

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.

**SOCIAL SUPPORT IN LATER LIFE:
The influence of retirement and
marital status**

A thesis presented in partial fulfilment for the
requirements for the degree of
Master of Science in Psychology

at Massey University, Palmerston North,
New Zealand

Laura Majella Crowe

2009

ABSTRACT

Title of Thesis: Social support in later life: The influence of retirement and marital status

Laura M. Crowe, Master of Science, 2009

Thesis Directed by: Associate Professor Dr Fiona M. Alpass
School of Psychology

The study explored the relationship between retirement and marital status and objective and subjective measures of social support. A secondary analysis was conducted on a sample of 6,662 men and women aged 55-70 years of age. Results of a series of 2-way ANOVAs revealed greater interaction with friends amongst retired individuals than those who were employed. Marital status was shown to be associated with interaction with family and levels of perceived social support. An interaction between retirement and marital status was also shown to influence levels of perceived social support. The results reveal that retirement and marital status have an individual and interaction effect on various measures of social support and indicate the importance of considering marital status when researching, educating and working with issues regarding retirement and social support.

ACKNOWLEDGEMENTS

Thank you to Fiona my supervisor, who has so willingly listened and offered advice to my questions, problems and worries no matter how big or small.

To my sisters and friends who have devoted their precious time to proof-reading – always ensuring my t's are crossed and my i's dotted.

Thank you to Simon for injecting the past year with plenty of fun and laughter.

And to my father, whose unwavering support has allowed me to follow my dream – this is for you.

TABLE OF CONTENTS

Abstract	ii
Acknowledgements	iii
Table of Contents.....	iv
List of Tables and Figures.....	vi
Chapter I: Introduction	7
Statement of the problem	7
Aim of study	8
Chapter II: Background	10
Social Support.....	10
Defining social support	10
Measuring social support	10
The importance of social support	11
Theories of social support.....	13
The effect of different sources of support.....	14
Retirement Status	16
Defining retirement	16
Theoretical framework	17
The influence of retirement status on social support	18
Marital Status.....	20
The influence of marital status on social support.....	21
Chapter III: Research Design.....	24
Hypotheses	25
Method selection	25
Chapter IV: Method.....	28
Sample and Procedure	28
Measures	29
Independent variables.....	29
Dependent variables	30
Assumptions	30
Post-hoc tests	32
Chapter V:Results	34

Chapter VI: Discussion	38
Summary of results	38
Explanation of findings	39
Limitations and future research.....	45
Theoretical and practical implications	48
Conclusions	50
Appendix A	52
References	53

LIST OF TABLES AND FIGURES

1. Analysis of variance for interaction with friends, interaction with family, social provisions as a function of retirement status and marital status 36
2. The influence marital status has on interaction with family 37
3. The effect of marital and retirement status on Social Provision scores 37

CHAPTER I: INTRODUCTION

Statement of the Problem

Social support has long been acknowledged as a factor that influences psychological well-being (Matt & Dean, 1993), physical health (Berkman & Syme, 1979) and even risk of mortality (Hawkey & Cacioppo, 2004). Contact with friends and family has been associated with better health (Lee & Ishii-Kuntz, 1987; Thompson & Heller, 1990), while satisfaction with support has been shown to have a positive effect on well-being (Chi & Chou, 2001). Greater numbers of individuals will be reaching old age due to improved life expectancy as a result of medical advances and changes in health and lifestyle coupled with the baby boom in the 1940's and 1950's. Therefore, it is imperative that the effect life events have on the social demands of older adults are investigated and well understood so the information can be used in promoting the care, health and independence of older adults. Life events can have a significant effect on social support with older adults more susceptible to changes in social support as a result of age specific events such as retirement and widowhood (Gurung, Taylor, & Seeman, 2003).

Retirement status can influence social support in that retired individuals have been shown to experience increased contact with friends outside of work possibly to compensate for the loss of work related social ties (Fox, 1977). Contact with family also usually increases amongst retirees due to greater available time (Price, 1998; van Tilburg, 1992). However, levels of perceived support tend to remain static following retirement (Kahn & Antonucci, 1980). Although a moderate amount of research has been conducted into the effect of retirement status on social support, it has predominantly taken place in an American setting. In New Zealand, raising the retirement age to from 65 to 67 years old is currently being considered. It would therefore be extremely beneficial to determine the impact that retirement has on social support in a New Zealand setting to gain a better understanding of the wider effects of retirement on the social context of individuals and the country as a whole.

Additionally, social support has been shown to change as a function of marital status. Individuals who have never married have been found to interact more with friends (Pinquart, 2003) whereas married individuals tend to interact more with family (Turner & Marino, 1994). Those who are married are also inclined to report higher levels of perceived support than any other marital group (Barrett, 1999). Many studies have revealed an association between marital status and social support; however, the literature lacks any research that has utilised an exhaustive range of marital groups. In New Zealand, the increased life expectancy and the growing social acceptance toward certain living arrangements and various relationships mean a large range of marital statuses now exist. However, the effect that all possible marital categories have on social support has failed to be explored and therefore remains unclear.

While studies investigating the effect of retirement status on social support and marital status on social support exist, albeit limited in scope and setting, no research has been conducted into the interaction effect of retirement and marital status on social support. As past research has indicated retirement and marital status each individually affect social support; the combined effect of these variables on social support requires investigation.

Aim of Study

Therefore, the aim of this thesis is to determine the individual influence and interaction effect that retirement and marital status has on social support. The sample will consist of older adults residing in New Zealand. Each individual will be classified as retired (not working at all) or employed (full time or part time). All marital statuses will also be investigated – married, de facto/co-habiting, widowed, divorced/separated and never married.

To achieve the stated aim Chapter Two explores the reasons studying social support is so important and various theories and measures of social support. In addition, the chapter discusses past research investigating the influence retirement status and marital status has on interaction with family and friends and

subjective measures of social support. Based on Chapter Two, Chapter Three examines and selects a suitable research method determined by the measures employed in the study. Chapter Four then goes on to discuss the sample, procedure and measures used in the study while Chapter Five presents the results of the research. Chapter Six provides a summary of the results, an explanation of the findings, the limitations of the study and the future research required, as well as the theoretical and practical implications of the results before drawing a final conclusion.

CHAPTER II: BACKGROUND

Social Support

Defining social support

A number of different definitions exist for social support and it is frequently conceptualised and measured in numerous ways (Cutrona, 1996). Social support has been characterised as the resources given by other individuals (Cohen & Syme, 1985) and has also been thought of as the assistance received by individuals from people in the social network (Cavanaugh, 1998). More specifically, social support has been defined as satisfying individual's continuing social needs (Bowlby, 1969; Weiss, 1974). The fundamental functions fulfilled by relationships include tangible assistance (help with tasks or physical demands), information support (offering advice), emotional support (offering love, compassion etc), and esteem support (respect and validation of an individual's thoughts, feelings and behaviours) (Cutrona, 1996).

Measuring social support

It is often argued as to whether different measures of social support tap into various facets of social support or if they assess entirely different constructs. Cutrona (1996) reasons that social support is frequently used to describe other constructs such as "social network" or "social ties", which she believes are terms that are conceptually different from social support. She claims that quantitative measures of an individual's social ties such as the quantity of network members, the frequency of interaction and the proximity of the network members assess an individual's social network, not their degree of social support. However, past studies investigating social support have commonly been conceptualised in two ways – quantitatively and qualitatively.

Self-report measures are most commonly employed to assess quantitative and qualitative measures of social support. Items assessing quantitative support may include questions regarding the number of social network members, the proximity to those members, the type of social relationships, and the frequency of interaction

with network members. Items assessing qualitative social support usually include questions relating to the extent in which an individual believes certain types of support (eg, emotional, tangible) are available.

The importance of social support

A large body of research over the last few decades has frequently shown the benefits of social support. Social support has been found to be instrumental in providing improved psychological health, less physical health concerns and even decreased rates of mortality. Numerous studies have identified social support as a significant determinant of psychological well-being (Bajekal, et al., 2004; Bowling & Farquhar, 1991; Cutrona & Russell, 1987; Durpetius, Aldwin, & Bosse, 2001; Field & Minkler, 1988; Kafetsios & Sideridis, 2006; Larson, Mannell, & Zuzanek, 1986; Lee & Ishii-Kuntz, 1987; Matt & Dean, 1993; Smith, Sim, Scharf, & Phillipson, 2004; Thompson & Heller, 1990). A positive association has been determined between social support and affect (Larson, et al., 1986) and morale (Crohan & Antonucci, 1989). Past findings have also shown that lower levels of social support were associated with higher levels of depressive symptoms amongst older adults (Dean, Kolody, & Wood, 1990). Furthermore, social support has been shown to minimise psychological distress in a sample of 749 adults aged 50 years and older (Matt & Dean, 1993).

In addition to the relationship between social support and psychological well-being, a strong association between social support and physical health has been found. Previous research has revealed that individuals with few social ties have reduced cellular immunology which can lead to higher susceptibility of infections and diseases (Hawkley & Cacioppo, 2004). Furthermore, findings from a cross-sectional study revealed a strong relationship between social activity and disability – older adults with higher levels of social engagement exhibited less disability (Mendes de Leon, Glass, & Berkman, 2003). Lower incidents of coronary heart disease amongst well supported individuals have also been reported in a number of prospective studies (Barefoot, Gronbaek, Jensen, Schnohr, & Prescott, 2005; Reed, McGee, Yano & Feinleib, 1983; Rosengren, Wilhelmsen, & Orth-Gomer, 2004)

and the risk of developing dementia are shown to be higher for individuals with fewer social ties (Fratiglioni, Wang, Ericsson, Maytan, & Winblad, 2000).

