & Diener, 1993) reported that well-being had three factors; positive affect, negative affect and life satisfaction. Positive and negative affect appear to be independent constructs with positive affect including feelings of alertness, enthusiasm, activity and energy, and negative affect being made up of negative emotions such as nervousness, fear and worry (Lucas, Diener, & Eunkook, 1996; Watson, Clark, & Tellegen, 1988). Headey, Kelley, and Wearing (1993) believe that psychological well-being is made up of four dimensions; life satisfaction, positive affect, anxiety and depression.

Another approach, put forward by Ryff and her colleagues (Heidrich, 1993; Ryff 1989a, 1989b, 1995; Ryff & Essex, 1992; Ryff & Keyes, 1995) proposes that global psychological well-being is a multidimensional structure, made up of self-acceptance, a sense of purpose in life, positive relations, mastery, personal growth, and autonomy. Some researchers have combined both these approaches showing that meaning in life is associated with both positive and negative affect (Debats, 1996; Zika & Chamberlain, 1992).

### **Psychological Well-Being in the Older Adult**

Psychological well-being or life satisfaction are among the most commonly used outcome variables measured in aging research (Wenger, 1992). Some research focuses on the more negative aspects of psychological well-being, especially if the construct under investigation is depression, psychological distress or mental health (e.g., Aldwin, Spiro, Levenson, & Bosse, 1989; Blazer, Burchett, Service, & George, 1991). Other

research studies both positive and negative affect (e.g., Shmotkin, 1990; Stacey & Gatz, 1991; Thompson & Heller, 1990), while a third approach - often combined with the previous one - is to consider psychological well-being as an overall concept (e.g., Bowling, Farquhar, Grundy, & Formby, 1993; Penning & Strain, 1994; Phillips & Murrell, 1994). Depression is a frequently used measure of both psychological well-being and negative affect (Friedman & King, 1994; Newman, Fitzpatrick, Lamb, & Shipley, 1990).

It was frequently assumed that older people were particularly susceptible to mental health problems and decreased psychological well-being (Blazer et al., 1991; Hart, 1990; Myers & Diener, 1995; Thorson, 1995). The number of losses that occur in later life (e.g., retirement can lead to a loss in status (Thorson, 1995)) which can result in a decline in status and in financial security, and the deaths of spouse and friends helped to give rise to this perception (Aldwin et al., 1989; Costa & McCrae, 1996; Thorson, 1995). It was also thought that older women had worse psychological well-being than men. For example, studies showed that depression was more frequent in older women (Frerichs, Aneshensel, Clark, 1981). Early cross-sectional studies supported the assumption that age and gender lead to an increased vulnerability to mental health problems (Aldwin et al., 1989; Blazer et al., 1991).

Many measures confounded psychological well-being with physical health, an area that is clearly important in many older people's lives (Aldwin et al., 1989; Blazer et al., 1991; Shmotkin, 1990). Physical health is also an issue that has greater implications for women than men, with women having more chronic health problems, as discussed earlier. Measures often include questions about somatic symptoms such as sleep issues, being bothered by health problems, and energy levels. Studies that have divided the Beck Depression Inventory, for example, into two scales have found age and gender differences on the somatic scale but not the psychological one (Berry, Storandt, & Coyne, 1984; Bolla-Wilson & Bleecker, 1989; Zemore & Eames, 1979). Blazer et al. (1991) showed that when these confounds were controlled, differences in psychological well-being relating to age and gender disappeared.

Cross-sectional studies that predominated in past (and current) research are susceptible to the problems of cohort differences and survivor effects. These can result in psychological health being underestimated or overestimated. One cohort issue for most

older adults, especially the very old, is that they grew up in a time when there was great stigma attached to psychological problems (Kimmel & Moody, 1990). Therefore many of them are uncomfortable in acknowledging such problems, resulting in underestimates of these problems. A situation that may result in psychological well-being being overestimated is the survivor effect. Those with mental health problems - and hence a lower psychological well-being - may be under represented in community samples due to higher death rates or institutionalization (Aldwin et al., 1989).

Research conducted over the last ten years has dealt with some of these issues. Most studies find that contentment and satisfaction increase with age (Perlmutter & Hall, 1992; Shmotkin, 1990; Thorson, 1995). Aldwin et al. (1989), consistent with research that focuses on the negative aspects of psychological well-being, found that as adults age there is virtually no change in the total number of psychological symptoms. However, they reported that the variation in mental health appears to increase with age. Roberts, Kaplan, Shema, and Strawbridge (1997) concluded that age related effects on depression can be attributed to illness and functional disability; healthy older adults have no greater risk of developing depression than others (also Costa & McCrae, 1996). Stacey and Gatz (1991) in a study that was both cross-sectional and longitudinal found that overall psychological well-being was generally stable, although the patterns for positive and negative affect were quite different. As adults age they tend to have fewer experiences of both positive and negative moods. Stacey and Gatz (1991) reported that there was a decline in negative affect over the entire adulthood, until very old age (79 years old and over). They also found a decrease in positive affect may occur only later in life. Other studies that have inquired into negative and positive affect have had similar results (Shmotkin, 1990). Generally research finds that psychological well-being is high in older adults (Thorson, 1995). Most studies are also finding no gender differences in psychological well-being (Blazer et al., 1991; Shmotkin, 1990).

In practice psychological well-being is rarely able to be distinguished from subjective well-being - and often several other terms as well. Psychological well-being is a complex construct, although often measured globally. It appears that it is made up of at least positive affect, negative affect and satisfaction with life. However many other elements may be involved; much research is needed to clarify the construct of psychological well-being. The present study looks at psychological well-being as an

overall construct that includes emotional and behavioural control, depression, anxiety, and how one feels about one's life (Robinson, Shaver, & Wrightsman, 1991).

Older adults do not have a general decrease in overall psychological well-being. When studying psychological well-being in older people it is important to control for the effects of health. On the whole, the level of psychological well-being in the older adult is much the same or even may be a little better, than at any other time in life. Is psychological well-being affected by the amount of support one gets with problems of functional ability? The next section goes on to explore the relationships between functional ability, psychological well-being, and social support, starting with the relationship between functional ability and psychological well-being.

## **The Relationships Among Functional Ability, Social Support and Psychological Well-Being in the Older Adult**

### **Functional Ability and Psychological Well-Being**

Functional ability, or other physical health measures, are more frequently associated with psychological well-being than any other factor investigated in older adults (Badger, 1993; Bazargan & Hamm-Baugh, 1995; Bowling & Browne, 1991; Bowling, Farquhar, & Grundy, 1996; Erdal & Zautra, 1995; Frischer, Ford, & Taylor, 1991; O'Keefe, Taley, Zinsmeister, & Jacobsen, 1995; Phillips & Murrell, 1994; Revicki & Mitchell, 1990; Stallings et al., 1997; Wenger, 1992). Many studies have reported that lowered physical health was the most influential stressor associated with psychological well-being (Bowling, Farquhar, & Browne, 1991; Heidrich & Ryff, 1993; Revicki & Mitchell, 1990). In a large, longitudinal study Krause (1990) found that physical illness in older adults resulted in a decrease in life satisfaction. More explicitly, Zeiss et al. (1996) found functional ability was a better predictor of depression than general health status, and others have also found functional disability to be a critical factor in determining psychological well-being (Berkman et al., 1986; Heidrich, 1993).

One classic study indicates that improving psychological well-being may help improve physical health, and hence functional ability. Levitan and Kornfeld (1981) took two groups of older adults who were treated for fractured femurs. One group received

mental health counselling while in hospital; the other did not. The treatment group had a 29% reduction in the length of their stay, and were significantly more likely to be discharged home, rather than to an institution to convalesce. (However it is possible that the social support provided by the counselling was contributing, at least in part, to this improvement.) In a much more recent study (Mossey, Knott, Higgins, & Talerico, 1996), one group of subjects received counselling after discharge from hospital while a control group did not. Those who had counselling had significantly greater improvement in self-rated health six months after discharge, as well as a substantial improvement in depression, compared with those who did not receive counselling.

It is not surprising that these two main components of health - physical health (and hence functional ability) and psychological well-being - are so closely related. There are several different ways that physical health problems and mental health can interact, particularly in the elderly (Berkman et al., 1986; G. Cohen, 1992). Firstly, problems with functional ability can lead directly to lowered psychological well-being and psychological distress. For example, in some individuals hearing loss can result in distress, occasionally to the point of causing delusions (G. Cohen, 1992). Another pathway is chronic illness that is painful or limits one's functional ability, often reduces basic feelings of competence and self-worth (Schefft & Lehr, 1990; Silverstein & Bengtson, 1994). A further possible pathway is that a decrease in functional ability can reduce one's ability to be active, threatening one's sense of control and leading to feelings of helplessness and despair. This lack of a sense of control can, in turn, have a negative impact on health (Rodin, 1986b).

Secondly, psychological illness can also affect health and functional ability. Severe psychological distress can lead to physical health problems and decrease functional ability. One such example is anxiety leading to gastrointestinal symptoms (G. Cohen, 1992). Thirdly, physical and mental health can directly interact. For example, when congestive heart failure is coupled with depression further cardiac decline may occur (G. Cohen, 1992). Fourthly, many older adults are on combinations of drugs that may interact, causing other problems with functional ability or psychological well-being.

It is well established that a lowered functional ability results in a lower psychological well-being. On the other hand, it is possible that the social support older adults receive may also influence their psychological well-being. The source of this social support can

also affect the psychological well-being in older adults. The following part discusses the consequences that social support may have for psychological well-being.

### Social Support and Psychological Well-Being

Much research has been done to see whether or not social support has a direct, positive effect on psychological well-being. This relationship is known as the direct-effect model, or main effects model. It simply states that social support has a direct beneficial effect on health and well-being, regardless of whether there are stressors or not. The findings in this area have tended to be a little confusing.

Received tangible support has been linked with better psychological well-being (Newsom & Schulz, 1996). Life satisfaction in the older person has been associated with the availability of tangible support (Bazargan & Hamm-Baugh, 1995; Friedman, 1993), and the amount of tangible support has been positively related to psychological well-being (Revicki & Mitchell, 1990; Rintala, Yound, Hart, Clearman, & Fuhrer, 1992; Schaefer et al., 1981). Yates (1995), in a study of men with coronary heart disease, reported that tangible aid from a spouse was positively associated with short-term psychological recovery. Friedman and King (1994), in a similar study on women with heart failure, found that tangible support was related to less negative affect, although it was not associated with positive well-being.

On the other hand, Krause et al. (1990) in their review noted that received practical assistance (tangible or informational support) was associated with increased distress. There are at least three explanations for this. Social support and chronic illness (and possibly some other variables) are both related to decreased psychological well-being. Secondly having to receive help, signifies a loss of independence and control thus resulting in decreased psychological well-being (Lee, 1985). Thirdly, much tangible support is not seen as support (but possibly interfering), or is given in a manner that is unsupportive. Silverstein and Bengtson (1994) reported that instrumental support given by adult children to a parent was *detrimental* if the parent was married, although this was not the case with widowed parents. Krause (1987) found no association between the amount of tangible support received and the level of psychological well-being.

Although the evidence for tangible support is mixed, it is more conclusive for emotional support and other similar constructs (Friedman & King, 1994; Schaefer et al., 1981;

Yates, 1995). One of the more common findings is that the existence of a confidant, someone in whom one confides, is associated with better psychological well-being (Bowling et al., 1989; Chappell & Badger, 1989; Gupta & Korte, 1994). A confidant is a provider of emotional support, and may also give esteem support (Cutrona & Russell, 1990; Sarason, Pierce, & Sarason, 1990). In one interesting study, Krause (1987) compared the amount of support (emotional support, tangible support, informational support and social integration) received *and* the satisfaction with these supports, with the level of depression. He found that the amount of support was not associated with depression. However the satisfaction with all but informational support were related to less depression. Schaefer et al. (1981) reported that low levels of tangible and emotional support were associated with more depression and negative morale, whereas informational support was linked with positive morale.

### **Informal Support, Formal Support and Psychological Well-Being**

The distinction between informal and formal support may be important when it comes to the psychological well-being of older adults. Older adults value their independence and self-sufficiency, and prefer to pay for formal help (tangible support) rather than get help from family members (Brody, 1985; Thorson, 1995). Lee (1985) suggests that because of this preference, they may be better psychologically to receive help from formal sources. Little research has followed up this suggestion (Krause, 1990). Nevertheless as discussed earlier, the evidence points to the fact that older adults are reluctant to use formal assistance. Kelman et al. (1994) found there was no difference in the psychological well-being of those who received only informal or only formal support. Krause (1990) reported that older adults who received formal support had larger increases in their life satisfaction than those who did not get formal support. He also found that informal support did not have an impact on life satisfaction over time. Despite the possibility for study in this area, until very recently, there has been little research involving formal support (Krause, 1990). New Zealand's social welfare system may also predispose older adults toward receiving formal support.

Most of the research investigating the effects of different sources of support, has concentrated on differences within informal support, primarily comparing support from family and support from friends. Tangible support provided by family seems to be better for psychological well-being than tangible support given by friends or neighbours

(Felton & Berry, 1992; Friedman, 1993). This may also be the case with emotional support (Armstrong & Goldstein, 1990; Friedman, 1993; Newsom & Schulz, 1996). It seems that, at times, some of the other types of expressive support - social companionship and esteem support - may result in better psychological well-being if provided by friends (Chappell, 1990; Larson, Mannell, & Zuzanek, 1986). Felton and Berry (1992) reported that reassurance of worth was more beneficial to overall psychological well-being if provided by nonkin. On the other hand, Thompson and Heller (1990) found that perceived family support was more important than perceived support from friends. Reinhardt (1996) reported no difference between family support and friendship support on psychological well-being. There could be several reasons for the difference in results, such as different samples of older adults.

It appears that in some circumstances received tangible support results in improved psychological well-being for older adults. This may only be the case in particular situations; the nuances of this relationship have only just begun to be explored. One possibility is that formal support leads to an improvement in psychological well-being but that informal support may have the opposite effect, at least in some contexts. Another possible consequence of social support is that it may moderate the negative impact of functional disability on psychological well-being. This buffering effect is discussed next.

### The 'Buffering Hypothesis' of Social Support

It has long been suggested that social support might have a beneficial effect on the relationship between stress and well-being (Mor-Barak, Miller, & Syme, 1991). The importance of social support was underscored in the mid-1970s with the publication of four review papers that showed the significance of social support on health and well-being (Mor-Barak et al., 1991). The buffering, or stress-buffering, hypothesis proposes that social support can eliminate or reduce the effects of stressful life events on distress levels; social support may moderate the relationship between stress and distress (Barrera, 1988; Mor-Barak et al., 1991). Health events may be the most significant type of life events for older adults (Murrell, Norris, & Grote, 1988). In the present study it is proposed that social support, particularly formal tangible support, might moderate the relationship between functional ability and psychological well-being. An opposing theory put forward, described above, is the direct-effect model. Of course, there is the

possibility of both situations working simultaneously (Cohen & Wills, 1985; Mor-Barak et al., 1991). The present study also explores both options.

Despite decades of work in this area, conflicting findings are still found in the literature (Barrera, 1988; S. Cohen, 1992; Krause, 1995). Two reasons for these conflicts are the slow development of the term social support and the lack of specific situations that have been investigated (Cutrona, 1990; Krause, 1990, 1995). These problems aside, three conclusions have been able to be made from the existing literature (Barrera, 1988). Firstly buffering appears to work for only certain types of social support; in general, specific types of support (e.g., tangible support) are more likely to fit the stress-buffering model than structural measures of support (such as the size of one's network; Barrera, 1988; Cohen & Wills, 1985). Secondly, buffering is more likely to occur when the support matches the needs that arise due to the stress (Barrera, 1988; S. Cohen, 1992; Cutrona, 1990). Thirdly the effect of social support on this relationship appears to be curvilinear rather than linear. High levels of support do not seem to have any better effect than moderate levels, and in some cases may have a negative effect (Barrera, 1988; Krause, 1995).