A substantial number of studies investigating the association between social support and mortality have also revealed the powerful effect social support can have (Blazer, 1982; Eng, Rimm, Fitzmaurice, & Kawachi, 2002; Rasulo, Christensen, & Tomassini, 2005; Rodriguez-Laso, Zunzunegui, & Otero, 2007; Sibai, Yount, & Fletcher, 2007; Sugisawa, Liang, & Liu, 1994; Yasuda, et al., 1997). In a sample of 2229 men and 2496 women aged 30-69; social relations (assessed using four measures – marital status, contact with family and friends, church membership and additional informal and formal group membership) were found to predict the rate of mortality over a nine year period (Berkman & Syme, 1979). Similar findings were produced in a replicate study by House, Robbins, and Metzner (1982) - social support was found to be inversely associated with mortality over a subsequent 10-12 years amongst a sample of 2754 men and women.

More recently, Cerhan and Wallace (1997) found a strong relationship between continued social isolation and subsequent mortality in a sample of 2,565 adults aged 65 years and older over an 8-11 year period, indicating individuals who lack social ties likely face the greatest risk of mortality. Parallel conclusions were drawn in an Australian longitudinal study involving 1,477 participants aged 70 years or older, over a 10 year period (Giles, Glonek, Luscsz, & Andrews, 2005). Furthermore, in a recent sample of 1,811 elderly adults, it was revealed that those who lacked any interaction with friends were more than twice as likely to have died seven years on, compared with individuals who had frequent contact with friends (Litwin, 2007).

Past studies highlight the significant effect social support can have – from improved psychological well-being and physical health to an increased rate of survival. The importance of studying social support is made clear by previous findings which have shown social support's association with improved morale (Crohan & Antonucci, 1989) and psychological well-being (Matt & Dean, 1993), reduced levels of coronary heart disease (Barefoot, et al., 2005) and dementia

(Fratiglioni, et al., 2000) and even a greater chance of living a longer life (Litwin, 2007)! Therefore, it remains imperative that the factors that influence and are influenced by social support continue to be investigated.

Theories of social support

While the relationship between social support and health has been made clear, why this association exists is less apparent. In the past there has been much debate as to whether social support operates as a buffering or as a main effect on the well-being of individuals. It remains uncertain as to whether the biopsychosocial processes responsible for the association between social support and well-being exists at all times, irrespective of stress levels (main effect). In contrast, the biopsychosocial process may come into play only when an individual experiences stress or comparable physiological reactions (buffering effect) (House, Umberson, & Landis, 1988).

In essence, the effect certain social variables have on physical and psychological health may take place through biological mechanisms. It has been posited that social connectedness is a product of evolution and humans intrinsically need social interaction (Mendoza, 1984). In fact, past studies have revealed that individuals who engage in social contact with others can decrease cardiovascular problems and similar physiological sensations (Cassel, 1976; Kawachi, et al., 1996). Alternatively, the mechanism responsible for the health benefits of social support may be behavioural in nature. It has been suggested that social support may improve physical well-being by encouraging feelings of competence that then regulate an individual's behaviour such as those that promote good health (eg, not smoking, eating a well-balanced diet, drinking in moderation) (Antonucci, 1990). While social support clearly influences psychological and physical well-being, the exact mechanisms responsible for this association remain unclear and thus require further exploration.

The effect of different sources of support

Previous research has revealed that the effect of social support on well-being depends on the frequency of interaction with the various sources of social support. Findings have identified that 80% of older individuals' social networks consist of family members such as spouses, children and siblings (Antonucci & Akiyama, 1987b), and almost all respondents indicated a family member as the person they were closest to (Antonucci & Akiyama, 1991). Family ties are obviously significant in the lives of older individuals; indeed, studies have shown that contact with family members is instrumental to well-being (Chou & Chi, 2001; Hileras, Jorm, Herlitz, & Winbiad 2001; Phillips, Siu, Yeh, & Cheng, 2008; Silverstein, Chen & Heller, 1996; Siu & Phillips, 2002). In a sample of 271 elderly women, Thompson and Heller (1990) found that lower levels of interaction with family were associated with poorer psychological well-being; while lower levels of friend interaction were unrelated.

In contrast, many studies have found a strong association between the support from friends and well-being (Chou & Chi, 2002; Crohan & Antonucci, 1989; Dean, Kolody, & Wood, 1990; Larson, Mannell, & Zuzanek, 1986; Lee & Shehan, 1989; Matt & Dean, 1993; Seeman & Berkman, 1988; Siebert, Mutran, & Reitzes, 1999). Lee and Ishii-Kuntz (1987) revealed that among older adults, interaction with friends was associated with higher morale and lower levels of loneliness. The inconsistency in results from studies investigating social support and well-being may be due to fundamental differences between family relationships and friendships. Friendships are chosen ties amongst individuals who are usually selected on the basis of common interests and a yearning for contact and pleasure (Crohan & Antonucci, 1989; Lee & Ishii-Kuntz, 1987). Friends are frequently opted to share in active leisure (Larson, et al., 1986) and provide assistance for social issues (Cantor, 1979). Moreover, friendships may function more spontaneously and reciprocally in comparison to family relations which tend to be more ritualised (Wood & Robertson, 1978).

Social support from family members is often given out of concern or a sense of duty and may indicate a degree of dependence, especially amongst older adults (Arling, 1976), which could lead to feelings of incompetence and powerlessness (Cavanaugh, 1998; Silverstein, et al., 1996). However, family members are often instrumental in providing physical assistance and emotional support, particularly for older adults (Thompson & Heller, 1990). There is an obligation when it comes to family ties, therefore, if unavailable, there is a clear deficit in the life of the affected individual. Conversely, friendships are optional relationships and friends do not have to be available in the same way as family, thus, their presence is viewed as a more of an added gain in an individual's life (Antonucci & Akiyama, 1995).

While quantitative measures of social support such as the frequency of interaction with both family and friends have been shown to play an important role in well-being, so too have qualitative measures (Antonucci, Fuhrer, & Dartigues, 1997; George, Blazer, Hughes, & Fowler, 1989; Newson & Schulz, 1996; Oxman, Berkman, Kasl, Freeman, & Barrett, 1992). Dupertuis, Aldwin, and Bosse (2001) found in a sample of middle aged and older men, higher levels of perceived support from family and friends were negatively related to depressive symptoms. Furthermore, a study of Chinese older adults revealed that a higher level of satisfaction with support was more strongly associated with lower levels of depression compared to objective measures of social support (Chi & Chou, 2001). These findings indicate that the quality of support received also plays an instrumental role in the health and well-being of older adults.

While it is evident that social support plays a crucial role in the health and well-being of older adults, the effect that certain life events faced by older adults have on social support is not as well understood. The baby boom during the 1940's and 1950's coupled with the improved life expectancy due to medical advances and changes in health and lifestyle means that greater numbers of individuals will soon be reaching old age than ever before (Anderson & Webber, 1993). It is imperative that the effect life events have on the social demands and availability of older adults are investigated and understood so the information can be used in

promoting the care, health and independence of older adults. Gurung, Taylor, and Seeman (2003) suggest that older adults are more susceptible to changes in social support as a result of age-specific events such as retirement or widowhood. So how do differences in retirement and marital status influence social support?

Retirement Status

Retirement is an important transition often marking the end of the demands and responsibilities associated with employment. It may also signify a move into the later stages of life (Floyd, et al., 1992). Retirement is considered an “important social event” (Rosenkoetter & Garris, 2001, p. 704), thus understanding the impact retirement has on the social aspects of an individual’s life is crucial. Retirement is frequently associated with loss, as being employed primarily provides an income, an identity and social ties and support (Kim & Moen, 2002; Richardson & Kilty, 1991). Conversely, retirement may offer more time to participate in activities of one’s choice which is thought to bring an increase in the size and interaction of one’s social network (Dorfman & Mertens, 1990; Palmore, Fillenbaum & George, 1984). Past research has suggested that social networks are relatively stable with minimal changes following retirement (Aquino, Russell, Cutrona, & Altmaier, 1996; Norris, 1993). However, the extent to which the quantity and quality of support is altered as a result of retirement is not well known.

Defining retirement

In the past, there have been inconsistencies and indeed difficulties in clearly defining retirement. Previous findings have considered individuals to be retired when they begin receiving a pension (Kim & Moen, 2002). However, pension eligibility in New Zealand is based solely on age (Work & Income, 2009) and therefore does not permit any assumptions to be made regarding individual’s current work activity or lack of (Ekerdt & DeViney, 1990). Other studies require participants to indicate whether they deem themselves to be retired or not (Honig & Hanoch, 1985; Quinn, 1981), which in effect provides a subjective definition of retirement (Ekerdt & DeViney, 1990). This raises questions about the validity of the information gathered as it is highly likely that individuals have very different

views on what in fact constitutes retirement (Bosse, Aldwin, Levenson, Spiro, & Mroczek, 1993); some may consider no longer working as retired, others may consider retirement to be not earning money while others still may consider retirement to be receiving a pension.

An objective measure has also been utilised to ascertain whether an individual is retired or not. Past studies have measured the number of hours worked which is then frequently trichotomised into retired, partially retired or working categories (Schulz, 1995). There is obvious ambiguity around what constitutes accurate and meaningful cut off levels for each category (Ekerdt & DeViney, 1990). This objective measure of retirement is often determined using a self-reported method.

Theoretical framework

The Social Convoy Theory provides a conceptual framework with which to understand age and time related changes to social networks (Antonucci & Akiyama, 1987b; Kahn & Antonucci, 1980; Levitt, Antonucci, Clark, Rotton, & Finley, 1985-86). A convoy includes individuals such as friends and family that provide resources in times of need. They consist of objective facets such as the structure of the network as well as subjective facets like function and quality of support received. It is thought that convoys are dynamic, modifiable in some ways, but remaining constant in other ways throughout time and one's life course (Kahn & Antonucci, 1980). Convoys are likely to vary from person to person due to gains and losses (eg, widowhood, divorce), family status (eg, marriage, children), so while individuals are generally motivated to maintain the size of their social network, the composition is inclined to alter (Kahn & Antonucci, 1980).

Following retirement, in accordance with the Social Convoy Theory, it is thought that some individuals will lose people in their social network such as co-workers that are likely to be replaced by other people or by increasing the amount of time spent with those already belonging to the social network. Thus, while the quantity of a retiree's social support may alter; it is unlikely that the quality of social support will change (Kahn & Antonucci, 1980).

The influence of retirement status on social support

Previous findings have offered support for the Social Convoy Theory in that retirement brings with it an initial change in social ties as the contact with former co-worker friends and associates decreases (Francis, 1990; Howard, et al., 1982; Mutran & Reitzes, 1981). In a one-year longitudinal study involving 50 men, van Tilburg (1992) demonstrated that many relationships were altered or ceased to exist following retirement. While the size of the network remained relatively fixed, the structure underwent significant changes, consistent with the Social Convoy Theory. More often, relationships with family and neighbours were the primary focus compared to those with friends and acquaintances following retirement. Additionally, contact with past co-workers and working individuals were significantly reduced. Although the sample was small, these findings highlight the ways in which retirement can influence an individual's social interactions.

Bosse, Aldwin, Levenson, Workman-Daniels, & Ekerdt (1990) showed that social support changes as a function of retirement status. As predicted, retirees were less likely than workers to have co-workers as friends or confidants. Retirees were shown to have less quantitative support when compared with workers; however, there were no significant differences in the quality of support between retirees and workers as predicted by the Social Convoy Theory. A three-year longitudinal study produced similar findings; work status generally had no effect on qualitative support (Bosse, et al., 1993). Nevertheless, this study, like the previous (Bosse, et al., 1990; van Tilburg, 1992) was conducted only among men. Considering that significant gender differences in retirement experiences have been observed (Kim & Moen, 2002; Seccombe & Lee, 1986), these findings may not be generalisable to women.

A qualitative study investigating women and retirement produced similar findings to that of men (Price, 1998). For example, when questioned about the effect of retirement on social support, women spoke extensively on the loss of work contacts and the additional effort required to form new social contacts to replace

the ones lost. Indeed, Levy (1980) identified the loss of work contacts as one of the main reasons women are reluctant to retire. Moreover, the female participants in the study conducted by Price (1998) also acknowledged that time spent with family members became more frequent and easier succeeding retirement. The retirement experiences offered by these women provide support for previous findings which revealed that retired women reported increased contact with family and friends compared with employed women (Fox, 1977). Researchers have postulated that the observed increase in social contact outside of work perhaps indicates compensatory behaviour to fill the “gap” resulting from the loss of work related social ties (Depner & Ingersoll, 1982). Alternatively, Depner and Ingersoll (1982) posited that some social ties may be enduring and not susceptible to any changes associated with retirement.

Past research has found that retirement does have an impact on quantitative support with co-worker contacts decreasing or ending (Howard, et al., 1982) and contact with family and friends increasing (Fox, 1977; van Tilburg, 1992). While the structure of social networks undergoes a change following retirement, the overall perceived support appears to remain relatively static (Bosse, et al, 1990; 1993), keeping in line with Kahn and Antonucci’s (1980) Social Convoy Theory. However, due to the international nature of past findings and the clear lack of New Zealand research, it is imperative that research investigating the influence retirement has on social support is conducted in a local setting. It is necessary to determine how these factors may affect New Zealanders and our country as a whole, especially with the possibility that the retirement age may increase.

In addition, a further significant gap in the social support literature exists. Many researchers assert that older individuals are likely to face significant changes to their social support network as a result of the life events they face such as retirement and widowhood (Depner & Ingersoll, 1982; Gurung, Taylor, & Seeman, 2003; Kahn & Antonucci, 1980; Price, 1998). Past studies have investigated the effect that differences in retirement status have on social support as well as the influence an individual’s marital status has on social support. Nevertheless, there has been little investigation into the potential interaction between retirement and

marital status on social support and therefore, the presence of a potential interaction effect remains unknown. As social support has been shown to be instrumental in the well-being and health of individuals it is imperative that the direct, individual factors as well as the joint, more complex factors that influence social support are well understood.

Marital Status

Marital status can have a significant influence on one's life as it has been shown to dictate the family resources, relationships and systems (Acock & Demo, 1994). Married individuals have been found to be happier, exhibit better psychological health, have enhanced physical health, live longer and generally have a greater quality of life (Gove, Hughes, & Style, 1983). In addition, the social support and social networks of individuals have been found to differ as a function of marital status. Previous findings have revealed that the frequency of interaction with family and friends and the level of perceived support are all affected by one's marital position (Barrett, 1999; Larson, et al., 1986; Pinquart, 2003).

Accounting for a number of different factors such as the increased life expectancy and growing social acceptance towards certain living arrangements, there is a large variation in the marital statuses that exists amongst the older generations of New Zealanders. On one hand, research shows that 19% of all marriages can expect to last at least 40 years (Statistics New Zealand, 2006a). Equally though, separation and divorce rates are significantly higher compared with previous decades, therefore individuals are increasingly likely to experience changes to their marital status than ever before (Statistics New Zealand, 2006a). Furthermore, as the life expectancy increases, women especially are more inclined to face widowhood because they live, on average, four years longer than men (Statistics New Zealand, 2006b). In New Zealand the norm is shifting away from being married, towards a rise in civil unions or de facto partnerships and a higher number of individuals are choosing not to marry than ever before (Statistics New Zealand, 2006a).

The influence of marital status on social support

Individuals will experience different life courses depending on their marital status and as a result have a varying social network and support characteristics. From past findings it appears that the presence of a spouse can have a significant influence on the people that individuals choose to spend their time with. In a study of 210 people aged 60-94 years old, it was revealed that widowed and divorced individuals had higher rates of being alone than married individuals (Gubrium, 1974). Furthermore, amongst older adults, Barrett (1999) found that married and previously married individuals reported a higher frequency of social interaction compared with individuals who had never married. However, in a study that investigated different kinds of social ties, it was revealed that unmarried individuals chose to spend more than twice the amount of time with friends in contrast to married individuals, although only two different marital categories were utilised (Larson, et al., 1986).

Studies commonly treat unmarried individuals as a homogenous group; however, they include individuals who are widowed, divorced, separated and never married. Consequently, research needs to adopt measures that acknowledge the heterogeneous nature of the unmarried. In a study that investigated different unmarried groups, married individuals were found to have less contact with friends and neighbours compared with divorced, widowed and never married individuals (Pinquart, 2003). Similar findings were produced by Stull and Scarisbrick-Hauser (1989) who revealed that those who had never married interacted more with friends compared with married counterparts. Past research seems to indicate that never married individuals rely more on friends for social support compared with married individuals, perhaps to compensate for their lack of primary ties such as a spouse or adult children (Rubinstein, Alexander, Goodman, & Luborsky, 1991; Stull & Scarisbrick-Hauser, 1989).

While individuals who have never married reportedly interact more frequently with friends than married individuals, those who are married or previously married have been shown to have higher levels of contact with family (Gove,

Hughes, & Style, 1983; Turner & Marino, 1994). Never married individuals may interact reasonably frequently with siblings more so than married individuals (Circelli, Coward, & Dwyer, 1992), however, on the whole, family interaction is higher amongst those that are married or previously married. Married individuals likely have higher levels of interaction with family due to the presence of a spouse and possibly children, while previously married individuals have been found to frequently rely on adult children for support (Reinhardt & Fisher, 1988). Conversely, it is posited that never married individuals may have reduced social support, especially family support, due to having no spouse and the majority lacking the presence of an adult child (Umberson, Wortman, & Kessler, 1992). In light of this, findings show that never married individuals often compensate by forming specialised support networks (Johnson & Catalano, 1981) such as increased social ties with individuals that are non-kin (Rubinstein, et al., 1991), accounting for the higher frequency of interaction amongst never married individuals and friends.

Previous findings have revealed that social support tends to differ according to an individual's marital status (Essex & Nam, 1987; Keith, 1986; Seccombe & Ishii-Kuntz, 1994). However, while the never married have been shown to interact more frequently with friends while married and previously married individuals tend to interact more with family, what is the effect marital status has on perceived support? As spousal relationships have consistently been shown to be instrumental in terms of providing support (Antonucci & Akiyama, 1987a; Cutrona, 1996; Hughes & Gove, 1981), it would be expected that married individuals exhibit higher levels of perceived support.

Past findings support this with research showing that married individuals report higher levels of perceived support than unmarried individuals (Barrett, 1999; Cutrona, 1986; Ross & Mirowsky, 1989; Wu & Hart, 2002). For instance, Turner and Marino (1994), found in a sample of men and women ($N=1,394$), those who were married reported higher levels of perceived support than those who were previously or never married. However, the sample ranged in age from 18-55 years old and only three marital status categories were investigated (married, previously

married, or never married) limiting the generalisability of the findings. As Barrett (1999) noted, there is a great need for further exploration of objective and subjective measures of social support and marital status, particularly among individuals who have never married but are part of a co-habiting or marriage-like relationship.