The perceived availability of social support has been found to buffer distress in a wide range of studies (S. Cohen, 1992). Wethington and Kessler (1986) found that perceived support buffered the relationship between a stress and emotional adjustment, whereas received support did not. The buffering effects of received tangible support on the functional ability-psychological well-being relationship have been addressed in very few studies recently (Friedman & King, 1994).

It was mentioned previously that formal tangible support may have a beneficial effect on psychological well-being, whereas informal tangible support may not. This effect may extend to moderating the relationship between functional ability and psychological well-being. In one very interesting longitudinal study, Krause (1990) investigated the buffering effect of tangible support (personal care (ADL tasks), help with household chores, and meal preparation) on the relationship between health problems (including an ADL-IADL measure) and life satisfaction. He found that tangible support given from formal sources buffered the effects of health problems on life satisfaction, whereas the same support from informal helpers did not, despite the older adults turning to informal helpers much more frequently.

It is feasible that social support, particularly support from formal sources, may weaken the association between a lowered functional ability and psychological well-being. This particularly appears to be the case if the social support matches the need. The present study focuses on tangible support that meets the needs that arise due to functional disability. The likelihood of social support having a direct effect on psychological well-being has been considered. The effect that functional ability has on psychological well-being has also been examined. What then is the association between social support and functional ability? This is discussed next.

### Functional Ability and Social Support

An older adult with functional ability problems requires social support to remain in the community. Clearly the amount of support older people receive should be related to their level of functional disability. If they have a high level of disability they will need, and receive, much support, as research has shown (Auslander & Litwin, 1990; Morris et al., 1996; Tennstedt et al., 1994; Wallace, Campbell, & Lew-Ting, 1994). Morris et al. (1996), over an 18-month period, found that older adults with a decrease in functional ability, who were older, female, and were living with adult children, were more likely to get assistance with both personal care (ADL) and instrumental activities of daily living, while those living alone were less likely to receive help. Kelman et al. (1994) found that those who started receiving support during a two year period, had poorer health and lower functional ability compared with those who did not start. In a seven year longitudinal study Stoller and Pugliesi (1991) reported that a decline in physical health and functional ability of older adults resulted in their social network increasing the scope and amount of assistance given.

Interest in the concept of social support has increased greatly over the last two decades. This is due at least partly to research that shows that the availability of support improves emotional well-being and may impact favourably on physical health (Dean, Holst, Kreiner, Schoenborn, & Wilson, 1994; Krause & Borawski-Clark, 1994; Oxman & Berkman, 1990; Roberto, 1992; Sugisawa, Liang, & Liu, 1994). Some studies (e.g., Glass & Maddox, 1992; Krause, 1987; Schaefer et al., 1981) have found a definite link between social support and health. However such findings occur either with general populations who have no overriding health problems, or with populations who are ill

but can expect a certain level of recovery. George (1995) pointed out that the least common finding is that tangible support is related to better health.

The present study looks at the level of received tangible support that is being given to overcome the problems associated with functional disability. If there is a continual decline in functional ability (and this is inevitable with many older people) then it can be expected that there will be an equivalent rise in the amount of tangible social support given.

## **The Hypotheses**

Functional ability can have an impact on psychological well-being of older adults (as discussed on pp. 12-14). Social support can confound this relationship as it can have an impact on both functional ability and the psychological well-being of older adults. The present study investigates the association between functional ability and psychological well-being while controlling the effects of social support. From this the first hypothesis was developed:

- 1) Better functional ability will be associated with better psychological well-being.

Research is showing that social support cannot be understood in simplistic terms; it has to be assessed in its full context. Results may be clearer if the social support measured is specific to the support needed. The source of the support is another part of the context that is important. It appears that different sources of support may have different effects on the psychological well-being of the older adult (refer to pp. 15-16). Differentiating between informal and formal support may help to resolve some of the contradictions that are common in the field of gerontology. The different types of support also appear to be important in understanding the effect that social support has on psychological well-being (see pp. 14-15).

The current study investigates the relationship between received social support and psychological well-being from three different perspectives: support source, specific support to match a need, and support type. The first two aspects, source of support, and support that matches a need, are combined; the third is examined separately. These

relationships are studied, while controlling for functional ability, that can act as a confound in the relationship between social support and psychological well-being. The following set of hypotheses are proposed:

2) Received social support will affect psychological well-being according to its source and type, in line with previous research.

2a) Lower levels of *formal* received needs-aligned tangible support will be related to lower psychological well-being.

2b) Lower levels of *informal* received needs-aligned tangible support will be related to higher psychological well-being.

2c) Lower levels of received general tangible support will be related to lower psychological well-being.

2d) Lower levels of received general emotional support will be related to lower psychological well-being.

2e) Lower levels of received general informational support will be related to lower psychological well-being.

Social support may reduce the adverse outcome that a lowered functional ability can have on psychological well-being (as discussed on pp. 17-18). The source of social support may also be an important consideration in the buffering effect. Hypothesis three proposes that:

3) Needs-aligned received social support will buffer the relationship between functional ability and psychological well-being.

3a) *Formal* needs-aligned received tangible support will act as a buffer in the relationship between functional ability and psychological well-being.

3b) *Informal* needs-aligned received tangible support will *not* act as a buffer in the relationship between functional ability and psychological well-being.

From this point, unless otherwise stated, *formal support* will refer to formal received needs-aligned tangible support, *informal support* will refer to informal received needs-aligned tangible support, *general tangible support* will refer to received general tangible

support, *emotional support* will refer to received general emotional support, and *informational support* will refer to received general informational support.

Although there were no formal hypotheses about functional ability and social support, it is anticipated that those with a lower functional ability will tend to have higher levels of social support. This includes formal support, informal support, general tangible support, emotional support, and informational support.

There were no formal hypotheses about how the study variables were related to the demographic variables. From previous research it is expected that those who are older will have more functional disability, and receive more social support. It is also anticipated that women will have more functional disability, and receive more social support than men. It is anticipated that those living on their own will get more formal support than those living with a spouse or others, and that those living with a spouse will have the highest levels of informal support.

## **METHOD**

### **Participants**

#### Recruitment of Subjects

Subjects who were 65 years or older, who did not have any form of dementia, and who were living in the community in Palmerston North, were recruited from the A2 Service Coordination Database of the MidCentral Health Crown Health Enterprise. The investigator accessed this database through the Social Work Unit of MidCentral Health. The Assessment, Treatment and Rehabilitation Team of MidCentral Health had assessed those on this database as needing services. The database has been in existence since 1993.

People on this database had come to the notice of the assessment team through a number of possible ways: discharge from a MidCentral Health hospital, self-referral, or referral by another person with whom they have contact, such as a family doctor or relative. Although a wide range of people are likely to be on this database, there are some groups not included: psychiatric patients, those who are intellectually disabled, people with short term problems (less than 6 months), people with disabilities who are receiving accident compensation, those about to be assessed, and those with Personal Health Care Issues such as a chronic medical condition (e.g., renal dialysis, cancer) for which they are under the constant supervision of a health professional.

It was decided, with reluctance, not to use dementia sufferers although they constitute a considerable proportion of those living in the community who need assistance. There were two main reasons for this. Firstly, since those with dementia experience cognitive and behavioural impairments, the accuracy of their self-report responses would have been questionable, and informant reports would have been required (Guralnik et al., 1989; Kemp & Mitchell, 1992). This would have produced issues of reliability and validity since the procedure would not have been standardised for all subjects. Secondly, measures of ADL-IADL (activities of daily living, and instrumental activities

of daily living respectively) may omit cognitive disability, a major form of functional disability experienced by this group (Kane & Kane, 1990).

The social workers in the Unit went through their client lists, selecting in those who fitted the above criteria. This resulted in 303 possible participants. Letters (see Appendix A) were then sent to these people asking them to participate. The letters included information about the type of questions asked, and the voluntary nature of participation, and discussed confidentiality. Reply slips came back from 89 subjects who fitted the criteria (ten more replied but were not suitable). Appointments to interview them at their homes were made by telephone. During these conversations any necessary issues were discussed and questions answered. Due to confidentiality it was not possible to check that all those who were potential subjects were selected to receive letters, or to find the details of non participants. This whole process meant that a random sample was not obtainable; it is a convenience sample.

### Demographic Information

Subjects were aged from 64 to 90 years with a mean age of 77 and a standard deviation of 6.2. Ten percent of the subjects were aged between 64 and 68 years of age, 18% were between 69 and 73, 30% were aged between 74 and 78, 24% were between 79 and 83, 15% were between 84 and 88, and 3% were aged between 89 and 90. There were considerably more females than males; 79% were women. In contrast, the 1996 census figures showed that of those who were at least 65, 57% were female (Statistics New Zealand, 1997). With respect to marital status; 29% were married, 58% were widowed, 10% were divorced or separated, and 2% had never married. It was interesting to find that only 8% of the sample lived with others (but not a spouse), and in two cases this was for the sake of the other, not the older adult. Twenty eight percent of the rest of the sample lived with their spouse, 63% lived on their own, and one subject was in a living situation that did not fit into any of the other categories.

### Procedures and Measures

All interviews were conducted at the participants homes. Before each interview began, subjects were reminded that their participation was voluntary, that they could refuse to answer questions, and could ask questions at any time. They were again assured of the

confidentiality of the information they gave, and advised on where they could discuss any concerns. Then the subjects signed consent forms (see Appendix B). At this point no one refused to continue.

The interviews lasted up to an hour, with a few exceptions. Longer sessions occurred when subjects wanted to expand fully on their answers (a "situation" noted by Bowling et al., 1989). There were five sets of questions.

## Measures

The questions were presented in the following order:

### **Demographics**

Firstly a set of questions asked the subjects for their basic demographic information. This was comprised of age, marital status, gender, and living arrangements, as presented above.

### **Functional Ability**

Functional ability was measured using the ADL-IADL scale of the 1984 National Health Interview Survey, Supplement on Aging (National Center for Health Statistics; refer to Appendix C). The ADL scale consisted of six activities: bathing or showering, dressing, eating, getting out of bed, walking, and using the toilet. There were seven activities in the IADL scale: gardening, preparing meals, shopping, managing money, using the telephone, heavy housework, and light housework. One change was made to this measure; 'gardening and lawns' was substituted for 'going outside' in line with the findings of Jack et al. (1981), discussed earlier.

Subjects reported that they had "no difficulty", "some difficulty", a lot of difficulty", or were "unable to perform" the activity. The answers were scored on a four-point scale, 0 to 3 respectively (see Appendix C). The scores for ADL and IADL were found by summing the appropriate six and seven responses respectively. Adding the ADL and IADL scores produced the total functional ability score, called *functional difficulty*.

Reliability in this measure is excellent, having an internal consistency reliability of 0.91 (Scott et al., 1997). They also demonstrated that it has predictive validity, being predictive of mortality among community-dwelling older adults. The Cronbach's alpha

coefficient for the sample in the present study was 0.75 for the IADL scale, 0.81 for the ADL Scale, and 0.86 for functional difficulty.

The Pearson's correlation was calculated for the association between IADL and ADL. It was found to be moderately high ( $r = 0.73$ ,  $p < 0.01$ ), indicating that they are tapping very similar, although distinct constructs. Those who have difficulties with IADL tend to have difficulties with ADL, and vice versa.

### **Received Needs-Aligned Tangible Support**

This measure collected information on the frequency with which subjects received support from informal and formal helpers. The IADL and ADL activities that they had indicated some level of disability (where they had at least "some difficulty" in performing the activity in question) were gone over again. The subjects were asked who had helped them, and how often each helper had helped in the previous four weeks (refer to Appendix C). Informal helpers were defined as relatives, friends, and neighbours. All others were defined as formal helpers. The total number of instances of help given by informal helpers for all the ADL and IADL activities formed the informal support score. The formal support score was derived in a similar manner. The needs-aligned support is the total of informal support and formal support.

This is a very similar method to the one employed by a number of other researchers (Krause, 1990; Newman, Struyk et al., 1990), including the National Center for Health Statistics (United States), to determine the amount of social support given to help older adults with functional ability difficulties. The National Center for Health Statistics use it in conjunction with their ADL-IADL scale in almost exactly the same way as the procedure used in the present study. None of these researchers have reported reliability or validity data. It was not appropriate to find the Cronbach's alpha coefficient with this measure.

Asking subjects only about activities where they had some disability increased the match between functional disability and social support. This also combats, to a certain extent, social support occurring due to gender roles (e.g., housework), rather than need. Up to three helpers were recorded for any task; only once did someone have more than two helpers with a task, and no-one had more than three helpers.

## **Received General Social Support**

The Inventory of Socially Supportive Behaviors (ISSB) is a forty-item self-report list of supportive actions (Barrera, 1981; presented in Appendix D). It was chosen for three reasons. Firstly, it is a measure of supportive actions received, in line with the support measured above. Secondly, it is a widely used measure of social support behaviours, and finally it has been shown to have subscales on tangible support, emotional support, and informational support (Walkely et al., 1987). Other advantages include the avoidance of supportive actions that are only appropriate to particular populations, specific behaviours to minimise subjective interpretation, and no specific references to psychological well-being (Barrera, 1981).

The subjects are asked to indicate the frequency of each item's occurrence during the previous four weeks on a five-point scale, ranging from "not at all" to "about every day" (refer to Appendix E). The answers were scored from 1 to 5 respectively and then summed to form the general support score. The appropriate items were also summed to form the subscales, general tangible support, emotional support and informational support (Walkey et al., 1987).

The ISSB has good sensitivity and reliability (Glass & Maddox, 1992). It has a test-retest reliability of 0.88 and internal consistency reliability of 0.93 (Barrera, 1981). Cronbach's alpha coefficient for the present study was 0.88.

Although information on validity is limited, what is available indicates that the validity of this scale appears to be reasonable. Barrera et al. (1981) reported that scores on the ISSB correlated with the size of the subjects' social networks ( $r=0.4$ ) and that supportive behaviours from families were related to scores on the Cohesion Subscale of the Family Environmental Scale ( $r=0.36$ ). A study done by Vaux, Riedel, and Stewart (1987) gives further evidence for validity. It showed convergent and divergent validity with the subscales of the Social Support Behaviors (SS-B) measure, a measure of available support (rather than received support).

Several studies have been made to derive subscales of the ISSB through factor analysis (Barrera & Ainlay, 1983; Stokes & Wilson, 1984; Walkey et al., 1987). The subscales used in the present study are from Walkey et al. and incorporate the data from two other studies (Barrera & Ainlay, 1983; Stokes & Wilson, 1984). Walkey et al. found three

subscales; tangible assistance (tangible support), non-directive support (emotional support), and guidance and feedback (informational support). The reliability of these subscales is consistently high: split-half correlations went from 0.67 to 0.94, test-retest from 0.70 to 0.82 and coefficient-alphas from 0.80 to 0.93 (Walkey et al., 1987). The Cronbach's alpha coefficients for these subscales in the present study were moderately high for two of the subscales (0.81 for emotional support, and 0.86 for informational support), but low for tangible support (0.50). The standard deviation was low for this latter subscale (3.0, compared with 9.4 and 6.7 for emotional support and informational support respectively), indicating that the sample was fairly homogeneous on this measure. When this is the case, a low alpha coefficient can be an artefact of the sample rather than a problem with the measure (Anastasi, 1982; Bernardi, 1994). As the coefficient alpha given by Walkey et al. was moderately high (0.80) it was felt that the low one for the present sample did not jeopardise the results of the analysis.

The non-directive support scale can be considered equivalent to emotional support (Caldwell & Reinhart, 1988; Krause & Markides, 1990). The guidance and feedback scale consists of informational support and guidance of various kinds and can be considered equivalent to informational support (Krause & Markides, 1990). The study by Walkey et al. (1987) is a New Zealand study, indicating that these subscales are applicable to a New Zealand population.

Although various authors have suggested that items in this measure can be modified for specific research (Krause & Markides, 1990; Vaux, 1992), only one minor change was made. Twenty-five dollars, which occurs four times in the ISSB, was increased to \$40 to convert it to a value equivalent in New Zealand dollars.

### **Comparison of the Social Support Variables**

Pearson's correlations were done to compare the needs-aligned support variables with the general support variables. The results are shown in Table 1. The needs-aligned support variables and the general support variables are clearly measuring quite different constructs; the correlations between the two sets of variables are low. There are three other notable features in the table. First, there is a significant correlation between emotional support and informal needs-aligned support. Secondly, there is a low correlation between received general tangible support and the needs-aligned support variables, which were also measures of received tangible support. Only two of the 12

items in the tangible assistance scale were directly related to activities of daily living, and several of the other items in this scale may be less relevant for older adults than they are for other groups in the population. Thirdly, the correlation between informal and formal support is low and non-significant. This suggests that subjects are getting their support either from one source or from the other. The moderate and significant correlations between the general support subscales indicate that they are tapping similar but nevertheless distinct constructs.

**Table 1: Correlations between the social support variables**

	Needs-aligned support	Informal support	Formal support	General Support	General tangible support	Emotional support
Informal support	.92**					
Formal support	.53**	.15				
General Support	.15	.17	.01			
Gen. tangible support	.05	.07	-.02	.65**		
Emotional support	.20	.24*	.01	.90**	.43**	
Informational support	.07	.05	.05	.84**	.49**	.56**

\*  $p < .05$ ; \*\*  $p < .01$

### Psychological Well-Being

The General Well-Being Schedule (GWBS) was the last set of questions in this survey (Robinson et al., 1991; Appendix F). It was developed for use in the surveys of the National Center for Health Statistics in the United States, being intended for community surveys. It is a multidimensional, self-administered mental-health inventory, producing a global index of psychological well-being. Questions pertain to the subject's experiences during the previous month. It contains 33 items, 14 with five or six response options, and four with a zero to ten rating bar. These are summed to get a total score of well-being. Low scores indicate a poor sense of well-being and psychological distress.

The items are a mixture of positively and negatively worded questions. There was some concern that this, together with the changing scales might have been confusing for this particular population. However most subjects had no problems answering the questions, although the investigator looked carefully for answers and reactions that were not consistent.

The GWBS has very good reliability and validity (Fazio, 1977). A test-retest reliability coefficient over a three-month period was 0.85. An internal consistency coefficient was 0.95 for female and 0.91 for males (Fazio, 1977). A validation study was carried out and reported by Fazio. It has also been shown to be able to discriminate between a sample of older adults living in the community and a sample of older adults who have been hospitalised for psychiatric treatment (Himmelfarb & Murrell, 1983). The Cronbach's alpha coefficient for the present study was high, 0.90.

The subjects had a copy of the ISSB and General Well-Being Schedule. Nevertheless all the questions and possible responses were read out to the subjects. This was designed to standardise procedures, catering for those who were at least partially blind or who had a limited reading level. It also prevented words being misread. Two cue cards (in large print; see Appendix E) with the possible responses for the ADL-IADL scale and ISSB were put in front of them so that they could see the response set and, for the ISSB, did not have to turn the page to refer to the response set. The investigator wrote their responses down for all but the GWBS, where they marked the appropriate response on the question sheet. As the period of time examined in the ISSB is four weeks and the GWBS is a month, the period of four weeks was chosen with the Needs-aligned Support questions.

### Statistical Analyses

All the hypotheses were tested using 2-tailed tests, and an alpha of 0.05, using SPSS for the Macintosh 4.0. Correlations, multiple regression and independent t-tests were used. Assumptions for these analyses were checked and met reasonably well. However there were some outliers with the needs-aligned support measures. The relevant tests were rerun without the outliers. Since the outliers did not unduly influence the results all analyses are presented with all available cases.

## RESULTS

This chapter commences with a description of the study variables. The results for the three sets of hypotheses are then presented. These investigate the relationships between functional ability and psychological well-being, and between social support and psychological well-being and the possible buffering effect that social support may have on the relationship between functional ability and psychological well-being. Next the relationship between functional ability and social support is investigated. Finally the study variables associations with the demographic variables are discussed.

Table 2 shows the descriptive statistics for the study variables. A notable feature of Table 2 is the relatively low level of activities of daily living (ADL), especially considering that the maximum possible score for this measure is 18. The standard deviation of the ADL is also fairly small. Most subjects were clustered around the mean and therefore had little difficulty with the activities of daily living.

**Table 2: Descriptive statistics of the study variables (n=80 to 89)**

	Mean	Std dev
<b>Functional difficulty</b>	9.3	6.4
<b>Instrumental activities of daily living (IADL)</b>	7.0	3.9
<b>Activities of daily living (ADL)</b>	2.2	2.9
<b>Needs-aligned support</b>	24.0	35.6
<b>Informal support</b>	12.6	29.9
<b>Formal support</b>	10.8	14.3
<b>General Support</b>	66.6	16.0
<b>General tangible support</b>	15.8	3.0
<b>Emotional support</b>	30.7	9.4
<b>Informational support</b>	20.0	6.7
<b>Psychological well-being</b>	108.4	19.8

The standard deviation is large with the needs-aligned support variables, revealing a high level of variation in the sample in the amount of this form of support received. This is particularly the case with informal support. A lot of subjects received very little

or no (almost 46% received no help) needs-aligned support from informal sources, although a few received a great deal of help. (Two people received informal help 100 and 210 times in the month prior to their interview, while the next highest number of times help was received was 72.) The situation is similar for both formal support and needs-aligned support, although not quite as extreme. With formal support most people received a little or no help (almost 14% received no help) at one end of the scale, while at the other end some people were getting a lot of formal support (the most formal support received was 68 times in the month prior to the interview). Most people received at least a little needs-aligned support (only 4% received no help), though there was a lot of variation (the range went from zero to 218 instances of help), with some receiving a lot of support.

Another point to note from Table 2 are the low means for general tangible support and informational support (the possible range for tangible support was from 12 to 60 but with this sample went from 12 to 31, while with informational support the possible range was 14 to 70 but the actual range went from 14 up to 46). This shows that very few older adults in the sample received much general tangible support or informational support.

### **Analyses of the Hypotheses**

To give some idea of the relationships between functional ability and psychological well-being, and social support and psychological well-being, correlations were carried out (see Table 3). According to this data it appears that functional difficulty may be significantly associated with psychological well-being. However the correlation between psychological well-being and IADL is larger and therefore also significant, while the relationship of psychological well-being with ADL is not significant. This indicates that the significant relationship between functional difficulty and psychological well-being is attributable to the IADL component of functional difficulty. As high values in the functional ability measure demonstrate functional disability, this relationship is suggesting that those who have difficulty with functional ability, particularly IADL, have worse psychological well-being.

**Table 3: Psychological well-being correlated with the social support and functional ability variables**

	Psychological well-being
<b>Functional difficulty</b>	-.28*
<b>IADL</b>	-.31**
<b>ADL</b>	-.18
<b>Needs-aligned support</b>	-.02
<b>Informal support</b>	.02
<b>Formal support</b>	-.10
<b>General Support</b>	-.17
<b>General tangible support</b>	-.06
<b>Emotional support</b>	-.15
<b>Informational support</b>	-.22*

\*  $p < .05$ ; \*\*  $p < .01$

None of the needs-aligned support variables nor any of the general support variables appear to be related to psychological well-being, with the exception of informational support. It appears that the more informational support received, the worse the psychological well-being.

As functional ability might be acting as a confound in the relationship between informational support and psychological well-being it was necessary to control for it. Likewise the social support variables may have been confounding the relationship between functional ability and psychological well-being discussed above. A multiple regression analysis was performed in which psychological well-being was regressed onto functional difficulty, informal support, formal support, tangible support, informational support, emotional support, age, and gender. Table 4 shows the results for this analysis.

To explore the different effects that the components of functional ability might have on psychological well-being, IADL and ADL were entered into the multiple regression analysis instead of functional difficulty and the analyses were rerun. The results can be seen in Table 5.

**Table 4: Multiple regression analysis of psychological well-being on functional ability, social support, age and gender**

Variable	Beta	t
Functional difficulty	-.78	-3.67***
Informal support	.62	3.22**
Formal support	.26	1.76
General tangible support	.12	0.86
Emotional support	-.06	-0.44
Informational support	-.27	-1.95
Age	.07	0.60
Gender	-.14	-1.14

Adjusted  $R^2 = .13$ ,  $F = 2.37^*$

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

**Table 5: Multiple regression analysis of psychological well-being on functional ability subscales, social support, age and gender**

Variable	Beta	t
IADL	-.55	-2.78**
ADL	-.26	-1.18
Informal support	.59	2.90**
Formal support	.26	1.77
General tangible support	.12	.85
Emotional support	-.06	-.37
Informational support	-.27	-1.87
Age	.06	.52
Gender	-.15	-1.20

Adjusted  $R^2 = .12$ ,  $F = 2.11^*$

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

### Hypothesis One: Functional Ability and Psychological Well-Being

Tables 4 and 5 show the regression results used to test the first two hypotheses. Hypothesis one was partially confirmed; a lowered functional ability is related to a lower psychological well-being when social support is controlled. As can be seen in Table 4 functional difficulty was related to psychological well-being. But only one of the two components of functional difficulty, IADL was significantly related to

psychological well-being (Table 5). One would expect ADL also to be related as disability in these functions usually indicates a higher level of disability than IADL disability. Functional ability is related to psychological well-being in the predicted direction, whether or not social support is controlled. However this relationship appears to hold only for IADL.

### Hypothesis Two: Social Support and Psychological Well-Being

None of the predictions made in hypothesis two were upheld. Against expectations, informal support was *positively* related to psychological well-being independent of functional ability. That is a higher level of informal tangible support is related to higher psychological well-being. This was not the case when functional ability was not controlled (Table 3). It appears, then, that the more support received from informal sources, the better the psychological well-being of the sample.

As can be seen in Tables 4 and 5, none of the general support variables were related with psychological well-being independent of functional ability. Informational support, while significant when functional ability was not controlled (see Table 3), was not significant independent of functional ability. It is also worth noting that emotional support has virtually no correlation with psychological well-being, going against what recent research is generally finding (refer to Table 5).

### Hypothesis Three: The Buffering Effect

In line with this hypothesis, it was necessary to test for the interactive effect of the needs-aligned variables on functional difficulty using moderated multiple regression analysis (Jaccard, Turrisi, Wan, 1990). Having done the regression analyses as reported above, a product term was formed using informal support and functional difficulty and entered into the second part of the hierarchical analysis. Since IADL was also significantly related to psychological well-being, another multiple regression analysis was performed putting IADL in the product term in place of functional difficulty. These two analyses were repeated using formal support instead of informal support in the product term. None of the interaction effects in the multiple regression analyses were even close to being significant. Needs-aligned support did not buffer the relationship between functional ability and psychological well-being. A summary of the statistics can be found in Tables 7, 8, 9, and 10 in Appendix G.

## Subsidiary Analyses

### Functional Ability and Social Support

Although there was no formal hypothesis about functional ability and social support, there were expectations that functional ability would be positively related to the social support variables. Pearson's correlations were carried out and the results are presented in Table 6 below.

**Table 6: Pearson's correlations between functional ability and the social support variables**

	Functional difficulty	IADL	ADL
<b>Needs-aligned support</b>	.83**	.74**	.82**
<b>Informal support</b>	.66**	.57**	.68**
<b>Formal support</b>	.50**	.51**	.41**
<b>General Support</b>	.19	.22*	.13
<b>General tangible support</b>	.17	.22*	.09
<b>Emotional support</b>	.21	.22*	.17
<b>Informational support</b>	.12	.14	.08

\*  $p < .05$ ; \*\*  $p < .01$

A low level of functional ability is clearly related to high levels of needs-aligned support; all the needs-aligned support measures were associated with functional ability. As can be seen in Table 6, the correlation between functional difficulty and informal support was moderately strong, as it was with ADL. It was almost as strong with IADL. The receipt of formal support was moderately correlated with the functional ability variables although this time IADL had a slightly stronger correlation than ADL. Needs-aligned support (the combination of informal and formal support) had a very strong correlation with the functional ability variables. Those with functional disability are given high levels of needs-aligned support.

The amount of general support received was not related to the functional ability of the subjects (see Table 6). However IADL, did have a significant, although small, correlation with general support. It was also the only functional ability variable to be significantly correlated with tangible assistance and with non-directive support, both

subscales of general support. Those who have difficulty with IADL appear to get more tangible support and emotional support. None of the functional ability variables were significantly correlated with informational support.

### **Age, Gender and Living Arrangements**

There were no formal hypotheses linking age, gender and living arrangements with the study variables. However there were expectations that age would be associated with more functional disability, and more social support. It was anticipated that women would have more functional disability, and receive more social support than men. Finally it was suggested that those living on their own would get more formal support than those living with a spouse or others, and that those living with a spouse would have the highest levels of informal support. Pearson's correlations were carried out between the study variables and age, while student's t-test were done comparing gender and living arrangements with the appropriate study variables. The results are presented in Appendix H.

The suggestion that age would be associated with functional ability and social support was not upheld. The highest correlation age had, was with formal support ( $r = 0.18$ ,  $p > 0.05$ ).

Men had higher levels of functional disability than women (mean = 12.6 and mean = 8.6 respectively) and received more informal support (mean = 30.8 and mean = 7.6 respectively), although these were not statistically significant. Women tended to receive a little more general support than men, but again the difference was not significant. There was very little difference in the amount of formal support given.

Those living on their own received very little informal support (mean = 2.0) while those living with a spouse received significantly more (mean = 34.7;  $t = -3.54$ ,  $p < 0.01$ ). The amount of informal support given to those living with others was in between (mean = 22.4) the other two groups, although not significantly different from either. The levels of formal support, and general support were similar amongst the groups.

In summary hypothesis one was partially endorsed; IADL demonstrated a significant relationship to psychological well-being, although ADL did not. A lowered functional ability, and in particular IADL, are negatively associated with psychological well-being.

Hypothesis two was not verified, although received needs-aligned informal tangible support was *positively* associated with psychological well-being independent of functional ability. Those who receive higher levels of support from informal sources appear to have slightly better psychological well-being. Hypothesis three was also not upheld, there was no buffering effect. Social support did not buffer the relationship between functional ability and psychological well-being.

## DISCUSSION

This chapter starts off by discussing each of the three hypotheses. Hypothesis two is divided into two sections; source of support, and type of support. The next section looks at the expectations about the relationships between social support and functional ability, and between the demographic variables and the study variables where there were expectations. The final section is in two parts; limitations, and implications for future research.

### Discussion of the Hypotheses

#### Hypothesis One: Functional Ability and Psychological Well-Being

These findings endorse the hypothesis that a lowered functional ability is associated with a lowered psychological well-being, and adds support to the empirical and theoretical connections between functional ability and psychological well-being in older adults (although this may not be specific to older adults). The positive relationship found between functional disability and psychological well-being is consistent with the findings reported by other researchers (Badger, 1993; Bazargan & Hamm-Baugh, 1995; Bowling & Browne, 1991; Bowling et al., 1996; Erdal & Zautra, 1995; Frischer et al., 1991; O'Keefe et al., 1995; Phillips & Murrell, 1994; Revicki & Mitchell, 1990; Stallings et al., 1997; Wenger, 1992).

The instrumental activities of daily living (IADL) measure, but not activities of daily living (ADL), was significantly related to psychological well-being. This reveals that although functional difficulty was significantly related to psychological well-being, this was because of its IADL component. As previously mentioned, ADL disability usually indicates a higher level of disability than IADL (Kemp & Mitchell, 1992). Therefore one would have expected an even stronger relationship between ADL and psychological well-being, if such a relationship existed between functional disability and psychological well-being. Few people had problems with ADL disability, making a significant relationship more difficult to find. There are at least two possible reasons for this low level of ADL disability.