It is clear that changes in marital status have an effect on an individual's social support system. While those who are widowed and divorced/separated have had to deal with the loss of a spouse and changes to their contacts as a result, comparisons between these individuals have only been made against married samples. The literature lacks any study that effectively examines all categories of marital status – never married, divorced/separated, widowed, married, and those in a de facto relationship and the influence one's marital position has on social support. It would be assumed that those in a de facto relationship have similar patterns to married individuals; given both have the presence of a partner.

However, past findings have shown that the well-being of individuals in a de facto relationship is closer to those who are single rather than those who are married (Horwitz & White, 1998; Stack & Eshleman, 1998). It must be also be taken into consideration that the de facto status can be heterogeneous, as it includes heterosexual couples that may intend to marry, that may not want to marry and that have previously been married, as well as same-sex couples. However, it is clear that as one ages the likelihood of becoming widowed increases and so too do the rates of divorce/separation and de facto relationships in our country. Therefore, it would be of great interest to investigate how social support differs across all marital statuses.

CHAPTER III: RESEARCH DESIGN

Past literature has revealed that functions of social support can alter depending on whether one is employed or retired (Bosse, et al., 1990; Kahn & Antonucci, 1980; Price, 1998). Because previous studies investigating this area have predominantly been conducted in an American setting it would be of significant benefit to ascertain the effect retirement has on social support in a New Zealand setting. Past findings from international samples have revealed that retirees have greater contact with friends (Fox, 1977) and family (van Tillburg, 1992) than their employed counterparts. However, while frequency of contact with network members have been found to differ as a function of retirement status, levels of qualitative support have been found to be similar for retirees and workers alike (Bosse, et al., 1990; 1993).

Furthermore, it is clear that social support varies as a function of marital status. However, less clear is the effect an exhaustive range of marital statuses has on social support. There is a need to investigate whether different facets of social support (namely contact with friends and family and perceived support) vary depending on whether one is married, in a de facto relationship, divorced or separated, widowed, or never married. Past findings have revealed that never married individuals report higher levels of contact with friends than married individuals (Pinquart, 2003; Stull & Scarisbrick-Hauser, 1989), while those who are partnered or previously partnered have been found to have higher levels of contact with family (Turner & Marino, 1994). Furthermore, married individuals have been shown to have greater qualitative support compared with previously married or never married individuals (Barrett, 1999).

Additionally, while past findings have shown that retirement status and marital status have an influence on social support, the interaction effect of these variables has failed to be investigated. Given that social support varies as a function of both retirement and marital status, it is thought that social support will also vary depending on whether an individual is, for instance, married and employed compared with never married and retired.

Hypotheses

- 1a) Retirees will have greater contact with friends in their community than their employed counterparts.
- 1b) Retirees will have greater contact with family than their employed counterparts.
- 1 c) Qualitative support will be similar for retirees and workers alike.

- 2 a) Never married individuals will have higher levels of contact with friends in their community than married or partnered individuals.
- 2 b) Married, partnered or previously married individuals will have higher levels of contact with family than those who have never married.
- 2 c) Married and partnered individuals will have higher levels of qualitative support than previously married or never married individuals.

- 3 a) An interaction effect between marital and retirement status will be observed for contact with community friends.
- 3 b) An interaction effect between marital and retirement status will be observed for contact with family.
- 3 c) An interaction effect between marital and retirement status will be observed for perceived social support.

Method Selection

It is necessary that a suitable data analysis method is chosen in order to effectively examine the individual and interaction effects of retirement and marital status on social support. The present study consists of three dependent variables – interaction with family, interaction with friends and a subjective measure of social support; two independent variables – marital and retirement status and a number of possible confounds such as age, gender, and ethnicity.

Analysis of covariance (ANCOVA) is used to test for the main and interaction effects the independent variables have on a dependent variable. This is potentially a suitable data analysis method given the aim of the present study is to determine the main and interaction effects marital and retirement status have on a number of social support measures. ANCOVA reduces the error term by taking into account the effect covariates have on the dependent variable and thus adjusts the dependent variable scores accordingly (Tabachnick & Fidell, 2007). This further strengthens the viability of ANCOVA's use in the present study as it is thought a number of variables such as age, gender and ethnicity may act as covariates. ANCOVA is predominantly used in experimental studies, although it can be used in a non-experimental setting only when causality is not wished to be implied (Field, 2009). However, ANCOVA requires the selection of covariates to be continuous variables and only moderately correlated with one another. Unfortunately, gender and ethnicity which are potentially significant covariates are categorical variables, not continuous variables thus ruling out ANCOVA as a suitable data analysis method.

Multivariate analysis of variance (MANOVA) determines the likelihood that mean differences in the dependent variables for a number of groups occurred by chance. This makes MANOVA a possible data analysis method in the present study as it needs to be determined whether mean differences in the social support measures vary as a function of marital status and retirement status. Additionally, MANOVA has the possibility to be more powerful than separate ANOVAs as it may reveal differences not captured by individual ANOVAs (Tabachnick & Fidell, 2007). However, MANOVA's statistical success is reliant on selecting a set of dependent variables that are highly negatively correlated, moderately positively or moderately negatively correlated with one another (Tabachnick & Fidell, 2007). Unfortunately, the dependent variables used in the present study are all only slightly negatively correlated with one another, thus eliminating MANOVA as a potential data analysis method.

Analysis of variance (ANOVA) compares mean scores on a dependent variable across groups to determine if they are statistically significantly different (Field,

2009). ANOVA requires the use of a categorical independent variable with a minimum of three or more separate groups and a continuous dependent variable. As marital status and retirement status are both categorical independent variables and the three social support measures are continuous, these requirements are met by the variables used in the present study. ANOVA allows the main effects of each independent variable (ie, marital and retirement status) as well as the interaction effect (ie, marital status x retirement status) to be determined. Unfortunately, ANOVA does not provide a way to manage the influence covariates or extraneous variables may have on the dependent variables. Thus, any changes in the dependent variable that are observed may be attributable to the independent variables, or, alternatively, they may be due to the covariates or extraneous variables. While this is a limitation of ANOVA, on the whole it does meet the requirements of the present study and is therefore selected as the most suitable data analysis method.

CHAPTER IV: METHOD

Sample and Procedure

The present study investigated the effect retirement and marital status has on social support. Secondary analysis was performed on data obtained from a national health, work and retirement study of community-dwelling, young-old adults conducted by a number of organisations including the School of Psychology at Massey University, and the New Zealand Institute for Research on Aging and was funded by the Health Research Council of New Zealand. The sample was randomly selected from the New Zealand electoral roll which includes approximately 96% of the population aged 18 and over. The sample excluded individuals residing in institutions such as prisons, nursing homes or dependent care.

The survey employed the Tailored Design method (Dillman, 2000) in which a five stage posting schedule aims to maximise participation numbers. In March 2006, a letter was sent to participants informing them of the research and their random selection. After a week, a questionnaire and information sheet was mailed to participants. Three weeks later, reminder cards were sent to the potential participants. If individuals had still not responded after a further three weeks, another survey was sent. A second reminder card was sent to all non-respondents after an additional five weeks.

The sample of 13,045 was initially reduced to 12,494 after 551 individuals were excluded as they were unable to complete the questionnaire (unable to be contacted, deceased or institutionalised). The questionnaire was returned by 6,662 individuals, giving an overall response rate of 53%. The sample ranged in age from 55-70 years old with a mean age of 60.9 years old, 54.4% of the sample was female. Additionally, the final survey sample consisted of 48% Māori (oversampled), 47% New Zealand European, 1% Pacific, 1% Asian and 3% MELAA (Middle Eastern/Latin American/African) or other ethnicity.

Measures

Independent variables

Retirement status – Retirement status was assessed by a seven point index. Respondents were asked to select which option best described their current employment status – full time in paid employment [1]; part time in paid employment [2]; retired, no paid work [3]; full-time homemaker [4]; full-time student [5]; unemployed and seeking work [6]; not in the workforce – other [7].

Individuals that were shown to participate in paid employment, whether full time or part time, were pooled into a single category “employed” ($n=4199$). Those that were shown to be retired, no paid work were categorised as “retired” ($n=1739$). The remaining individuals (those that categorised themselves as a homemaker, student, unemployed, seeking work or not in the workforce - other, or missing data) were eliminated from further analyses ($n=718$).

Marital status – Marital status was assessed using a six-point categorical index. Respondents were asked to select the statement that best described their current legal marital status: I am legally married [1], I am in a civil union/de facto/partnered relationship [2], I am permanently separated from my legal husband or wife [3], I am divorced or my marriage has been dissolved [4], I am a widow or widower [5], I have never been legally married [6].

Past studies have investigated the effect marital status such as married, divorced/separated, widowed and never married has on social support (Barrett, 1999; Cutrona, 1986; Larson, et al., 1986). While separate categories initially existed for divorced and separated individuals, given that their social situations are highly likely to be similar, the decision was made to combine divorced and separated individuals into one category (“divorced/separated”) resulting in five marital status groups – married ($n=4636$); civil union/de facto/partnered ($n=291$); divorced/separated ($n=838$); widowed ($n=501$); never married ($n=255$), with 135 cases missing data.

Dependent variables

Quantity of social support – Quantity of social support was assessed by two items each measured on a six point scale which determined how often they speak or do something with their children or relatives, or friends in their community/neighbourhood: daily [1], 2-3 times a week [2], at least weekly [3], at least monthly [4], less often [5], never/I have none [6].

Quality of social support – Quality of social support was measured using the Social Provisions Scale (Cutrona & Russell, 1987) (Appendix A). Respondents are asked to report on a four-point scale (strongly disagree [1], disagree [2], agree [3], strongly agree [4]) the degree to which 24 statements described their social relationships.

Assumptions

Missing data

The social provisions variable had 568 (8.5%) missing values. There is often debate around the correct way to deal with missing data and without any concrete rules as to what is acceptable and what is not, the method chosen to manage the problem can be quite subjective. As more than 5% of the social provisions values are missing the problem becomes more serious (Tabachnick & Fidell, 2007). Further investigation revealed that there was no clear pattern to the missing data; therefore the decision was made to replace the missing values with the mean. The other two dependent variables – interaction with family and interaction with friends both had less than 5% of cases missing (171 cases (2.6%) and 252 cases (3.8%) respectively). As 5% or less of missing cases for any variables within a large dataset does not present a significant problem (Tabachnick & Fidell, 2007), it was decided that the missing cases for these variables would be omitted from any further data analysis.

Normality

One of the assumptions of most statistical tests such as ANOVA is that the variables utilised are normally distributed. Normality of variables can be determined by assessing the level of skewness (how symmetrical the distribution is) and kurtosis (how peaked the distribution is). The three continuous dependent variables were assessed for skewness and kurtosis. The social provisions variable was shown to have skewness of -0.236 and kurtosis of -0.230. The interaction with family variable had a skewness value of 0.850 and a kurtosis value of 0.117. Similar values for the interaction with friends variable were found with a skewness of .765 and kurtosis value of .136. The shape of the distribution for each of the dependent variables was also examined. The distribution of the social provisions variable indicated a slight pileup of cases to the right and a distribution that was quite flat. The interaction with family variable and the interaction with friends variable had a similar distribution with both demonstrating a significant distribution of cases to the left and a mostly normal peaked distribution.

The normality of variables is not necessarily required, but usually improves the result if variables are normally distributed (Tabachnick & Fidell, 2007). In large samples (such as in the present study), deviations from normality tend to have less effect on the accuracy of the data analysis (Tabachnick & Fidell, 2007). However, attempts were made to transform the data to reduce levels of skewness and kurtosis. The square root of each of the values was taken and while some values improved, namely the skewness values, the kurtosis values became more pronounced. Thus because of the large sample size and the lack of consistent improvement of values through the transformation, the decision was made to leave the values and not transform them.

Homogeneity

Another assumption when using ANOVA is the homogeneity of variances. It is assumed that the variance of results in one group is the same for all the other groups (Tabachnick & Fiddell, 2007). To test whether this is the case Levene's Test

is used – if the p-value is significant it indicates that the homogeneity of variance assumption has been violated. The Levene's Test value was found to be significant. In the event that the value from Levene's Test is significant and homogeneity has been violated, a more conservative significance level can be employed (Tabachnick & Fidell, 2007). Therefore, the present study used a significance level of $p < 0.001$.

Outliers

The social provisions variable was identified as having 18 cases considered as univariate outliers (scores that were ≤ 51.00). These cases were further investigated and reasoned to have been correctly entered and to have come from the intended population, however, they were considered outliers as their values were more extreme than that of a normal distribution (Tabachnick & Fidell, 2007). The decision was made not to delete or modify these 18 values, as it was believed that these values represented cases that would be found in the general population, for instance, individuals who are considered isolated or desolated.

The interaction with family variable was found to have close to 400 outliers (scores that were ≥ 5) while the interaction with friends variable was found to have over 550 (scores that were ≥ 5). Given both scales range from 1-6, scores greater than 5 should not necessarily be deemed as outliers. Once again, in the normal population it was believed that it was highly probable that individuals in certain circumstances, such as those in isolated or desolated conditions, may obtain scores greater than 5 on either or both scales. Therefore, it was decided that scores greater than 5 would not be considered outliers and did not require deletion or transformation and were included in subsequent analyses.

Post-hoc tests

Once ANOVA has been performed and a difference between groups has been observed, post-hoc tests are used to determine between which particular groups that difference actually exists. There are numerous post-hoc tests available, so when selecting a test the following has to be considered: a) how well the test

controls the Type1 error rate; b) how good the test's statistical power is; and c) how reliable the test is if ANOVA assumptions have not been met (Field, 2009). A significant difference in social support measures as a function of marital status was found, therefore, post-hoc procedures needed to be conducted to determine which of the five marital groups means differed. Considering the samples sizes were very different, and similar group variances could not be assured, the Games-Howell procedure was selected as the best option.

CHAPTER V: RESULTS

The results of a two-way analysis of variance (marital status x retirement status) on three measures of social support – interaction with friends, interaction with family and perceived social support are shown in Table 1. The mean scores for all social support measures (social provisions score, the interaction with friends score and the interaction with family score) were significantly different according to both marital and retirement status.

A two-way ANOVA was performed to explore the effect that retirement status and marital status had on an objective measure of social support, measured by the interaction with friends. A statistically significant main effect for retirement status was found [F (1, 4018), $p < 0.001$], however, the main effect for marital status [F (4, 4018), $p = .071$] and the interaction effect [F (4, 4018), $p = 1.52$] were not statistically significant. Interaction with friends within the community was greater amongst retirees than employed individuals. Scores on this variable were inverted whereby a higher number is indicative of more frequent interaction.

A second two-way ANOVA was conducted to investigate the impact retirement status and marital status had on another objective measure of social support, assessed by interaction with family. There was a statistically significant main effect for marital status [F (4, 4036), $p = 0.00$], however, the main effect for retirement status [F (1, 4036), $p = .002$] and the interaction effect [F (4, 4036), $p = .124$] was not statistically significant. Scores on this variable were also inverted whereby a higher number is indicative of more frequent interaction.

Figure 1 shows the different frequencies in family contact depending on whether an individual is married, in a partnered relationship, divorced or separated, widowed, or never married. The amount of interaction with the family differed significantly according to marital status. Those who were widowed and legally married had the highest frequency of interaction with family but neither of the groups were significantly different from one another at the $p < 0.05$ level. Divorced and separated individuals and those in a de facto partnership had moderate levels

of interaction with their family, albeit significantly less frequent than widowed or legally married individuals. The level of interaction with family did not differ between divorced/separated individuals and those in a de facto partnership at the $p < 0.05$ level. By contrast, those who have never married exhibited significantly lower levels of contact with their family ($p < 0.05$) compared to any other marital group.

Additionally, a third two-way ANOVA was conducted to investigate the influence of retirement status and marital status on social support, as measured by the Social Provisions Scale. There was a statistically significant main effect for marital status on the social provisions measure [$F(4, 4132) = 20.5, p < 0.001$]; however, the main effect for retirement status was not statistically significant [$F(1, 4132) = .490, p = .484$]. Legally married and individuals in a de facto relationship were shown to have the greatest level of perceived support, although the two groups were not significantly different from one another. Divorced and separated individuals, those who are widowed and individuals who had never married had significantly lower levels of perceived support ($p < 0.05$).

Furthermore, as shown in Figure 2, perceived support not only differed as a function of marital status, but was also influenced by the interaction effect between marital and retirement status [$F(4, 4132) = 5.768, p < 0.001$]. Employed individuals who were married, in a de facto relationship or divorced/separated had a higher score on the Social Provisions Scale compared to their retired counterparts. Conversely, retirees who were widowed or had never married had a higher level of social support than widowed or never married individuals who were employed. Employed individuals who were married, in a de facto relationship or had never married only differed slightly in levels of perceived support compared with their retired counterparts. In contrast, employed individuals who were divorced or separated had significantly greater levels of support compared to divorced or separated retirees. Furthermore, widowed retirees had greater social provision scores than employed widows. Legally married individuals who were employed had the greatest amount of social support, while divorced/separated retirees had the lowest social provision score of any marital/retirement group.

Table 1. Analysis of Variance for Interaction with Friends, Interaction with Family, Social Provisions as a function of Retirement Status and Marital Status

<i>Sources of Variance</i>	<i>Interaction with friends</i>			<i>Interaction with family</i>			<i>Social Provisions</i>		
	<i>df</i>	<i>MS</i>	<i>F</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>df</i>	<i>MS</i>	<i>F</i>
Retirement status (R)	1	31.799	19.304*	1	14.567	NS	1	42.897	NS
Marital status (M)	4	3.563	NS	4	89.999	58.477*	4	1795.263	20.522*
R x M	4	2.767	NS	4	2.787	NS	4	504.608	5.768*