Firstly, frail older adults with high ADL disability are not easily maintained in the community, and are entitled to rest home subsidies. Therefore many will have moved to institutional care, as tends to be the case here in New Zealand (Richmond, Basket, Bonita, & Melding, 1995). Indeed researchers (Jette et al., 1992; Jette et al., 1995; Montgomery & Kosloski, 1994) have found that older adults with ADL disability are at a greater risk of being institutionalised than those with IADL disability only.

Secondly, it may be harder to recruit subjects with high ADL disability who are still in the community due to difficulties in communicating, low energy levels and the like. Symptoms like these are unlikely to be conducive to activity such as participating in research. Similar symptoms are also found in people who are depressed, who tend to be less inclined to undertake activities and more likely to be socially withdrawn and apathetic (Lomranz, Bergman, Eyal, & Shmotkin, 1988; Thorson, 1995); such people are probably also less inclined to participate in studies. If there is a link between ADL and psychological well-being, then it is likely that groups with high ADL will be under-represented in studies such as the current one. Therefore it will be harder to find a relationship between ADL and psychological well-being than between IADL and psychological well-being. The emphasis of other research with psychological well-being as a dependent variable, has tended to be on functional disability as a whole. When both ADL and IADL scales are used in research, they are generally combined to form a disability scale, and therefore the different effects of IADL and ADL are not compared.

There are several ways that physical health problems and functional disability can lead to a lowered psychological well-being. Williamson and Schulz (1992) found that pain, especially if it was linked to a restriction in activity, contributed to a depressed affect. Whitbourne (1996) has suggested that people's sense of identity may be influenced by their physical identity and health. Poor health and difficulties with activities of daily living could lead to increased dependence and subsequent loss of sense of identity. If their health declines, and their activity is restricted, then their self-esteem, and the sense of who they are, may decline resulting in a lower psychological well-being. Furthermore, it has long been recognised that a sense of control over one's life is also related to psychological well-being (Rodin, 1986a). Older adults who have functional disability can have a diminished sense of control and therefore a lowered psychological well-being.

There are other possible explanations for this relationship, as discussed earlier. Some illnesses, for example Parkinson's Disease, may cause depression as a direct symptom, as well as affect functional ability. Psychological problems, such as depression or anxiety, can affect physical health and functional ability. Depression for instance can cause apathy and impair daily functioning (Schefft & Lehr, 1990). Physical and mental health problems can interact to cause more functional disability, psychological well-being problems or both (G. Cohen, 1992). Drugs (or another factor) can be related to both functional disability and psychological well-being (Browning, 1992). It is possible that any of these reasons can be present simultaneously (Berkman et al., 1986) or at different times within an individual. Due to the cross-sectional design of the current study, the temporal ordering between functional ability and psychological well-being (or any other combination of variables in the present study) is impossible to determine. Causality is also impossible to determine in cross-sectional designs, as it is in many other study designs.

## Hypothesis Two: Social Support and Psychological Well-Being

### **Source of Support and Psychological Well-Being**

Neither of the hypotheses relating support source and psychological well-being were upheld in the present study. Lowered levels of received formal tangible support were not related to lower psychological well-being. An unexpected finding was the positive relationship between informally received tangible support and psychological well-being; those who received informal support tended to have a better psychological well-being. This went completely against the hypothesis that predicted that informal support would result in lower psychological well-being.

There could be several reasons why informal support was positively related to psychological well-being. Increases in the level of informal tangible support may provide more opportunities for emotional support to be given. This explanation is backed up by the significant correlation between informal tangible support and emotional support, the only significant correlation between the general support variables and needs-aligned support variables. The problem with this explanation is that emotional support was not related to psychological well-being. This relationship is considered later on.

In this sample it is possible that in getting support from informal helpers with whom one is familiar, the positive feeling generated have outweighed the negative influences. For example, there may be relief that there is someone who will help, and on whom the older person can rely; there maybe happiness that s/he is seeing the informal support giver (possibly more often). On the other hand there may be embarrassment about being dependent on adult children.

When a formal helper comes as a stranger into the home, some older adults may have uncomfortable feelings. In addition the older adult needs to "train" the formal helper on what tasks are to be carried out, and how s/he likes them done. In this sample, older adults who were not satisfied with the support provided by formal helpers appeared to be quite frustrated. The informal helper, who has known the older person for some time, is more likely to know how the older person likes things done. (This will particularly be the situation if the informal helper is a child of the older adult - s/he is likely to have been brought up in the "ways" of the older person). Satisfaction with support could be important in understanding the relationship with support source and psychological well-being. This could, at least in part, account for the lack of a relationship between formal support and psychological well-being.

Formal tangible support has been found to have both a positive relationship (Felton & Berry, 1992; Krause, 1990) and no relationship (Kelman et al., 1994) with psychological well-being, as has informal support (positive relationship: Felton & Berry, 1992; Wenger, 1990; Yates, 1995: No relationship; Kelman et al., 1994; Krause, 1990). Friedman (1993) found that tangible assistance from non-family informal sources was linked with less satisfaction with life. The differences in these findings may lie partly with the small, non-representative populations that were investigated, although two of these studies (Kelman et al., 1994 and Krause, 1990) did have large representative samples of older community residents. It was proposed in the current study that formal support, but not informal support, would have a positive association on psychological well-being for two reasons. Firstly this was in line with a previous study that had carefully aligned support given with needs (Krause, 1990), and second, it has been suggested that older people may prefer formally provided support to informal support (Brody, 1985; Lee, 1985; Thorson, 1995). However the results from the present study indicate that formally provided tangible support has no effect on psychological

well-being of older adults with functional disability, but that informal tangible support may have a positive effect.

One possible reason for these differing results may be the different attitudes and feelings that different populations could have towards the receiving of tangible support in general, and receiving help from the various sources - formal and informal - available to them. A lowered psychological well-being may occur when there is incongruity between these attitudes and reality. There may be sub-populations within the populations studied that feel differently about receiving support from the different sources, resulting in significant effects within a group being cancelled out. Some older adults may have attitudes that are incongruous in themselves, and hence, when they need tangible support they will be more susceptible to a lowered psychological well-being. For example they may feel that the appropriate people to approach for tangible assistance are adult children, but may not want to impose on their children.

It is quite possible that these sub-populations within the older adult population, may be based along cohort and cultural lines, or influenced by events (Felton, 1987; Koopman-Boyden, 1993). One possibility is that those born prior and during World War II (WWII) may have been brought up with attitudes such as "keep it in the family", self-sufficiency, it is a daughter's responsibility to help her parents in their old age, and they may view negatively the receiving of "charity" (any help from outside agencies). Those who grew up after WWII and in the Welfare State (particularly here in New Zealand), may be more reluctant to be dependent on their children. Another possible event for older people that may have shaped their views on support is the Great Depression of the late 20s and early 30s. These different attitudes were evident in some of the subjects during their interviews. It may be that the reaction of the subject's family to such events is important in how an older adult feels about receiving support, rather than a rigid date or particular event. And what of the attitudes of older adults of the future? They will be affected by the concern of today's world about the ageing population being a strain on society. At the same time women have gone back in large numbers to the work force, making it harder for them to look after their parents. All this may have a different effect on the attitudes of older people in the future.

Other possible differences in the populations that could affect the social support-psychological well-being relationship include relationships with children, personality

(Lebowitz & Niederehe, 1992; Zika, 1984), marital status (Silverstein & Bengtson, 1994), religiosity (Myers & Diener, 1995), and the amount of intimate care provided by nonspousal informal caregivers. Personal care provided by adult children for parents crosses intimacy boundaries (Bury & Holme, 1990), and therefore many parents, when they need such care may not wish to be cared for by their children. Care from a spouse does not present such issues, and intimate care from formal caregivers may produce a completely different set of issues.

An impression gained was that some of the formal helpers had obviously become friends with their clients, dulling the distinction between formal and informal helpers. For example, a home help had driven one of the subjects for two hours to a nearby city so that the subject could visit her daughter! This effect has also been noted by Armstrong and Goldstein (1990), who went on to comment that there was also often a lack of distinction between relatives and friends. The relationship that one has with family members may significantly affect psychological well-being when one gets help from them. Likewise, formal helpers who become friends may affect psychological well-being differently from formal helpers who do not become friends. Therefore one limitation of studies (including the present study) that take this approach to measuring the source of social support is that they consider the relevant relationship to be the original relationship (one is a relative before one is a friend, a formal helper before being a friend). Other aspects that may have a bearing on the effect of the support, such as the quality of the relationship, are not considered.

If the findings of the present study are correct then informally provided tangible support is positively related to psychological well-being, while formal support is psychologically neutral. Nevertheless it should be borne in mind that the size of the correlation was not large. Informal support comes from a wide range of people, from family members to friends and neighbours, and further research is required to break open this concept even more. Older adults responding to helpers in particular, rather than informal or formal supporters in general could also explain the differences in research findings. Research in the future may show more explicitly who is the best to carry out specific tasks for each older adult (Dunkel-Schetter, 1984).

### **Type of Support and Psychological Well-Being**

The present study did not verify the hypothesis that those with higher levels of received tangible support (as measured by the Inventory of Socially Supportive Behaviors (ISSB)) would have better psychological well-being. This was not unexpected, as the source of support was not taken into consideration. The above results suggest that the lack of effects in formally received support may reduce the positive effects of informal support. The above results suggest that received informal tangible support specific to a need (in this case functional disability) is positively associated to psychological well-being; however with this more general measure of received tangible support the result was not significant.

Findings regarding tangible support in the literature are similarly inconsistent. A wide range of questionnaires use a variety of approaches. This makes it difficult to find patterns across the studies, even with similar results. One problem with the present study may have been with the tangible support scale. Other researchers have noted that items in this scale are not as relevant to older adults as to some other age groups (Friedman, 1993; Krause & Markides, 1990). This was noted to be the case with this sample - there are four items relating to the giving or loaning of money. In only five cases were any of these items answered positively (and in two cases these were not based on the need of the recipient). Nevertheless, there was a high enough response rate to get a significant association between this scale and IADL.

The hypothesis, that received emotional support will improve psychological well-being, was not upheld in the present study. This goes against the current trend that shows, in general, a positive relationship between emotional support and psychological well-being. It is possible that this measure did not tap appropriate emotional support for this sample, and in light of other research that does generally find a link, this is likely (Bowling et al., 1989; Chappell & Badger, 1989; Friedman & King, 1994; Gupta & Korte, 1994; Schaefer et al., 1981; Yates, 1995). Some of the actions in the measure may not have been supportive to a lot of older adults in this sample. For example, some may have found "joked and kidded to try to cheer you up" more irritating than supportive.

Another possible explanation is that emotional support may tend to benefit only those who need it, and in the present study those who needed it may have received it (and

those who received adequate levels of emotional support may have been more inclined to participate). The significant association between emotional support and IADL backs up this idea. Those with IADL difficulties have a lowered psychological well-being, as discussed above, and they tend to get more emotional support. Thus there may not have been a nonsupported group who needed emotional support, a group that is required to find a significant result.

The hypothesis that received informational support would be positively associated with psychological well-being, was also not endorsed. A possible explanation for this may have been the relatively low rate of informational support reported by this sample, thereby making it more difficult to find significant results. Six out of the fourteen items in this scale got less than 20% of the subjects reporting that they had received this support in the month prior to their interview. Backing this up is the lack of a relationship between informational support and IADL, when both the other general support variables were positively associated with IADL. Other researchers have also reported low levels of informational support with older populations (Friedman & King, 1994; Glass & Maddox, 1992).

It is possible that certain properties of informational support may not always have a beneficial effect on psychological well-being of older adults: This is in line with other studies (Friedman & King, 1994; Yates, 1995). There are at least two possible reasons for this. Friedman and King reported that many of their subjects expressed a preference for not receiving informational support, and some subjects made similar comments during the present study. This could lead to relatively low levels of informational support reported in the present study and in other studies (Friedman & King, 1994; Glass & Maddox, 1992). It is likely that this type of support needs to be measured in relation to a specific need and requirement. Guidance and advice that is not wanted can have a negative impact, and often people may not be receptive to it, or it may not be given in a manner that is supportive. Dunkel-Schetter (1984) reported that informational support needs to be given in an emotionally supportive way for it to be beneficial. Asking subjects to report whether an action has occurred, as is done with the ISSB, may result in unsupportive actions being reported, as well as supportive ones. To summarise, a lack of significant results could have occurred for two reasons, which are plausibly related. Firstly, low levels of informational support are given to older adults. Secondly,

inappropriate or unwanted informational support may have a negative impact, and this may lead to it being sought infrequently.

One aim of the present study was to investigate how received support was related to psychological well-being. From the present study it is apparent that when received support (particularly tangible support) is investigated, it may be more fruitful if the support studied is specific to a need or problem such as functional disability. Received support that is not specific to a need or problem may not be beneficial, and may, at times have a negative impact (Argyle, 1992). The receipt of support that is not wanted may be part of the reason for inconsistent findings in this area, and in some studies may cancel out beneficial effects where support is required.

A reason why there may have been low levels of some types of the received support in the current study may lie in the short time span used (one month). Received support measured over a relatively short time span, as in the present study, has the advantage that it will be reasonably accurate. However a short time span has the disadvantage that many people will require little specific support in this time and therefore significant results may be hard to find. Several subjects in the present study were a little frustrated because they *knew* support was available; it had been given in the past, sometimes fairly recently, but not recently enough. A measure that allows for the reporting of support over a longer time may produce more positive results, although it may not be as reliable due to memory being less accurate over longer periods of time. Silverstein and Bengtson (1994) got around this issue by asking their subjects "on whom they relied upon for help or support" (p. 947). Needs-aligned support, being aligned to activities of daily living, had the advantage of being regularly needed and therefore there were higher levels of this type of support given.

### Hypothesis Three: The Buffering Effect

Neither formal received tangible support nor informal received tangible support acted as a buffer in the relationship between functional ability and psychological well-being. The lack of a moderating relationship was not surprising. Research investigating the buffering effect with social support where support source is not considered, has mixed findings. Research that compares informal and formal sources is minimal, having only started in the last five to ten years.

A buffering effect is difficult to find for at least three reasons. Firstly, a large sample is usually required to find a moderating relationship - there were only 89 subjects in the present study. Secondly, a buffering effect may be particularly hard to find in a population whose health problems (and hence functional ability) are chronic and whose health status is in decline - and many of the chronic health problems of the elderly are associated with an inevitable decline (Heenan, 1993). It is unlikely in such a population that subjects will have much improvement in their functional ability, even under optimal conditions; many subjects will decline anyway, albeit at a slower pace if buffering occurs. It is likely that in a population with chronic conditions that any buffering effect will be too small to be statistically significant. Finally, the buffering effect may be curvilinear, making it even harder to find a significant result. The possibility of a curvilinear buffering effect was not tested as it was felt that the sample size was not sufficiently large to find this type of relationship.

As it happened this sample was not a good one to test for a buffering effect. The correlation between formal tangible support (and informal tangible support) and functional disability was moderately high. It has been suggested that under this condition a buffering effect is impossible to find (Cohen & Wills, 1985; Krause, 1990). To demonstrate a buffering effect there needs to be both high and low levels of support with subjects who have high stress (high functional disability). In the present study under conditions of high stress, the amount of support given was moderate to high (low levels of support were rare when subjects had high disability).

## **The Relationships Among Functional Ability, Social Support, Age, Gender, and Living Arrangements**

### **Social Support and Functional Ability**

The proposal that those with a lower functional ability will have higher levels of (received) tangible social support was confirmed. There were moderate to strong relationships between the needs-aligned support variables and all the functional ability variables. There was also a significant relationship between IADL and received general tangible support. These findings concur with previous research (Auslander & Litwin, 1990; Morris et al., 1996; Tennstedt et al., 1994; Wallace et al., 1994). The probable

reason for the lack of relationship between general tangible support and ADL lies in the nature of the items in the general tangible support scale. They were not ADL type activities, tending to be IADL activities. This also accounts for a lack of relationship between functional difficulty and general tangible support, ADL being a component of functional difficulty.

The high correlation between functional ability and the needs-aligned support indicates that subjects were generally receiving the support they needed to live in the community. Some of the support comes from informal sources and some from formal sources; the two combined generally fulfil the functional ability needs of the older adult. Although it was not able to be tested, the impression of the interviewer was that the correlation between functional ability and needs-aligned support was not higher because some individuals were receiving *more* informal support than their problem required, rather than some individuals receiving less. This frequently occurs when a married man had only a low level of disability, but due to gender roles, his wife still did most of the household chores (Dwyer & Sercommbe, 1991).

It is important that social support corresponds to functional disability to decrease the risk of institutionalisation in older adults. Most older people with adequate social support can continue to live at home, and prefer to do so - there is much resistance from older adults to living in institutions (Cantor, 1991; Dunkle & Kart, 1990; Minichiello, Russell, & Swerissen, 1992; Thorson, 1995) and this includes New Zealanders (Green, 1993). This is in line with the movement that has occurred over the last three decades to place people in the 'least restrictive environment' (Thorson, 1995).

Much research shows that living in nursing homes can lead to psychological deterioration (Baltes, Kindermann, Reizenzein, & Schmid, 1987; Rodin, 1986a; Thorson, 1995; Tobin, 1989). This can probably be expected to a certain extent as these are people with physical and mental illnesses. However, research shows that some of this deterioration is due to the effects of institutionalisation that leads to losses in things like privacy, control, independence and autonomy (Baltes et al., 1987; George & Maddox, 1989; Penning & Strain, 1994; Rodin 1986b). Researchers on the whole concur that the process of relocating an older person into an institution can also lead to distress and decreased psychological well-being (Dunkle & Kart, 1990; Tobin, 1989).

It is also interesting to note that disability in IADL was also associated with general support and emotional support, although not with informational support. The reason for the lack of relationship between these support variables (general support, emotional support, and informational support) and the other two functional ability variables (functional difficulty and ADL) is quite possibly due to the low level of ADL in the sample. Since research is showing that emotional support appears to be beneficial for health (Bowling et al., 1989; Yates, 1995), a reasonable explanation for the relationship between it and IADL is that a decrease in functional ability can lead to an increase in the level of emotional support received. Although, with this sample, it is possible that the relationship was reversed, especially if the emotional support given was not really supportive. Alternatively, there may have been another variable involved.

### **Age, Social Support and Functional Ability**

Neither of the proposals that linked age with functional disability and social support was verified. The first finding goes against recent research that clearly links age and functional disability. The research findings on age and social support are ambiguous.

The lack of relationship between age and functional ability lies in the sample studied. It is not a representative sample of older adults in the community, but a particular sample of older community-dwelling adults with functional disability, as outlined earlier. A second possibility is that older adults with high levels of ADL disability were less inclined to participate. This would have made the sample less representative of the population under investigation.

### **Gender, Social Support and Functional Ability**

The two proposals that linked gender with functional ability and social support were not confirmed. This again goes against current research that shows that women have a worse functional ability than men do (Bowling et al., 1989; Merrill et al., 1997). One possible reason for the result is that women are at a greater risk for institutionalisation, and therefore less likely to be in the community. This would mean in a community sample, that the level of functional disability in women and in men would be more likely to be similar. Despite the results not being significant it is interesting to note, that although the amount of formal support received by both groups in this sample was very similar, men got more informal support than women did. Men, in the month prior to the

interview, were helped on average, 44 times with functional disability difficulties; women were helped 18.6 times on average.

### **Living Arrangements**

The proposal that those living on their own would get more formal support was not confirmed; individuals received similar levels of formal support regardless of their living arrangements. The proposal that those living with a spouse will have higher levels of informal support was partially upheld. Those living with a spouse received significantly more informal support than those living on their own. There were probably not enough subjects in the "others" category to get a significant result with this group. It must be noted that functional ability was not controlled in this relationship.

It was assumed that those living with others would be more likely to be doing so because of high levels of disability, this being the arrangement that would keep them out of an institution. However two of the seven subjects who were in this category, were residing with another for the sake of the other person. It is important to determine why an older adult may be living with others to prevent confounding of the results.

It appears that increasing age makes those over 65 both susceptible to more functional problems (which although the present study did not verify, is generally the case; Jones et al., 1992). Other research has firmly established that these people are more likely to be women living on their own who have less access to tangible support (particularly informally provided support; Avery et al., 1989; Heenan, 1993). The present study shows those living on their own have less access to informal support. They therefore may need higher levels of formally provided tangible support. Those with very high ADL problems may need high levels of formal tangible support regardless of their living arrangements. If they are living with others (who are usually adult children), then high levels of formal support may be needed as ADL support often crosses intimate boundaries. If they are living with a spouse then formal support may also be needed to support the spouse, especially if the spouse is also frail (Gregory, Peters, & Cameron, 1990; Miller & McFall, 1991; Opie, 1991a). Further research is needed to determine which groups of older people have less access to tangible support, both informal and formal.

## Conclusions

### Limitations

There are several limitations with the current study. Firstly, the data are cross-sectional, and therefore the temporal ordering within any of the relationships is not able to be determined. For example it is not clear whether functional disability preceded a decrease in the level of psychological well-being or if psychological well-being occurred first. The same problem applies to the relationship between functional ability and social support, or any other relationship investigated in the present study.

The ISSB, in this form, may not have been the best general support measure to use as some items did not seem to be particularly relevant to this group of older adults, generating only a low response rate. The short time span of one month may have contributed to this problem. Further research using this measure may benefit from some of the subscales being altered to be more suitable for the population being studied, as some researchers have already done (Krause & Markides, 1990; Vaux, 1992).

A third limitation concerns the sample of subjects. It is a convenience sample, and therefore is unlikely to be representative of all community-dwelling older adults with functional disability. Palmerston North has a low population of Maori and other Polynesians. It is likely that these cultural groups, as well as others, have their own distinct social support patterns.

Most subjects with a reasonable level of disability used technical aids, such as handrails. The use of such aids and how they affected subjects was not assessed in the present study. It was felt that subjects who had such aids tended to underreport their level of disability to match the level of help they required from others. For example handrails enabled many subjects to have a bath without any help, and therefore many such subjects gave their level of disability in this activity as zero. The independence that such aids can give, may have affected the well-being of some subjects (some subjects appeared to be quite proud of their technical aids).

## Implications for Future Research

Functional disability may frequently be inevitable, but in many cases a lowering of psychological well-being may not be, and may be amenable to intervention. Research is required that looks into the possible pathways of this relationship, and whether or not intervention is practical.

As research into support source and psychological well-being of older adults is producing mixed results a lot more studies, particularly longitudinal ones, are necessary. It may be productive to include measures that look at people's attitudes to receiving help from the various sources available to them in general, and the individuals they are getting help from in particular, to see if quality of relationship is an important consideration in the link between source of support and psychological well-being.

Two points can be made in the context of the present study with regards to the relationship of psychological well-being to emotional and informational support. Firstly, it may be fruitful to check that emotional and informational support given is not having a negative impact on some of the subjects. Secondly, one of the needs-aligned support variables, informal support, was positively associated with psychological well-being. This shows that it may be worthwhile in future research to measure social support that is specific to the needs of older adults rather than using more general measures of social support.

The present study helps substantiate the direct-effect model of social support, but gives no evidence, one way or the other, for the buffering model. It appears that informal support may have a positive relationship to psychological well-being of older adults, although more research is needed to compare the effect of support received from different informal supporters, particularly comparing spouses' support with support from other informal caregivers. Another possible line of research is to investigate how older adults' expectations and beliefs about social support affect their psychological well-being when they receive support from various sources.

Much research is needed on older adults as they increase numerically as a group. Nevertheless it must not be forgotten that they are a heterogeneous group, full of individuals with a vast range of experience, beliefs and attitudes. Quantitative research does not describe individuals; it describes a group. Detail is lost in the translation from

individuals to group, possibly more so with older adults than any other group. In the final analysis there are still a lot of factors that need to be investigated to understand the interplay between functional ability, social support and psychological well-being in older adults.

## References

- Aldwin, C. M., Spiro, A. III, Levenson, M. R., & Bosse, R. (1989). Longitudinal findings from the normative aging study: 1. Does mental health change with age? *Psychology and Aging, 4*, 295-306.
- Anastasi, A. (1982). *Psychological testing* (5th ed.). New York: Collier Macmillan.
- Argyle, M. (1992). Benefits produced by supportive social relationships. In H. O. F. Veiel & U. Baumann (Eds.), *The meaning and measurement of social support* (pp. 13-32). New York: Hemisphere.
- Armstrong, M. J., & Goldsteen, K. S. (1990). Friendship support patterns of older American women. *Journal of Aging Studies, 4*, 391-404.
- Auslander, G. K., & Litwin, H. (1990). Social support networks and formal help seeking: Differences between applicants to social services and a nonapplicant sample. *Journal of Gerontology: SOCIAL SCIENCES, 45*, S112-S119.
- Avery, R., Speare, A., & Lawton, L. (1989). Social support, disability and independent living of elderly persons in the United States. *Journal of Aging Studies, 3*, 279-293.
- Badger, T. A. (1993). Physical health impairment and depression among older adults. *IMAGE: Journal of Nursing Scholarship, 25*, 325-330.
- Balatsky, G., & Diener, E. (1993). Subjective well-being among Russian students. *Social Indicators Research, 28*, 225-243.
- Baltes, M. M., Kindermann, T., Reizenzein, R., & Schmid, U. (1987). Further observational data on the behavioral and social world of institutions for the aged. *Psychology and Aging, 2*, 390-403.
- Barrera, M. (1981). Social support in the adjustment of pregnant adolescents: Assessment issues. In B. H. Gottlieb (Ed.), *Social networks and social support* (pp. 69-96). Beverly Hills, CA: Sage.
- Barrera, M. (1988). Modes of social support and life stress: Beyond the buffering hypothesis. In L. H. Cohen (Ed.), *Life events and psychological functioning: Theoretical and methodological issues*. (pp. 211-236). Newbury Park, CA: Sage.
- Barrera, M., & Ainlay, S. L. (1983). The structure of social support: A conceptual and empirical analysis. *Journal of Community Psychology, 11*, 133-143.

- Barrera, M., Sandler, I. N., & Ramsay. (1981). Preliminary development of a scale of social support: Studies on college students. *American Journal of Community Psychology, 9*, 435-447.
- Bazargan, M., & Hamm-Baugh, V. P. (1995). The relationship between chronic illness and depression in a community of urban black elderly persons. *Journal of Gerontology: SOCIAL SCIENCES, 50B*, S119-S127.
- Bebbington, A., & Charnley, H. (1990). Community care for the elderly: Rhetoric and reality. *British Journal of Social Work, 20*, 406-432.
- Berkman, L. F., Berkman, C. S., Kasl, S., Freeman, D. H., Jr., Leo, L., Ostfeld, A. M., Cornoni-Huntley, J., & Brody, J. A. (1986). Depressive symptoms in relation to physical health and functioning in the elderly. *American Journal of Epidemiology, 124*, 372-388.
- Bernard, S. L., Kincade, J. E., Konrad, T. R., Arcury, T. A., Rabiner, D. J., Woomert, A., DeFriese, G. H., & Ory, M. G. (1997). Predicting mortality from community surveys of older adults: The importance of self-rated functional ability. *Journal of Gerontology: SOCIAL SCIENCES, 52B*, S155-S163.
- Bernardi, R. A. (1994). Validating research results when Cronbach's alpha is below .70: A methodological procedure. *Educational and Psychological Measurement, 54*, 766-775.
- Berry, J. M., Storandt, M., & Coyne, A. (1984). Age and sex differences in somatic complaints associated with depression. *Journal of Gerontology, 39*, 465-467.
- Blazer, D., Burchett, B., Service, C., & George, L. K. (1991). The association of age and depression among the elderly: An epidemiologic exploration. *Journal of Gerontology: MEDICAL SCIENCES, 46*, M210-M215.
- Bolla-Wilson, K., & Blecker, M. L. (1989). Absence of depression in elderly adults. *Journal of Gerontology: PSYCHOLOGICAL SCIENCES, 44*, P53-P55.
- Bowling, A. (1990). Associations with life satisfaction among very elderly people living in a deprived part of inner London. *Social Science and Medicine, 31*, 1003-1011.
- Bowling, A., & Browne, P. D. (1991). Social networks, health, and emotional well-being among the oldest old in London. *Journal of Gerontology: SOCIAL SCIENCES, 46*, S20-S32.
- Bowling, A., Edelman, R. J., Leaver, J., & Hoekel, T. (1989). Loneliness, mobility, well-being and social support in a sample of over 85 year olds. *Personality and Individual Differences, 10*, 1189-1192.

- Bowling, A., Farquhar, M., & Browne, P. (1991). Life satisfaction and associations with social network and support variables in three samples of elderly people. *International Journal of Geriatric Psychiatry, 6*, 549-566.
- Bowling, A., Farquhar, M., Grundy, E. (1996). Associations with changes in life satisfaction among three samples of elderly people living at home. *International Journal of Geriatric Psychiatry, 11*, 1077-1087.
- Bowling, A., Farquhar, M., Grundy, E., & Formby, J. (1993). Changes in life satisfaction over a two and a half year period among very elderly people living in London. *Social Science and Medicine, 36*, 641-655.
- Brody, E. M. (1985). Parent care as a normative family stress. *The Gerontologist, 25*, 19-29.
- Browning, C. (1992). Psychological aspects of ageing. In V. Minichiello, L. Alexander, & D. Jones (Eds.), *Gerontology: A multidisciplinary approach* (pp. 72-119). Sydney, Australia: Prentice Hall.
- Bury, M., & Holme, A. (1990). Quality of life and social support in the very old. *Journal of Aging Studies, 4*, 345-357.
- Caldwell, R. A., & Reinhart, M. A. (1988). The relationship of personality to individual differences in the use of type and source of social support. *Journal of Social and Clinical Psychology, 6*, 140-146.
- Cantor, M. H. (1991). Family and community: Changing roles in an aging society. *The Gerontologist, 31*, 337-346.
- Chappell, N. L. (1981). Measuring functional ability and chronic health conditions among the elderly: A research note on the adequacy of three instruments. *Journal of Health and Social Behavior, 22*, 90-102.
- Chappell, N. L. (1990). Aging and social care. In R. H. Binstock & L. K. George (Eds.), *The handbook of aging and the social sciences* (3rd ed., pp. 438-454). San Diego, CA: Academic Press.
- Chappell, N. L., & Badger, M. (1989). Social isolation and well-being. *Journal of Gerontology: SOCIAL SCIENCES, 44*, S169-S176.
- Chappell, N. L., & Blandford, A. (1991). Informal and formal care: Exploring the complementarity. *Ageing and Society, 11*, 299-317.
- Cockerham, W. C., Sharp, K., & Wilcox, J. A. (1983). Aging and perceived health. *Journal of Gerontology, 38*, 349-355.