* p<.001

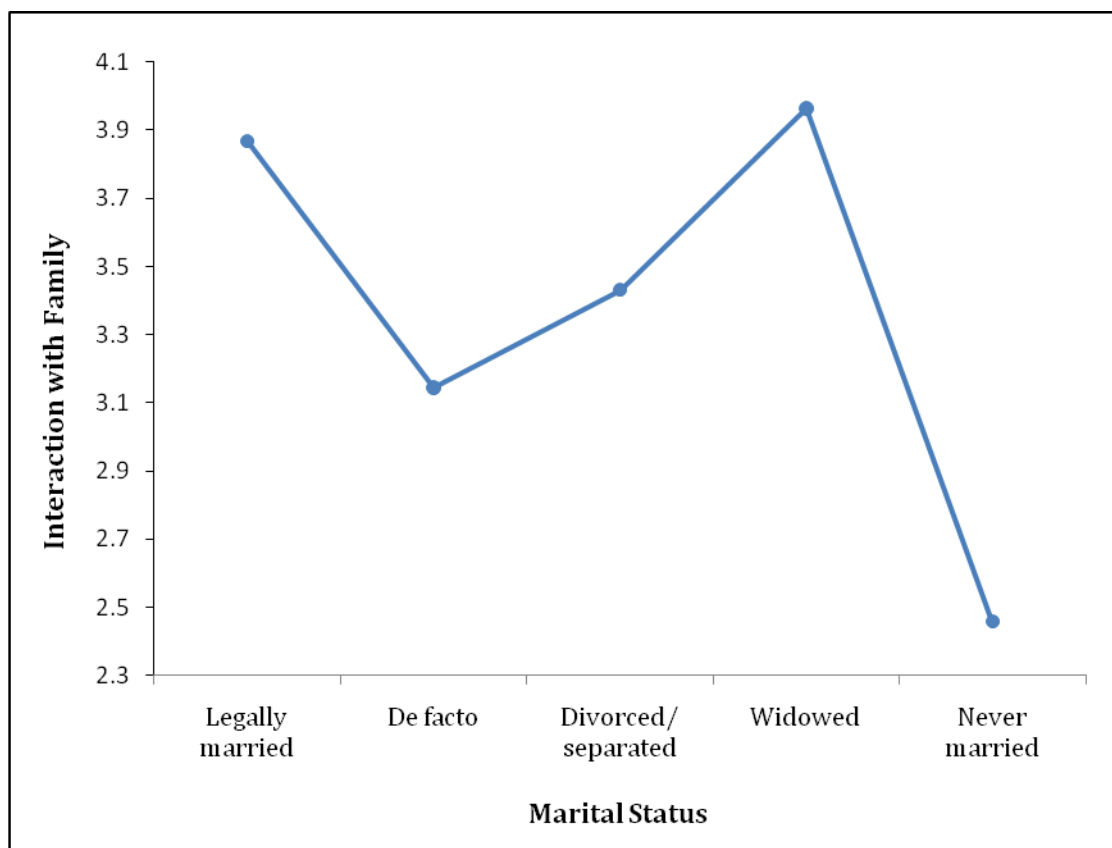


Figure 1: The influence marital status has on interaction with family

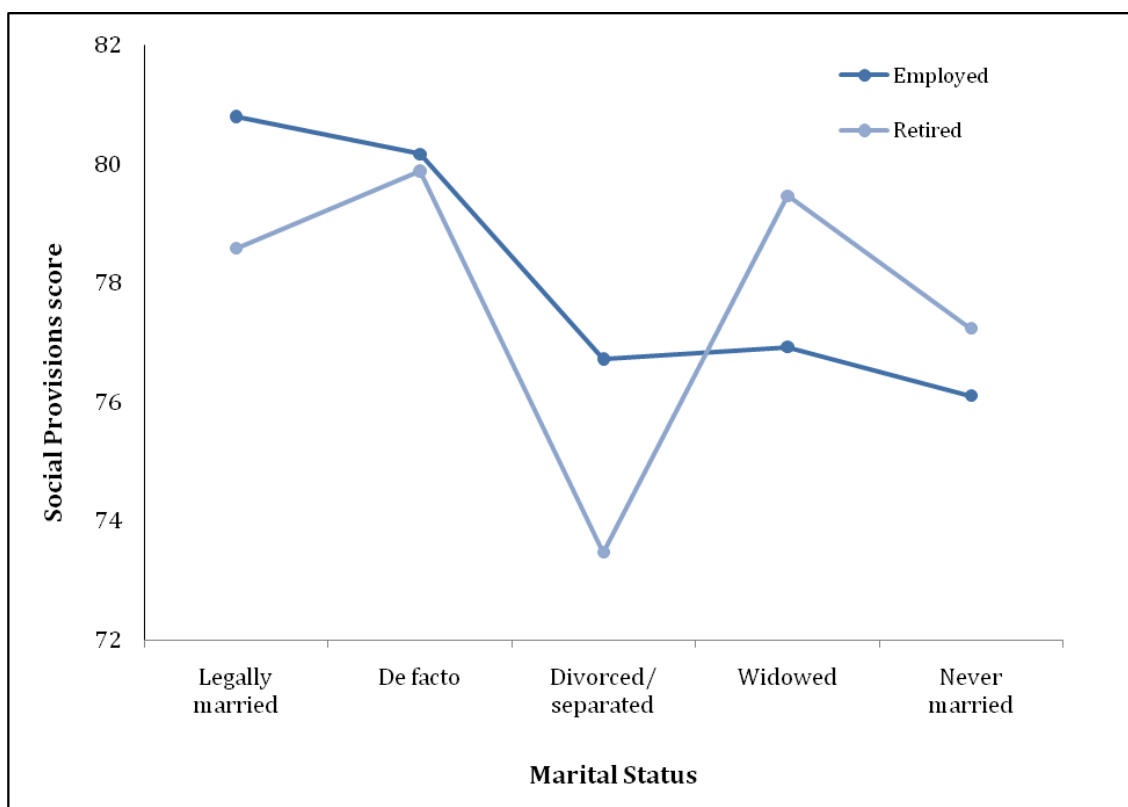


Figure 2: The effect of marital and retirement status on Social Provision scores

CHAPTER VI: DISCUSSION

The purpose of this cross-sectional study was to determine the influence of retirement and marital status on quantitative and qualitative social support. The study investigated whether contact with family and friends, and perceived social support differed according to retirement and marital status and whether there was an interaction between marital and employment status. The results highlight the importance of considering an individual's retirement status and marital status when exploring different facets of social support.

Summary of results

In the study, nine predictions were made. Firstly, it was hypothesised that retirees would have greater contact with friends in their community than their employed counterparts, which was supported by the results from this analysis. It was hypothesised that retirees would have greater contact with family than their employed counterparts; however, the results from this analysis did not support this hypothesis. There were no significant differences observed in frequency of family contact between individuals who were employed and those who were retired. It was also hypothesised that qualitative support would be similar for retirees and workers alike, which was supported by the analysis showing that retirement status had no influence on perceived support. There was no observed difference in levels of perceived support between individuals who were employed and those who were retired.

Furthermore, it was hypothesised that never married individuals would have higher levels of contact with friends in their community than married or partnered individuals but this hypothesis was not supported by the data. In addition, it was hypothesised that married, partnered or previously married individuals would have higher levels of contact with family than those who have never married. This hypothesis was supported by the data. It was also hypothesised that married and partnered individuals would have higher levels of qualitative support than

previously married or never married individuals, which was supported by the results from this analysis.

The present study was exploratory in nature in that the interaction effect of retirement and marital status on social support had never been investigated. It was hypothesised that an interaction between retirement and marital status would be observed for contact with community friends and contact with family; however, neither of these hypotheses was supported by the data. Additionally, it was hypothesised that an interaction between marital and retirement status would be observed for perceived support, which was supported by these results in that the effect of retirement status on perceived social support was dependent on marital status.

Explanation of findings

The findings from the present study provide further support for the Social Convoy Theory in that while individuals may experience a reduction in work-related friends following retirement, the present study indicates there was greater interaction with close proximate friends amongst retirees than those who were employed. Previous findings have indicated that contact with co-workers decreases following retirement (Bosse, et al., 1990; 1993). However, the findings from the present study indicate that retirees may have more time available to form new friendships or interact more frequently with existing friends following retirement. The current findings are in line with past research which revealed that retirees have greater contact with friends compared with their employed counterparts (Fox, 1977; Palmore, Fillenbaum, & George, 1984). Previous studies have also highlighted the difficulties faced by retirees due to the loss of work related contacts (Levy, 1980; Price, 1998). Indeed Depner and Ingersoll (1982) posited that compensatory relationships may be formed by retirees to fill or minimise the loss experienced by the reduced contact with past colleagues. The findings from the present study offer support for this idea whereby retired individuals had more contact with friends in comparison to individuals who were still employed.

While contact with friends was found to differ as a function of retirement status, contact with family did not differ. Some studies have revealed significant differences in the amount of contact with family between employed and retired individuals (van Tilburg, 1992), whereas others have only found little or no difference (Szinovacz & Davy, 2001). As Depner and Ingersoll (1982) noted, some social ties may be stable and unaffected by life changes such as retirement. The current findings offer support for this notion in that while the frequency of contact with friends was greater amongst retirees, contact with family was not, suggesting that relational ties are longstanding and unlikely to change once employment ceases.

The present study revealed similar levels of perceived support for employed individuals and retirees. The findings are consistent with the Social Convoy Theory which posits that while the quantity and level of contact may change following retirement, the quality of support should remain the same (Kahn & Antonucci, 1980). Additionally, the current results are also in keeping with previous findings which indicate that employment status had no significant effect on perceived support (Bosse, et al., 1990; 1993).

It was thought that contact with friends would differ depending on marital status as past studies have found that never married individuals lack a partner and most likely children, thus compensating by forming specialised networks such as friendships (Johnson & Catalano, 1981). However, the present findings fail to offer support for this observation in that contact with friends did not differ significantly as a function of marital status. The finding that individuals who had never married had a similar level of interaction with friends compared to those who were divorced, separated or widowed is consistent with past findings (Pinquart, 2003). It was expected that never married individuals would have more contact with friends compared with married or partnered individuals but this was not the case. Studies that have shown greater social interaction among individuals who have never married, have utilised items that measure contact with all friends (Pinquart, 2003; Stull & Scarisbrick-Hauser, 1989), instead of the measure employed in the current study that only assessed contact with friends within the

community/neighbourhood. It could be that the limited scope of the measure used in the present study failed to detect a greater amount of contact with friends amongst the never married compared with the married or partnered.