- Cohen, C. A., Gold, D. P., Shulman, K. I., McDonald, G., & Wargon, M. (1993). Factors determining the decision to institutionalize dementing individuals: A prospective study. *The Gerontologist, 43*, 714-720.
- Cohen, G. D. (1992). The future of mental health and aging. In J. E. Birren, R. B. Sloane, & G. D. Cohen (Eds.), *Handbook of mental health and aging* (2nd ed., pp. 893-914). San Diego, CA: Academic Press.
- Cohen, S. (1992). Stress, social support, and disorder. In H. O. F. Veiel & U. Baumann (Eds.), *The meaning and measurement of social support* (pp. 109-124). New York: Hemisphere.
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98*, 310-357.
- Costa, P. T., & McCrae, R. R. (1996). Mood and personality in adulthood. In C. Magai & S. H. McFadden (Eds.), *Handbook of emotion, adult development, and aging* (pp. 369-383). San Diego, CA.: Academic Press.
- Cutrona, C. E. (1990). Stress and social support - in search of optimal matching. *Journal of Social and Clinical Psychology, 9*, 3-14.
- Cutrona, C. E., & Russell, D. W. (1990). Type of social support and specific stress: Toward a theory of optimal matching. In B. R. Sarason, I. G. Sarason, & G. R. Pierce (Eds.), *Social support: An interactional view* (pp. 319-366). New York: John Wiley & Sons.
- Dean, K., Holst, E., Kreiner, S., Schoenborn, C., & Wilson, R. (1994). Measurement issues in research on social support and health. *Journal of Epidemiology and Community Health, 48*, 201-206.
- Debats, D. L. (1996). Meaning in life: Clinical relevance and predictive power. *British Journal of Clinical Psychology, 35*, 503-516.
- Dunkel-Schetter, C. (1984). Social support and cancer: Findings based on patient interviews and their implications. *Journal of Social Issues, 40*, 77-98.
- Dunkle, R. E., & Kart, C. S. (1990). Long-term care. In K. F. Ferraro (Ed.), *Gerontology: perspectives and issues*. (pp. 225-243). New York: Springer.
- Dwyer, J. W., & Seccombe, K. (1991). Elder care as family labor: The influence of gender and family position. *Journal of Family Issues, 12*, 229-247.
- Dwyer, P. M., Barton, A. J., & Vogel, W. B. (1994). Area of residence and the risk of institutionalization. *Journal of Gerontology: SOCIAL SCIENCES, 49*, S75-S84.

- Edelman, P., & Hughes, S. (1990). The impact of community care on provision of informal care to homebound elderly persons. *Journal of Gerontology: SOCIAL SCIENCES*, 45, S74-S84.
- Erdal, K. J., & Zautra, A. J. (1995). Psychological impact of illness downturns: A comparison of new and chronic conditions. *Psychology and Aging*, 10, 570-577.
- Falconer, J., Naughton, B. J., Hughes, S. L., Chang, R. W., Singer, R. H., & Sinacore, J. M. (1992). Self-reported functional status predicts change in level of care in independent living residents of a continuing care retirement community. *Journal of the American Geriatrics Society*, 40, 255-258.
- Fazio, A. F. (1977). A concurrent validation study of the NCHS General Well-Being Schedule. *Vital and Health Statistics*, Series 2, No. 73. Washington, DC: U.S. Government Printing Office.
- Felton, B. J. (1987). Cohort variation in happiness: Some hypotheses and exploratory analyses. *International Journal of Aging and Human Development*, 25, 27-42.
- Felton, B. J., & Berry, C. A. (1992). Do the sources of the urban elderly's social support determine its psychological consequences? *Psychology and Aging*, 7, 89-97.
- Fillenbaum, G. G. (1985). Screening the elderly: A brief instrumental activities of daily living measure. *Journal of the American Geriatrics Society*, 33, 698-706.
- Fitzgerald, J. F., Smith, D. M., Martin, D. K., Freedman, A. J., & Wolinsky, F. D. (1993). Replication of multidimensionality of activities of daily living. *Journal of Gerontology: SOCIAL SCIENCES*, 45, S28-S31.
- Fitzpatrick, R., Newman, S., Archer, R., & Shipley, M. (1991). Social support, disability and depression: A longitudinal study of rheumatoid arthritis. *Social Science and Medicine*, 33, 605-611.
- Frerichs, R. R., Aneshensel, C. S., Clark, V. A., (1981). Prevalence of depression in Los Angeles county. *American Journal of Epidemiology*, 113, 691-699.
- Friedman, M. M. (1993). Social support sources and psychological well-being in older women with heart disease. *Research in Nursing and Health*, 16, 405-413.
- Friedman, M. M., & King, K. B. (1994). The relationship of emotional and tangible support to psychological well-being among older women with heart failure. *Research in Nursing and Health*, 17, 433-440.
- Frischer, M., Ford, G., & Taylor, R. (1991). Life events and psychological well-being in old age. *Psychology and Health*, 5, 203-219.

- Furner, S. E., Rudberg, M. A., & Cassel, C. K. (1995). Medical conditions differentially affect the development of IADL disability: Implications for medical care and research. *The Gerontologist*, *35*, 444-450.
- George, L. K. (1990). Social structure, social processes, and social-psychological states. In R. H. Binstock & L. K. George (Eds.), *The handbook of aging and the social sciences* (3rd ed., pp. 186-204). San Diego, CA: Academic Press.
- George, L. K. (1995). Social factors and illness. In R. H. Binstock & L. K. George (Eds.), *The handbook of aging and the social sciences* (4th ed., pp. 229-252). San Diego, CA: Academic Press.
- George L. K., & Maddox, G. L. (1989). Social and behavioral aspects of institutional care. In M. G. Ory & K. Bond (Eds.), *Aging and health care: Social science and policy perspectives*. (pp. 27-51). New York: Routledge.
- Glass, T. A., & Maddox, G. L. (1992). The quality and quantity of social support: Stroke recovery as psycho-social transition. *Social Science and Medicine*, *34*, 1249-1257.
- Green, T. (1993). Institutional care, community services and the family. In P. G. Koopman-Boyden (Ed.), *New Zealand's ageing society: The implications*. (pp. 149-186). Wellington: Daphne Brasell Associates Press.
- Gregory, D. M., Peters, N., & Cameron, C. F. (1990). Elderly male spouses as caregivers: Toward an understanding of their experience. *Journal of Gerontological Nursing*, *16*, 20-23.
- Gupta, V., & Korte, C. (1994). The effects of a confidant and a peer group on the well-being of single elders. *International Journal of Aging and Human Development*, *39*, 293-302.
- Guralnik, J. M., Branch, L. G., Cummings, S. R., & Curb, J. D. (1989). Physical performance measures in aging research. *Journal of Gerontology: MEDICAL SCIENCES*, *44*, M141-M146.
- Hart, S. (1990). Psychology and the health of elderly people. In P. Bennett, J. Weinman, & P. Spurgeon (Eds.), *Current developments in health psychology* (pp. 247-275). Chur, Switzerland: Harwood.
- Headey, B., Kelley, J., & Wearing, A. (1993). Dimensions of mental health: Life satisfaction, positive affect, anxiety and depression. *Social Indicators Research*, *29*, 63-82.

- Heenan, B. (1993). Older New Zealanders: Population patterns and trends. In P. G. Koopman-Boyden (Ed.), *New Zealand's ageing society: The implications*. (pp. 29-54). Wellington: Daphne Brasell Associates Press.
- Heidrich, S. M. (1993). The relationship between physical health and psychological well-being in elderly women: A developmental perspective. *Research in Nursing and Health, 16*, 123-130.
- Heidrich, S. M., & Ryff, C. D. (1993). Physical and mental health in later life: The self-system as mediator. *Psychology and Aging, 8*, 327-338.
- Himmelfarb, S., & Murrell S. A. (1983). Reliability and validity of five mental health scales in older persons. *Journal of Gerontology, 38*, 333-339.
- Huebner, E. S., & Dew, T. (1996). The interrelationships of positive affect, negative affect and life satisfaction in an adolescent sample [CD-ROM]. *Social Indicators Research, 38*, 129-137. Abstract from: Ovid: PsycLIT Item: 84-29877.
- Jaccard, J., Turrisi, R., Wan, C. K. (1990). *Interaction effects in multiple regression*. London: Sage.
- Jack, A., Dowland, J., Dourando, S. S., & Hyslop, J. R. (1981). *Physical disability: Results of a survey in the Wellington Hospital Board area. Special Report No. 59*. Wellington, New Zealand: Department of Health.
- Jette, A. M., Branch, L. G., Sleeper, L. A., Feldman, H., & Sullivan, L. M. (1992). High-risk profiles for nursing home admission. *The Gerontologist, 32*, 634-640.
- Jette, A. M., Tennstedt, S., & Crawford, S. (1995). How does formal and informal community care affect nursing home use? *Journal of Gerontology: SOCIAL SCIENCES, 50B*, S4-S12.
- Jones, D., Sloane, J., & Alexander, L. (1992). Quality of life: A practical approach. In V. Minichiello, L. Alexander, & D. Jones (Eds.), *Gerontology: A multidisciplinary approach* (pp. 224-265). Sydney, Australia: Prentice Hall.
- Kane, R. L., & Kane, R. A. (1990). Health care for older people: Organizational and policy issues. In R. H. Binstock & L. K. George (Eds.), *The handbook of aging and the social sciences* (3rd ed., pp. 415-437). San Diego, CA: Academic Press.
- Katz, S., Ford, A. B., Moskowitz, R. W., Jackson, B. A., & Jaffe, M. W. (1963). Studies of illness in the aged: The index of ADL - A standardized measure of biological and psychosocial function. *Journal of the American Medical Association, 185*, 914-919.

- Kelman, H. R., Thomas, C., & Tanaka, J. S. (1994). Longitudinal patterns of formal and informal social support in an urban elderly population. *Social Science and Medicine*, 38, 905-914.
- Kemp, B. J., & Mitchell, J., M. (1992). Functional assessment in geriatric mental health. In J. E. Birren, R. B. Sloane, & G. D. Cohen (Eds.), *Handbook of mental health and aging* (2nd ed., pp. 671-697). San Diego, CA: Academic Press.
- Kessler, R. C., & McLeod, J. D. (1985). Social support and mental health in community samples. In S. Cohen & S. L. Syme (Eds.), *Social support and health*. (pp. 219-240). Orlando, FL: Academic Press.
- Kimmel, D. C., & Moody, H. R. (1990). Ethical issues in gerontological research and services. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (3rd ed., pp. 490-499). San Diego, CA: Academic Press.
- Koopman-Boyden, P. G. (1993). Theories of ageing and old age. In P. G. Koopman-Boyden (Ed.), *New Zealand's ageing society: The implications*. (pp. 13-28). Wellington: Daphne Brasell Associates Press.
- Krause, N. (1987). Satisfaction with social support and self-related health in older adults. *Journal of the American Geriatrics Society*, 27, 301-308.
- Krause, N. (1990). Perceived health problems, formal/informal support, and life satisfaction among older adults. *Journal of Gerontology: SOCIAL SCIENCES*, 45, S193-S205.
- Krause, N. (1995). Assessing stress-buffering effects: A cautionary note. *Psychology and Aging*, 10, 518-526.
- Krause, N., & Borawski-Clark, E. (1994). Clarifying the functions of social support in later life. *Research on Aging*, 16, 251-279.
- Krause, N., Liang, J., & Keith, V. (1990). Personality, social support, and psychological distress in later life. *Psychology and Aging*, 5, 315-326.
- Krause, N., & Markides, K. (1990). Measuring social support among older adults. *International Journal of Aging and Human Development*, 30, 37-53.
- Laireiter, A., & Baumann, U. (1992). Network structures and support functions - theoretical and empirical analyses. In H. O. F. Veiel & U. Baumann (Eds.), *The meaning and measurement of social support* (pp. 55-33). New York: Hemisphere.
- Larson, R., Mannell, R., & Zuzanek, J. (1986). Daily well-being of older adults with friends and family. *Psychology and Aging*, 1, 117-126.

- Lawton, M. P. (1990). Aging and performance of home tasks. *Human Factors*, 32, 527-536.
- Lawton, M. P. (1996). Quality of life and affect in later life. In C. Magai & S. H. McFadden (Eds.), *Handbook of emotion, adult development, and aging* (pp. 327-348). San Diego, CA.: Academic Press.
- Lawton, M. P., Kleban, M. H., & diCarlo, E. (1984). Psychological well-being in the aged. *Research on Aging*, 6, 67-97.
- Lebowitz, B. D., & Niederehe, G. (1992). Concepts and issues in mental health and aging. In J. E. Birren, R. B. Sloane, & G. D. Cohen (Eds.), *Handbook of mental health and aging* (2nd ed., pp. 3-26). San Diego, CA: Academic Press.
- Lee, G. R. (1985). Kinship and social support of the elderly: The case of the United States. *Ageing and Society*, 5, 19-38.
- Leviton, S. T., & Kornfeld, D. S. (1981). Clinical and cost benefits of liaison psychiatry. *American Journal of Psychiatry*, 138, 790-793.
- Logan, J. R., & Spitze, G. (1994). Informal support and the use of formal services by older Americans. *Journal of Gerontology: SOCIAL SCIENCES*, 49, S25-S34.
- Lomranz, J., Bergman, S., Eyal, N., & Shmotkin, D. (1988). Indoor and outdoor activities of aged women and men as related to depression and well-being. *International Journal of Aging and Human Development*, 26, p303-314.
- Lucas, R. E., Diener, E., & Eunkook, S. (1996). Discriminant validity of well-being measures. *Journal of Personality and Social Psychology*, 71, 616-628.
- McFall, S., & Miller, B. H. (1992). Caregiver burden and nursing home admission of frail elderly persons. *Journal of Gerontology: SOCIAL SCIENCES*, 47, S73-S79.
- Merrill, S. S., Seeman, T. E., Kasl, S. V., Berkman, L. F. (1997). Gender differences in the comparison of self-reported disability and performance measures *Journal of Gerontology: MEDICAL SCIENCES*, 52A, M19-M26.
- Miller, B., & McFall, S. (1991). The effect of caregiver's burden on change in frail older persons' use of formal helpers. *Journal of Health and Social Behavior*, 32, 165-179.
- Miner, S. (1995). Racial differences in family support and formal service utilization among older persons: A nonrecursive model. *Journal of Gerontology: SOCIAL SCIENCES*, 50B, S143-S153.
- Minichiello, V., Russell, C., & Swerissen, H. (1992). A framework to make sense of public policy and aged care. In V. Minichiello, L. Alexander, & D. Jones (Eds.),

- Gerontology: A multidisciplinary approach* (pp. 301-337). Sydney, Australia: Prentice Hall.
- Montgomery, R. J. V., & Kosloski, K. (1994). A longitudinal analysis of nursing home placement for dependent elders cared for by spouses vs adult children. *Journal of Gerontology: SOCIAL SCIENCES*, *49*, S62-S74.
- Mor-Barak, M. E., Miller, L. S., & Syme, L. S. (1991). Social networks, life events, and health of the poor, frail elderly: A longitudinal study of the buffering versus the direct effect. *Family and Community Health*, *14*, 1-13.
- Morris, S. A., Sherwood, S., & Morris, J. N. (1996). A dynamic model for explaining changes in use of IADL/ADL care in the community. *Journal of Health and Social Behavior*, *37*, 91-103.
- Mossey, J. M., Knott, K. A., Higgins, M., & Talerico, K. (1996). Effectiveness of a psychosocial intervention, interpersonal counseling for subdysthymic depression in medically ill elderly. *Journal of Gerontology: MEDICAL SCIENCES*, *51A*, M172-M178.
- Murrell, S. A., Norris, F. H., & Grote, C. (1988). Life events in older adults. In L. H. Cohen (Ed.), *Life events and psychological functioning: Theoretical and methodological issues*. (pp. 96-122). Newbury Park, CA: Sage.
- Myers, D. G., & Diener, E. (1995). Who is happy? *Psychological Science*, *6*, 10-19.
- National Center for Health Statistics, Fitti, J. E., & Kovar, M. G. (1984). The Supplement on Aging to the 1984 National Health Interview Survey. *Vital and Health Statistics*, Series 1, No. 21. DHHS Pub. No. (PHS) 87-1323. Public Health Service. Washington. U.S. Government Printing Office.
- Newman, S., Fitzpatrick, R., Lamb, R., & Shipley, M. (1990). Patterns of coping in rheumatoid arthritis. *Psychology and Health*, *4*, 187-200.
- Newman, S. J., Struyk, R., Wright, P., & Rice, M. (1990). Overwhelming odds: Caregiving and the risk of institutionalization. *Journal of Gerontology: SOCIAL SCIENCES*, *45*, S173-S183.
- Newsom, J. T., & Schulz, R. (1996). Social support as a mediator in the relation between functional status and quality of life in older adults. *Psychology and Aging*, *11*, 34-44.
- Norris, F. H., & Kaniasty, K. (1996). Received and perceived social support in times of stress: A test of the social support deterioration deterrence model. *Journal of Personality and Social Psychology*, *71*, 498-511.

- O'Keefe, E. A., Taley, N. J., Zinsmeister, A. R., & Jacobsen, S. J. (1995). Psychological impact of illness downturns: A comparison of new and chronic conditions. *Psychology and Aging, 10*, 570-577.
- Opie, A. (1991a). The informal caregivers of the confused elderly and the concept of partnership: A New Zealand report. *Pride Institute Journal of Long Term Home Health Care, 10*, 34-40.
- Opie, A. (1991b). Social policy and community care for confused older people. *Community Mental Health in New Zealand, 6*, 2-27.
- Orbell, S. (1996). Informal care in social context: A social psychological analysis of participation, impact and intervention in care of the elderly. *Psychology and Health, 11*, 155-178.
- Oxman, T. E., & Berkman, L. F. (1990). Assessment of social relationships in elderly patients. *International Journal of Psychiatry in Medicine, 20*, 65-84.
- Oxman, T. E., Freeman, D. H., & Manheimer, E. D. (1995). Lack of social participation or religious strength and comfort as risk factors for death after cardiac surgery in the elderly. *Psychosomatic Medicine, 57*, 5-15.
- Parker, M. G., Thorslund, M., & Lundberg, O. (1994). Physical function and social class among Swedish oldest old. *Journal of Gerontology: SOCIAL SCIENCES, 49*, S196-S201.
- Pearlin, L. I., Aneshensel, C. S., Mullan, J. T., & Whitlatch, C. J. (1995). Caregiving and its social support. In R. H. Binstock & L. K. George (Eds.), *The handbook of aging and the social sciences* (4th ed., pp. 283-302). San Diego, CA: Academic Press.
- Penning, M. J., & Strain, L. A. (1994). Gender differences in disability, assistance and subjective well-being. *Journal of Gerontology: SOCIAL SCIENCES, 49*, S202-S208.
- Perlmutter, M., & Hall, E. (1992). *Adult Development and Aging* (2nd ed.). New York: John Wiley & Sons.
- Phillips, M. A., & Murrell, S. A. (1994). Impact of psychological and physical health, stressful events, and social support on subsequent mental health help seeking among older adults. *Journal of Consulting and Clinical Psychology, 62*, 270-275.
- Reinhardt, J. P. (1996). The importance of friendship and family support in adaptation to chronic vision impairment. *Journal of Gerontology: PSYCHOLOGICAL SCIENCES, 45*, P268-P278.

- Revicki, D. A., & Mitchell, J. P. (1990). Strain, social support, and mental health in rural elderly individuals. *Journal of Gerontology: SOCIAL SCIENCES*, 45, S267-S274.
- Richmond, D., Basket, J., Bonita, R., & Melding, R. (1995). *Care for Older people in New Zealand*. Wellington, New Zealand: Ministry of Health.
- Rintala, D. H., Yound, M. E., Hart, K. A., Clearman, R. R., & Fuhrer, M. J. (1992). Social support and the well-being of persons with spinal cord injury living in the community. *Rehabilitation Psychology*, 37, 155-163.
- Roberto, K. A. (1992). The role of social supports in older women's recovery from hip fractures. *The Journal of Applied Gerontology*, 11, 314-325.
- Roberts, R. E., Kaplan, G. A., Shema, S. J., & Strawbridge, W. J. (1997). Prevalence and correlation of depression in an aging cohort: The Alameda County Study. *Journal of Gerontology: SOCIAL SCIENCES*, 52B, S252-S258.
- Robinson, J. P., Shaver, P. R., & Wrightsman, L. S. (1991). *Measures of personality and social attitudes: Volume one in measures of social psychological attitudes series*. San Diego, CA: Academic Press.
- Rodin, J. (1986a). Aging and health: Effects of the sense of control. *Science*, 233, 1271-1276.
- Rodin, J. (1986b). Health, control and aging. In M. M. Baltes & P. B. Baltes (Eds.), *The psychology of control and aging* (pp. 139-163). Hillsdale, NJ: Erlbaum.
- Rudberg, M. A., Sager, M. A., & Zhang, J. (1996). Risk factors for nursing home use after hospitalization for medical illness. *Journal of Gerontology: MEDICAL SCIENCES*, 51A, M189-M194.
- Ryff, C. D. (1989a). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069-1081.
- Ryff, C. D. (1989b). In the eye of the beholder: Views of psychological well-being among middle-aged and older adults. *Psychology and Aging*, 4, 195-210.
- Ryff, C. D. (1995). Psychological well-being in adult life. *Current Developments in Psychological Science*, 4, 99-104.
- Ryff, C. D., & Essex, M. J. (1992). The interpretation of life experience and well-being: The sample case of relocation. *Psychology and Aging*, 7, 507-517.
- Ryff, C. D., & Keyes, L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69, 719-727.

- Sarafino, E. P. (1994). *Health psychology: Biopsychosocial interactions* (2nd ed.). New York: Wiley & Sons.
- Sarason, B. R., Pierce, G. R., & Sarason, I. G. (1990). Social support: The sense of acceptance and the role of relationships. In B. R. Sarason, I. G. Sarason, & G. R. Pierce (Eds.), *Social support: An interactional view* (pp. 97-128). New York: John Wiley & Sons.
- Sarason, I. G., Sarason, B. R., & Pierce, G. R. (1994). Relationship-specific social support: Toward a model for the analysis of supportive interactions. In B. R. Burleson, T. L. Albrecht, & I. W. Sarason (Eds.), *Communication of social support: Messages, interactions, relationships, and community* (pp. 91-112). Thousand Oaks, CA: Sage.
- Schaefer, C., Coyne, J. C., & Lazarus, R. S. (1981). The health-related functions of social support. *Journal of Behavioral Medicine*, 4, 381-406.
- Schefft, B. K., & Lehr, B. K. (1990). Psychological problems of older adults. In K. F. Ferraro (Ed.), *Gerontology: Perspectives and issues* (pp. 283-293). New York: Springer.
- Scott, W. K., Macera, C. A., Cornman, C. B., & Sharpe, P. A. (1997). Functional health status as a predictor of mortality in men and women over 65. *Journal of Clinical Epidemiology*, 50, 291-296.
- Shmotkin, D. (1990). Subjective well-being as a function of age and gender: A multivariate look for differentiated trends. *Social Indicators Research*, 23, 201-230.
- Silverstein, M., & Bengtson, V. L. (1994). Does intergenerational social support influence the psychological well-being of older parents? The contingencies of declining health and widowhood. *Social Science and Medicine*, 38, 943-957.
- Skruppy, M. (1993). Activities of daily living evaluation: Is there a difference in what the patient reports and what is observed? *Physical and Occupational Therapy in Geriatrics*, 11, 13-25.
- Smith, D. S., & Clark, M. S. (1995). Competence and performance in activities of daily living of patients following rehabilitation from stroke. *Disability and Rehabilitation*, 17, 15-23.
- Spector, W. D., Katz, S., Murphy, J. B., & Fulton, J. P. (1987). The hierarchical relationship between activities of daily living and instrumental activities of daily living. *Journal of Chronic Diseases*, 40, 481-489.

- Stacey, C. A., & Gatz, M. (1991). Cross-sectional age differences and longitudinal change on the Bradburn Affect Balance Scale. *Journal of Gerontology: PSYCHOLOGICAL SCIENCES*, 46, P76-P78.
- Stallings, M. C., Dunham, C. C., Gatz, M., Baker L. A., et al. (1997). Relationships among life events and psychological well-being: More evidence for a two-factor theory of well-being [CD-ROM]. *Journal of Applied Gerontology*, 16, 104-119. Abstract from: Ovid: PsycLIT Item: 84-30544.
- Statistics New Zealand (1997). *1996 Census of population and dwellings: Ethnic groups*. Wellington, New Zealand: Statistics New Zealand/ Te Tari Tatau.
- Stokes, J. P., & Wilson, D. G. (1984). The inventory of socially supportive behaviors: Dimensionality, prediction, and gender differences. *American Journal of Community Psychology*, 12, 53-69.
- Stoller, E. P., & Pugliesi, K. L. (1991). Size and effectiveness of informal helping networks: A panel study of older people in the community. *Journal of Health and Social Behavior*, 32, 180-191.
- Strawbridge, W. J., Kaplan, G. A., Camacho, T., & Cohen, R. D. (1992). The dynamics of disability and functional change in an elderly cohort: Results from the Alameda County study. *Journal of the American Geriatrics Society*, 40, 799-806.
- Sugisawa, H., Liang, J., & Liu, X. (1994). Social networks, social support, and mortality among older people in Japan. *Journal of Gerontology: SOCIAL SCIENCES*, 49, S3-S13.
- Tardy, C. H. (1994). Counteracting task-induced stress: Studies of instrumental and emotional support in problem-solving contexts. In B. R. Burlinson, T. L. Albrecht, & I. W. Sarason (Eds.), *Communication of social support: Messages, interactions, relationships, and community* (pp. 71-87). Thousand Oaks, CA: Sage.
- Tennstedt, S., McKinlay, J., & Kasten, L. (1994). Unmet need among disabled elders: A problem in access to community long term care? *Social Science and Medicine*, 38, 915-924.
- Thompson, M. G., & Heller, K. (1990). Facets of support related to well-being: Quantitative social isolation and perceived family support in a sample of elderly women. *Psychology and Aging*, 5, 535-544.
- Thorson, J. A. (1995). *Aging in a changing society*. Belmont, CA: Wadsworth.

- Tobin, S. S. (1989). The effects of institutionalization. In K. S. Markides & C. L. Cooper (Eds.), *Aging, stress and health* (pp. 139-163). Chichester, England: John Wiley & Sons.
- Vaux, A. (1992). Assessment of social support. In H. O. F. Veiel & U. Baumann (Eds.), *The meaning and measurement of social support* (pp. 193-216). New York: Hemisphere.
- Vaux, A., Riedel, S., & Stewart, D. (1987). Modes of social support: The social support behaviors (SS-B) scale. *American Journal of Community Psychology, 15*, 209-237.
- Walker, S. N. (1990). Promoting healthy aging. In K. F. Ferraro (Ed.), *Gerontology: Perspectives and issues* (pp. 266-282). New York: Springer.
- Walkey, F. H., Siegert, R., J., McCormick, I. A., & Taylor, A. J. W. (1987). Multiple replication of the factor structure of the inventory of socially supportive behaviors. *Journal of Community Psychology, 15*, 513-519.
- Wallace, S. P., Campbell, K., & Lew-Ting, C. (1994). Structural barriers to the use of formal in-home services by elderly Latinos. *Journal of Gerontology: SOCIAL SCIENCES, 49*, S253-S263.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.
- Wenger, G. C. (1990). The special role of friends and neighbors. *Journal of Aging Studies, 4*, 149-169.
- Wenger, G. C. (1992). Morale in old age: A review of the evidence. *International Journal of Geriatric Psychiatry, 7*, 699-708.
- Wethington, E., & Kessler, R. C. (1986). Perceived support, received support, and adjustment to stressful life events. *Journal of Health and Social Behavior, 27*, 78-89.
- Whitbourne, S. K. (1996). Psychosocial perspectives on emotions: The role of identity in the aging process. In C. Magai & S. H. McFadden (Eds.), *Handbook of emotion, adult development, and aging* (pp. 83-98). San Diego, CA.: Academic Press.
- Wilcox, J. A., & Taber, M. A. (1991). Informal helpers of elderly home care clients. *Health and Social Work, 16*, 258-265.

- Williamson, G. M., & Schulz, R. (1992). Pain, activity restriction, and symptoms of depression among community-residing adults. *Journal of Gerontology: PSYCHOLOGICAL SCIENCES*, 47, P367-P372.
- Wolinsky, F. D., & Johnson, R. J. (1991). The use of health services by older adults. *Journal of Gerontology: SOCIAL SCIENCES*, 46, S345-S357.
- Yates, B. C. (1995). The relationships among social support and short- and long-term recovery outcomes in men with coronary heart disease. *Research in Nursing and Health*, 59, 193-203.
- Zeiss, A. M., Lewinsohn, P. M., Rohde, P., & Seeley, J. R., (1996). Relationship of physical disease and functional impairment to depression on older people. *Psychology and Aging*, 11, 572-581.
- Zemore, R., & Eames, N. (1979). Psychic and somatic symptoms of depression among young adults, institutionalized aged and noninstitutionalized aged. *Journal of Gerontology*, 34, 716-722.
- Zika, S. C. (1984). *Personality as a modifier of the relationship between stressors and subjective well-being*. Unpublished master's thesis, Massey University, Palmerston North, New Zealand.
- Zika, S., & Chamberlain, K. (1992). On the relation between meaning in life and psychological well-being. *British Journal of Psychology*, 83, 133-145.

## Appendix A: Letter to Potential Subjects



**MASSEY  
UNIVERSITY**

Private Bag 11222  
Palmerston North  
New Zealand  
Telephone +64-6-356 9099  
Facsimile +64-6-350 5673

**FACULTY OF  
SOCIAL SCIENCES**

DEPARTMENT OF  
PSYCHOLOGY

### Needs, Social Support and Psychological Well-Being in the Older Person

Dear Madam/Sir

My name is Robyn Bailey. I am doing a study looking at the social support elderly people receive and how this relates to their needs and psychological well-being. We hope that the study will ultimately help to improve the systems which cater for the needs of the elderly. We also hope that it will help to give more recognition to the support given by relatives, friends and neighbours of the elderly.

Your name was selected from the list of people who have been assessed by the Services for the Elderly, Disability Support and Rehabilitation over the last few months. All I require is about an hour of your time in order to interview you.

Participation is completely voluntary. Whether or not you decide to participate in this study will not affect any benefits or help you receive now or in the future.

You will be asked to sign a consent form. If you agree to participate in this study you have the right to withdraw at any time. You will be asked for your age, marital status, ethnic origin, living arrangements, gender and number of years of education. You will be asked about whether or not you have problems with certain activities of daily living and who helps you with these. You will have been asked for most of this information before but it is important for the project that the information is up to date. You will be asked how much people have helped you with particular tasks or in certain situations. Finally you will be asked to fill out a form about your emotional, physical and psychological well-being.

All the information you provide is confidential to me and my supervisor. The information will be analysed in such a way that you cannot be identified. The

analysed information will be reported in a thesis and possibly in other publications. Again, it will not be possible to identify individuals in these reports. Finally I will write a short summary to tell you what I found out.

If you are interested in participating, could you please complete and return the attached slip. Although I am a student at Massey doing my Masters degree under the supervision of Dr. John Spicer, this letter has been sent out by the Services for the Elderly, Disability Support and Rehabilitation on my behalf. I will not have access to your name and phone number unless you return the slip below. It can be returned in the prepaid envelope to me. If you return the slip you are not committing yourself to participate. I will ring you to answer any questions and if you then decide to participate we will make an appointment for an interview at your home. Please feel free to discuss any of this with anyone you wish. If you have any ethical concerns regarding this study then you can contact the Manawatu-Wanganui Ethics Committee on (06) 356-7773. Thank you for taking time to read this letter.

Yours faithfully

Robyn Bailey

---

If you are happy for Robyn Bailey to contact you please write your name and phone number below and return this slip in the envelope provided.

My name and phone number are .....

## Appendix B: Consent Form Signed by Subjects and Investigator



**MASSEY  
UNIVERSITY**

Private Bag 11222  
Palmerston North  
New Zealand  
Telephone +64-6-356 9099  
Facsimile +64-6-350 5673

**FACULTY OF  
SOCIAL SCIENCES**

**DEPARTMENT OF  
PSYCHOLOGY**

### Consent form

Project Title: Needs, Social Support and Psychological  
Well-being in the Older Person

Principal Researcher: Robyn Bailey

Participant's Name: ..... Hospital No. ....