While contact with friends was found not to differ as a function of marital status, contact with family did. In examining all marital categories, the present study showed that the level of contact with family was similar in married and widowed individuals. Individuals who were divorced, separated or in a de facto partnership were found to have significantly less contact with family than individuals who were married or widowed while individuals who had never married had the lowest levels of interaction with family than any other marital group. This is consistent with previous research, for example, Turner and Marino (1994) found that contact with relatives was highest amongst married individuals and lowest amongst those who had never married. Past findings have revealed individuals who are married or previously married are much more likely to have children compared with individuals who have never married (Statistics New Zealand, 2007). As of 2006, young-old individuals who had never married were approximately 80% more likely to be childless compared with approximately only 5% of married or previously married individuals (Statistics New Zealand, 2007). Thus, the low level of family interaction observed among never married individuals is likely due to the majority lacking children.

The present study revealed that contact with family was more frequent amongst those who were widowed compared with those who were divorced or separated. Researchers have suggested that hostility and tension associated with divorce or separation often has a detrimental effect on the relationship between parent and child and as a result contact may decrease (Aquilino, 1994; Bulcroft & Bulcroft, 1991; Cooney, 1994; Kaufman & Uhlenberg, 1998). Conversely, those who are widowed often experience a greater amount of contact such as visits and phone calls from adult children following widowhood (Eggebeen, 1992; Pinqart, 2003; Roan & Raley, 1996). In fact, adult children have been shown to offer more support to a mother or father who is widowed compared to parents who are still married (Stoller & Earl, 1983) and therefore, it is not surprising that in the present study

the amount of family interaction did not differ between widowed and married individuals. Indeed, past research also confirms that the networks of widowed and married individuals are similar (Hurlbert & Acock, 1990).

Those who were married or in a de facto relationship might be expected to have similar social networks and support characteristics, given that they both have a partner. However, the findings showed that those who were married experienced significantly higher levels of interaction with family than those in a de facto relationship. This finding might be a result of the heterogeneous nature of the de facto group. For example, heterosexual couples intending to marry, those who have no desire to formalise their relationship and homosexual couples may all be considered as de-facto relationships. While both marital categories include the presence of a partner, past research shows that those who are married are more likely to have children compared with those who are in a de facto relationship (Statistics New Zealand, 2007). Thus, a greater amount of family interaction amongst married individuals compared with those in a de facto relationship is possibly due to the presence of children.

The findings showed that the presence of a spouse or partner is associated with higher levels of perceived support compared to previously married or never married individuals. Additionally, the results from the present study are consistent with other studies showing that married individuals have higher levels of perceived support than individuals who are not married (Barrett, 1999; Cutrona, 1986; Ross & Mirowsky, 1989; Wu & Hart, 2002). The findings suggest that it is not solely the presence of a spouse *per se* that is instrumental to feeling supported but rather that of a life partner as individuals in a de facto or partnered relationship had similar levels of perceived support to married individuals and significantly greater degrees of support than those who were divorced/separated, widowed or never married.

The absence of a partner was associated with lower levels of perceived support but among this group, widowed individuals scored significantly higher on the social provisions measure than divorced/separated and never married individuals. Past

research has shown that widows who have more contact with network members are less likely to be lonely (Pinquart, 2003), and after the death of their spouse, a widow's contact with their adult children increases (Roan & Raley, 1996). Taken together, these findings might explain why widowed individuals have a greater amount of perceived support compared to those who were divorced, separated or never married.

Individuals who had never been married had the second lowest social provisions scores after individuals who were divorced or separated. The current findings are consistent with previous research which revealed never married individuals are less likely to consider themselves lonely compared with divorced or separated individuals (Gubrium, 1974). These findings offer support for previous research in that despite never married individuals having less contact with social network members, particularly family members (Stull & Scarisbrick-Hauser, 1989), they are less likely to be the loneliest marital group as the social connections of the never married are thought to be unrelated to feelings of loneliness (Essex & Nam, 1987).

Divorced or separated individuals, like widowed and never married individuals, lack a partner which past research has revealed contributes significantly to lower perceived support (Barrett, 1999; Turner & Marino, 1994). However, the present findings revealed that divorced and separated individuals had significantly lower levels of perceived support than widowed and never married individuals. Previous findings have shown that divorced individuals have less contact with adult children following separation (Aquilino, 1994; Kaufman & Uhlenberg, 1998), while widowed individuals contact with adult children increases (Eggebeen, 1992). Thus, it is possible that this lack of contact with adult children may contribute to lower feelings of perceived support. It should be noted that approximately 80% of young-old never married individuals are childless (Statistics New Zealand, 2007), yet they exhibit significantly higher perceived levels of support than those who are divorced or separated. Therefore, it is not just the lack of the presence of adult children in one's life that may contribute to lower levels of subjective social support, but rather the failure of children that do exist to play an active role in their parents' lives which potentially lead to diminished feelings of support.

An interaction between retirement and marital status on objective measures of social support was not observed. However, only a single item was used to assess the participants' interaction with friends and family, which might not sufficiently capture true levels among the participants so that an interaction effect could be detected. An alternative explanation is that there is no interaction between retirement and marital status; retirement status was found to effect the interaction with friends, while marital status was the only independent variable influencing interaction with family. It may be that objective measures of support are affected independently by retirement and marital status, but remain unaffected by the interaction between these two variables.

While no interaction effect was observed between retirement and marital status on objective measures of social support, an interaction effect on subjective social support was found. Social provision scores were higher among employed individuals who were legally married or in a de facto relationship compared to their retired counterparts. In contrast, among those who had never married, retirees had slightly higher levels of perceived social support than those who were employed. The levels of perceived social support among individuals who were divorced or separated were influenced by retirement status to the greatest extent; those who were employed had significantly greater perceived social support than divorced or separated retirees. Conversely, widowed retirees had significantly higher social provision scores compared with their employed counterparts.

Past studies have revealed that divorced and widowed individuals benefit the most from contact with adult children (Pinquart, 2003), however contact with adult children likely decreases following divorce (Kaufman & Uhlenberg, 1998) and increases when a parent becomes widowed (Eggebeen, 1992). Thus, the significant lower levels of perceived social support amongst divorced or separated retirees may be attributable to the previously observed decrease of contact with adult children which then becomes exacerbated with the increased time available to retirees, leading to diminished feelings of support. Conversely, widowed individuals frequently experience increased contact with adult children, therefore

the greater perceived support observed amongst retired widows may be due to the increased time available which allows them to capitalise on this contact and feel more supported as a result. However, this explanation is entirely suggestive in nature; the cross-sectional nature of the study and the limited measures does not allow for further exploration to determine whether this is the case.

Limitations and future research

The following limitations have to be taken into account when interpreting the findings from the present study:

The current study failed to employ measures that differentiated between those who have no support from the available sources and those who have no sources of support available. As Dean, Kolody, and Wood (1990) indicated, it is necessary to distinguish between these two groups as the living circumstances and the consequences faced as a result, are likely to differ greatly. By differentiating between these two groups further clarity could be gained regarding the reasons the social support of marital groups such as never married and divorced/separated greatly differ. Furthermore, while the present study investigated the social support of those in a de facto/partnered relationship, the first of its kind, future research should take into consideration the heterogeneous nature of this marital category. It would be of interest to investigate how the social support of individuals in a same sex partnership differed from those in a heterosexual partnership and how the presence of children may also affect this association.

The self-report format of the current study may have led to social desirability bias as individuals may have thought they would be viewed unfavourably if they reported a lack of social contact or support. However, the HWR study offered guarantees of anonymity and confidentiality to participants, limiting the motives associated with socially desirable responding. Additionally, McCrae and Costa (1983) assert that the need to correct for social desirability responding is

unsubstantiated. Therefore, the likelihood of producing spurious results as a consequence of socially desirable responses is minimal.

Furthermore, the objective measures of social support employed only single items to assess the interaction with family and with friends. As a result, there is no way to determine the items' reliability or validity. However, the present study was conducted as a secondary analysis and previous studies have employed only one or two items to assess similar variables and have consequently produced credible findings (Barrett, 1999; Keith, 2000).

In addition, the measure employed in the current study to assess individual's interaction with friends, was limited in scope as it focused on only friends within the neighbourhood. Future research should investigate additional measures of contact with friends to attempt to determine whether there is a loss of contact with co-workers and if an increase in contact with close proximate friends is associated in an effort for individuals to fill the "gap". Additionally, with technology's increased role in communication it may be of interest to include measures assessing internet and email contact with friends to explore further means of maintaining social contact beyond phone calls and visits.

Moreover, the present study employed a measure of retirement based on the current employment activity of participants whereby if participants deemed themselves employed full-time or part-time they were considered "employed", whilst those who regarded themselves retired were considered as such. This raises concern about the validity of the information gathered as participants considered as home makers, students etc were eliminated from the study, however, these individuals could have potentially been retired. While the retirement measure utilised in the study may have eliminated individuals of interest, past researchers have asserted the difficulty that exists around accurately defining retirement (Ekerdt & DeViney, 1990). It is believed though that the measure used, on the whole, was effective, as any type of measure employed to assess retirement has potential limitations or inaccuracies associated with it (Ekerdt & DeViney, 1990).