English I wish to have an interpreter Yes/No

Maori E hiahia ana koe ki tetahi tangata hei korero Maori kia koe Yes/No

1. Robyn Bailey has explained to me the reasons for this study and the procedures involved in it.
2. I have read the letter with the information on it, and my questions have been answered to my satisfaction. I understand that I am able to ask further questions at any time during the study.
3. I understand that I am free to withdraw from the study at any time, and that such withdrawal will not adversely affect my further health care. I also understand that I am free to refuse to answer any questions.
4. I have been assured that my results will remain confidential and that my identity will not be revealed in any written or verbal reports about the study.
5. I understand that if I have any ethical concerns regarding the study, that I may contact the Manawatu-Wanganui Ethics Committee on 0-6 356 7773.
6. I agree to participate in this study under the conditions set out in the letter.

Signature ..... (participant) ..... (date)

Investigator's statement:

I have discussed with ..... (participant's name) the aims of and procedures involved in this study.

Signature ..... (researcher) ..... (date)

Robyn Bailey.

## Appendix C: The ADL-IADL Scale

How much difficulty do you have in performing the following activities of daily living?

- 1 Bathing/showering?
- 2 Dressing?
- 3 Eating?
- 4 Getting out of bed?
- 5 Walking?
- 6 Gardening/lawns?
- 7 Using the toilet?
- 8 Preparing meals?
- 9 Shopping?
- 10 Managing your bank accounts, money?
- 11 Using the telephone?
- 12 Heavy housework?
- 13 Light house work?

### Scoring

- |   |   |                     |
|---|---|---------------------|
| 0 | = | no difficulty       |
| 1 | = | some difficulty     |
| 2 | = | a lot of difficulty |
| 3 | = | unable to perform   |

I want to focus on the last four weeks and ask who if anyone, has helped you with any of the activities that we have just covered. In the last four weeks who has helped you with \_\_\_\_\_? How often?

## **Appendix D: Inventory of Socially Supportive Behaviors**

### **Instructions**

We are interested in learning about some of the ways that you feel people have helped you or tried to make life more pleasant for you over the past four weeks. Below you will find a list of activities that other people might have done for you, to you, or with you in recent weeks. Please read each item carefully and indicate how often these activities happened to you during the past four weeks.

Use the following scale to make your ratings:

- A. Not at all**
- B. Once or twice**
- C. About once a week**
- D. Several times a week**
- E. About every day**

Tell me all of your ratings. If, for example, the item:

45. Gave you a ride to the doctor.

happened once or twice during the past four weeks, you would tell me B.

Please read each item carefully and tell me the rating that you think is the most accurate. During the past four weeks, how often did other people do these activities for you, to you, or with you:

1. Looked after a family member when you were away.
2. Was right there with you (physically) in a stressful situation.
3. Provided you with a place where you could get away for a while.
4. Watched after your possessions when you were away (pets, plants, home, apartment, etc.).
5. Told you what she or he did in a situation that was similar to yours.
6. Did some activity with you to help you get you mind off of things.
7. Talked with you about some interests of yours.
8. Let you know that you did something well.
9. Went with you to someone who could take action.

10. Told you that you are OK just the way you are.
11. Told you that she or he would keep the things that you talk about private - just between the two of you.
12. Assisted you in setting a goal for yourself.
13. Made it clear what was expected of you.
14. Expressed esteem or respect for a competency or personal quality of yours.
15. Gave you some information on how to do something.
16. Suggested some action that you should take.
17. Gave you over \$40.
18. Comforted you by showing you some physical affection.
19. Gave you some information to help you understand a situation you were in.
20. Provided you with some transportation.
21. Checked back with you to see if you followed the advice you were given.
22. Gave you under \$40.
23. Helped you understand why you didn't do something well.
24. Listened to you talk about your private feelings.
25. Loaned or gave you something (a physical object other than money) that you needed.
26. Agreed that what you wanted to do was right.
27. Said things that make your situation clearer and easier to understand.
28. Told you how he or she felt in a situation that was similar to yours.
29. Let you know that he or she will always be around if you need assistance.
30. Expressed interest and concern in your well-being.
31. Told you that she or he feels very close to you.
32. Told you who you should see for assistance.
33. Told you what to expect in a situation that was about to happen.
34. Loaned you over \$40.
35. Taught you how to do something.
36. Gave you feedback on how you were doing without saying it was good or bad.
37. Joked and kidded to try to cheer you up.
38. Provided you with a place to stay.
39. Pitched in to help you do something that needed to get done.
40. Loaned you under \$40.

**Appendix E: Cue Cards for the ISSB  
and ADL-IADL Scale**

- A. Not at all
  - B. Once or twice
  - C. About once a week
  - D. Several times a week
  - E. About every day
- 

- 0 = no difficulty
- 1 = some difficulty
- 2 = a lot of difficulty
- 3 = unable to perform

## Appendix F: The General Well-Being Schedule

Circle the number that best fits you.

1. How have you been feeling in general? (DURING THE PAST MONTH)

1	2	3	4	5	6
EXCELLENT	VERY GOOD SPIRITS	GOOD SPIRITS	UP AND DOWN SPIRITS	LOW SPIRITS	VERY LOW SPIRITS

2. Have you been bothered by nervousness or your "nerves"? (DURING THE PAST MONTH)

1	2	3	4	5
VERY MUCH SO	QUITE A BIT	SOME	A LITTLE	NOT AT ALL

3. Have you been in firm control of your behavior, thoughts, emotions OR feelings? (DURING THE PAST MONTH)

1	2	3	4	5	6
DEFINITELY SO	YES, FOR THE MOST PART	GENERALLY SO	NOT TOO WELL	NO SOMEWHAT DISTURBED	VERY DISTURBED

4. Have you felt so sad, discouraged, hopeless, or had so many problems that you wondered if anything was worthwhile?(DURING THE PAST MONTH)

1	2	3	4	5	6
EXTREMELY SO	VERY MUCH SO	QUITE A BIT	SOME	A LITTLE	NOT AT ALL

5. Have you been under or felt you were under any strain, stress, or pressure? (DURING THE PAST MONTH)

1	2	3	4	5
YES, QUITE A BIT	YES, SOME MORE	YES, ABOUT THE SAME	YES, A LITTLE	NOT AT ALL

6. How happy, satisfied, or pleased have you been with your personal life? (DURING THE PAST MONTH)

1	2	3	4	5
VERY HAPPY	FAIRLY HAPPY	SATISFIED	SOMEWHAT DISSATISFIED	VERY DISSATISFIED

7. Have you had reason to wonder if you were losing your mind, or losing control over the way you act, talk, think, feel, or of your memory? (DURING THE PAST MONTH)

1	2	3	4	5	6
NOT AT ALL	ONLY A LITTLE	SOME, NOT CONCERNED	SOME, CONCERNED	SOME, QUITE CONCERNED	YES, VERY CONCERNED

8. Have you been anxious, worried, or upset? (DURING THE PAST MONTH)

1	2	3	4	5	6
EXTREMELY	VERY MUCH SO	QUITE A BIT	SOME	A LITTLE	NOT AT ALL

9. Have you been waking up fresh and rested? (DURING THE PAST MONTH)

1	2	3	4	5	6
EVERY DAY	ALMOST EVERY DAY	FAIRLY OFTEN	LESS OFTEN	RARELY	NONE OF THE TIME

10. Have you been bothered by any illness, bodily disorder, pains, or fears about your health? (DURING THE PAST MONTH)

1	2	3	4	5	6
ALL THE TIME	MOST OF THE TIME	A GOOD BIT OF THE TIME	SOME OF THE TIME	A LITTLE OF THE TIME	NONE OF THE TIME

11. Has your daily life been full of things that were interesting to you? (DURING THE PAST MONTH)

1	2	3	4	5	6
ALL THE TIME	MOST OF THE TIME	A GOOD BIT OF THE TIME	SOME OF THE TIME	A LITTLE OF THE TIME	NONE OF THE TIME

12. Have you felt down-hearted and blue? (DURING THE PAST MONTH)

1	2	3	4	5	6
ALL THE TIME	MOST OF THE TIME	A GOOD BIT OF THE TIME	SOME OF THE TIME	A LITTLE OF THE TIME	NONE OF THE TIME

13. Have you been feeling emotionally stable and sure of yourself? (DURING THE PAST MONTH)

1	2	3	4	5	6
ALL THE TIME	MOST OF THE TIME	A GOOD BIT OF THE TIME	SOME OF THE TIME	A LITTLE OF THE TIME	NONE OF THE TIME

14. Have you felt tired, worn out, used up, or exhausted? (DURING THE PAST MONTH)

1	2	3	4	5	6
ALL THE TIME	MOST OF THE TIME	A GOOD BIT OF THE TIME	SOME OF THE TIME	A LITTLE OF THE TIME	NONE OF THE TIME

15. How concerned or worried about your HEALTH have you been? (DURING THE PAST MONTH)

NOT CONCERNED    0   1   2   3   4   5   6   7   8   9   10    VERY CONCERNED

16. How RELAXED or TENSE have you been? (DURING THE PAST MONTH)

RELAXED    0   1   2   3   4   5   6   7   8   9   10    TENSE

17. How much ENERGY, PEP, VITALITY, have you felt? (DURING THE PAST MONTH)

LISTLESS    0   1   2   3   4   5   6   7   8   9   10    VERY ENERGETIC

18. How DEPRESSED or CHEERFUL have you been? (DURING THE PAST MONTH)

VERY DEPRESSED    0   1   2   3   4   5   6   7   8   9   10    VERY CHEERFUL

19. Have you had severe enough personal, emotional, behavioural, or mental problems that you felt you needed help? (DURING THE PAST MONTH)

1	2	3	4	5
YES, SOUGHT HELP	YES, DID NOT SEEK HELP	SEVERE PROBLEMS, DID NOT SEEK HELP	FEW PERSONAL PROBLEMS	NO PERSONAL PROBLEMS

20. Have you ever felt that you were going to have, or were close to having, a nervous breakdown?

1	2	3
YES, DURING THE PAST YEAR	YES, MORE THAN A YEAR AGO	NO

21. Have you ever had a nervous breakdown?

1	2	3
YES, DURING THE PAST YEAR	YES, MORE THAN A YEAR AGO	NO

22. Have you ever been a patient (or outpatient) at a mental hospital, a mental health ward of a hospital, or a mental health clinic, for any personal, emotional, behaviour, or mental problems?

1	2	3
YES, DURING THE PAST YEAR	YES, MORE THAN A YEAR AGO	NO

23. Have you ever seen a psychiatrist, psychologist or psychoanalyst about any personal, emotional, behaviour, or mental problem concerning yourself?

1	2	3
YES, DURING THE PAST YEAR	YES, MORE THAN A YEAR AGO	NO

24. Have you talked with or had any connection with any of the following about some personal, emotional, behaviour, mental problem, worries, or "nerves" concerning yourself? (DURING THE PAST YEAR)

	YES	NO
a. Regular medical doctor (except for definite physical conditions or routine check-ups)	1	2
b. Brain or nerve specialist	1	2
c. Nurse (except for routine medical conditions)	1	2
d. Lawyer (except for routine legal services)	1	2
e. Police (except for simple traffic violations)	1	2
f. Clergyman, minister, priest, rabbi, etc.	1	2
g. Marriage counselor	1	2
h. Social worker	1	2
i. Other formal assistance	YES	NO
	What kind?	_____

25. Do you discuss your problems with any members of your family or friends?

1	2	3	4	5	6	7
YES, HELPS A LOT	YES, HELPS SOME	YES, DOESN'T ELP	NO, NO ONE TO TALK WITH	NO ONE WANTS TO TALK	NO, DON'T WANT TO TALK	NO PROBLEMS AT ALL

## Appendix G: Multiple Regression Tests for a Buffering Effect

**Table 7: Multiple regression analysis for a buffering effect with functional difficulty and informal support in the product term**

Variable	Beta	t
Functional difficulty	-.77	-3.61***
Informal support	.42	1.42
Formal support	.25	1.73
Tangible support	.15	1.01
Emotional support	-.05	-.34
Informational support	-.27	-1.92
Age	.08	.68
Gender	-.13	-1.06
Functional difficulty x Informal support	.22	.92

Adjusted  $R^2 = .12$ ,  $F = 2.20^*$

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

**Table 8: Multiple regression analysis for a buffering effect with IADL and informal support in the product term**

Variable	Beta	t
IADL	-.44	-2.11*
ADL	-.37	-1.55
Informal support	.28	.89
Formal support	.24	1.64
Tangible support	.16	1.08
Emotional support	-.04	-.31
Informational support	-.28	-1.96
Age	.08	.72
Gender	-.12	-1.00
IADL x Informal support	.36	1.28

Adjusted  $R^2 = .12$ ,  $F = 2.08^*$

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

**Table 9: Multiple regression analysis for a buffering effect with functional difficulty and formal support in the product term**

Variable	Beta	t
Functional difficulty	-.76	-3.56***
Informal support	.60	3.07**
Formal support	.16	.81
Tangible support	.13	.92
Emotional support	-.06	-.42
Informational support	-.28	-2.00
Age	.06	.56
Gender	-.14	-1.18
Functional difficulty x Formal support	.12	.72

Adjusted  $R^2 = .12$ ,  $F = 2.15^*$

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

**Table 10: Multiple regression analysis for a buffering effect with IADL and formal support in the product term**

Variable	Beta	t
IADL	-.52	-2.61*
ADL	-.27	-1.22
Informal support	.58	2.80**
Formal support	.11	.56
Tangible support	.13	.93
Emotional support	-.05	-.37
Informational support	-.28	-1.96
Age	.06	.52
Gender	-.15	-1.23
IADL x Formal support	.18	1.04

Adjusted  $R^2 = .12$ ,  $F = 2.01^*$

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

## Appendix H: Correlations and T-tests of Demographics with the Study Variables

**Table 11: The Pearson's correlations that compare age with functional ability and social support**

Social support	Age
Functional difficulty	.04
IADL	.04
ADL	.03
Needs-aligned support	-.00
Informal support	-.11
Formal support	.18
General Support	.02
General tangible support	-.03
Emotional support	-.00
Informational support	.04

**Table 12: Differences between the females and males in functional ability, and social support**

Variable	Female mean	Male mean	t-value	df	Signif.
Functional difficulty	8.6	12.0	-1.44	18.58	NS
IADL	6.8	7.9	-0.98	85	NS
ADL	1.8	3.7	-1.74	20.02	NS
Needs-aligned support	18.6	44.0	-1.65	17.04	NS
Informal	7.6	30.8	-1.79	17.76	NS
Formal	10.7	11.4	-0.18	82	NS
General Support	67.8	61.8	1.43	85	NS

**Table 13: Living arrangement compared with the social support variables**

	<b>On Own</b>	<b>Others</b>	<b>Spouse</b>	<b>t-value</b>	<b>df</b>	<b>Signif.</b>
<b>Needs-aligned support</b>	11.28	41.60		-0.96	4.02	NS
	11.28		45.83	-3.54	24.57	p < 0.01
		41.60	45.83	-0.17	27	NS
<b>Informal support</b>	1.96	22.40		-1.05	4.00	NS
	1.96		34.71	-3.54	23.08	p < 0.01
		22.40	34.71	-0.56	27	NS
<b>Formal support</b>	9.38	14.86		-0.59	6.45	NS
	9.38		11.13	-0.55	74	NS
		14.86	11.13	0.40	7.07	NS
<b>General Support</b>	64.20	69.86		-0.92	59	NS
	64.20		70.40	-1.63	77	NS
		69.86	70.40	-0.07	30	NS

There were no differences in the amount of tangible assistance, guidance and feedback, or non-directive support received between the different living arrangements groups.