While it may be concluded that retirement and marital status is associated with objective and subjective measures of social support, the cross sectional nature of the study limits any causal inferences with respect to the antecedents and effects of the study variables. Rather, it could be that additional variables are responsible for the affect in the observed results. Past findings have revealed physical and mental health can have an influence on the quantity and quality of social support, with those in better health exhibiting higher levels of social support (Knoll, Rieckmann, & Kienle, 2007; Pearlin, Aneshensel, Mullan, & Whitlatch, 1996). Further post-hoc data analyses found mental and physical health was significantly correlated with all measures of social support. Indeed the association between marital and retirement status and social support could be due to the affect that physical and mental health has on social support

In addition, gender has been associated with social support as men are more likely to depend on their spouse for social support whereas women are more inclined to receive support from numerous sources such as friends, relatives and neighbours. (Antonucci & Akiyama, 1987; Kohen, 1983). Further analyses of the data revealed all social support measures were significantly correlated with gender, indicating that the observed differences in the present study may also be a function of gender.

Moreover, post-hoc data analyses revealed that the mean age differed across each marital and retirement group. Bosse, et al., (1993) note that age presents a unique problem in regards to retirement research as differences in social support may be attributed to age, not retirement, however, statistically controlling for age would likely eliminate any influence retirement has. Bosse, et al., (1990) had previously investigated this issue by re-examining the data only for individuals in the 55-69 age range as the younger groups predominantly contained workers while the older age groups predominantly contained retirees. The results revealed no significant changes to their original findings. Therefore, as the present study utilised a restricted range of ages and age has been found to have no significant effect on past retirement research (Bosse, et al., 1990) the need to control for age in the present study was unnecessary.

In the present study, Maori were oversampled to ensure maximum participant recruitment. In the general population, Maori account for 7.8% of those aged between 55-70 years old, however, in the present study 48% of participants were Maori. Consequently, cases were weighted with respect to ethnicity in all analyses to statistically control for the effects Maori oversampling may have on the data. Analyses were also run without weighting cases; the significance of the results remained unaffected.

Due to the clear presence of covariates and the cross-sectional nature of the study a number of different interpretations may exist for the observed differences in social support. However, given the present findings are consistent with past research and theories there is definite merit in suggesting that both retirement and marital status are associated with objective and subjective social support. While, the present study makes a valuable contribution to the existing literature, future longitudinal research should be conducted to further verify these findings.

Theoretical and practical implications

The present study explored the individual and interaction effect retirement and marital status has on social support. It was the first of its kind in that the interaction effect retirement and marital status has on various measures of social support had previously never been investigated. Additionally, data was obtained on the social support of individuals in a de facto relationship – a marital category that had, until now, failed to be examined. Furthermore, the study was conducted in New Zealand, thus providing findings that are highly relevant to New Zealanders and our country as a whole. The uniqueness of the current study has provided findings that have significant implications – both theoretical and practical.

The Social Convoy Theory appeared highly relevant to research into retirement and social support. Indeed, the current findings supported the idea that retirement may bring about changes in the quantitative aspects of social support, however qualitative social support remained unaffected. Future studies focusing on

retirement and social support should ensure this theory is utilised to help maintain consistency and structure to the research as suggested by Bosse, et al., (1990). In addition, retirement education programs should look beyond financial aspects and include social factors as part of retirement planning. Retirement educators should ensure retirees are aware of the potential changes to their social support networks that are likely when their employment ends. The present study shows that New Zealand retirees may compensate for the loss of work related colleagues by increasing their contact with current friends or by widening their circle of friends. Practitioners should encourage this behaviour and also make future retirees aware of the important role that friends play in their lives. Past research has revealed a strong association exists between contact with friends and well-being (Crohan & Antonucci, 1989; Dean, Kolody, & Wood, 1990; Larson, Mannell, & Zuzanek, 1986; Lee & Ishii-Kuntz, 1987); therefore it is highly beneficial that retirees form and maintain friendships.

It is also important that health providers bear in mind the influence marital status can have on the extent one interacts with family. Contact with family can have a positive effect on well-being as has been revealed by past research (Silverstein, et al., 1996; Thompson & Heller, 1990). The current findings confirm previous studies that have revealed contact with family varies as a function of marital status; indeed, the present study has explored an exhaustive range of marital statuses, the first of its kind. It is crucial that health providers consider the similarities and differences between different marital groups and how the needs may vary as a result. For instance widowed individuals differed from other unmarried individuals and appeared to be more similar to married individuals in their level of contact with family. Conversely, de facto individuals were not as similar to married individuals as presumed; instead in some instances, they resembled divorced or separated individuals.

Previous research has failed to investigate whether an interaction effect between retirement and marital status on social support exists. The current findings revealed that an interaction effect between retirement and marital status on perceived social support does in fact exist. Therefore the findings from the present

study indicate the need for researchers to include marital status in studies investigating retirement and social support in order to clarify the effect these variables have and why such an association exists.

The current findings also have important implications for retirement specialists. It is crucial that retirement specialists look beyond whether one is either employed or retired to other social factors such as an individual's marital status to help determine what assistance and support individuals may need. Past findings have identified a strong association between perceived social support and well-being (Antonucci, Fuhrer, & Dartigues, 1997; Chi & Chou, 2001); therefore it is imperative that both retirement and marital status are considered when identifying those potentially in need. Indeed the current findings revealed that divorced and separated retirees may require the most attention from specialists to ensure that they are receiving substantial help and support.

Conclusions

It is clear that retirement status and marital status are individually and interactively associated with social support. Interaction with friends was found to be greater amongst retirees than employed individuals, perhaps indicating retiree's increased time available is filled with social activity or instead it may signify a need for retiree's to compensate for the loss of work-related social ties. Retirement programmes should encourage this increased contact and further research should examine this association more closely in an attempt to provide clarity.

Marital status was found to be associated with contact with family – similar levels of interaction was observed between married and widowed individuals, followed by divorced and separated individuals and those in a de facto relationship, while individuals who had never married exhibited the least contact with family. Marital status was also found to affect levels of perceived support – partnered individuals were the most supported while divorced and separated individuals the least. The current findings highlight the importance of health providers considering an

individual's marital status when determining the assistance and support that may be needed.

The present study contributes significantly to the existing knowledge on social support. Importantly, the current findings indicate that retirement and marital status are interactively associated with perceived social support. Future researchers, retirement educators and health practitioners need to maintain both factors are considered to ensure the entire picture is accurately captured.

APPENDIX A

Social Provisions Scale (Cutrona & Russell, 1987)

- a) There are people I can depend on to help me if I really need it.
- b) I feel that I do not have close personal relationships with other people.
- c) There is no one I can turn to for guidance in times of stress.
- d) There are people who depend on me for help.
- e) There are people who enjoy the same social activities I do.
- f) Other people do not view me as competent.
- g) I feel personally responsible for the well-being of another person.
- h) I feel part of a group of people who share my attitudes and beliefs.
- i) I do not think other people respect my skills and abilities.
- j) If something went wrong, no one would come to my assistance.
- k) I have close relationships that provide me with a sense of emotional security and well-being.
- l) There is someone I could talk to about important decisions in my life.
- m) I have relationships where my competence and skills are recognized.
- n) There is no one who shares my interests and concerns.
- o) There is no one who really relies of me for their well-being.
- p) There is a trustworthy person I could turn to for advice if I were having problems.
- q) I feel a strong emotional bond with another person.
- r) There is no one I can depend on for aid if I really need it.
- s) There is no one I feel comfortable talking about problems with.
- t) There are people who admire my talents and abilities.
- u) I lack a feeling of intimacy with another person.
- v) There is no one who likes to do the things I do.
- w) There are people I can count on in an emergency.
- x) No one needs me to care for them.

REFERENCES

- Acock, A., & Demo, D. (1994). *Family diversity and well-being*. Thousand Oaks, CA: Sage
- Anderson, C., & Weber, J. (1993). Preretirement planning and perceptions of satisfaction among retirees. *Educational Gerontology, 19*, 397–406.
- Antonucci, T. C. (1990). Social support and social relationships. In R. H. Binstock & L. K. George (Eds.), *Handbook of Aging and the Social Sciences*, 3rd ed., pp. 205–226. San Diego: Academic Press.
- Antonucci, T.C., & Akiyama, H. (1987a). An examination of sex differences in social support among older men and women. *Sex Roles, 17*, 737-749.
- Antonucci, T. C., & Akiyama, H. (1987b). Social networks in adult life and a preliminary examination of the convoy model. *Journal of Gerontology, 42*(5), 519-527.
- Antonucci, T. C., & Akiyama, H. (1991). Convoys of social support: Generational issues. *Marriage and Family Review, 16*, 103-124.
- Antonucci, T. C., & Akiyama, H. (1995). Convoys of social relations: Family and friendships within a life span context. In R. Blieszner & V. Hilkevitch Bedford (Eds.), *Handbook of aging and the family* (pp. 355-371). Westport, CT: Greenward Press.
- Antonucci, T. C., Fuhrer, R., & Dartigues, J. F. (1997). Social relations and depressive symptomatology in a sample of community-dwelling French older adults. *Psychology and Aging, 12*(1), 189-195.
- Aquilino, W. S. (1994). Later life parental divorce and widowhood: Impact on young adults' assessment of parent-child relations. *Journal of Marriage and the Family, 56*, 908-922.
- Aquino, J. A., Russell, D. W., Cutrona, C. E., & Altmaier, E. M. (1996). Employment status, social support and life satisfaction among the elderly. *Journal of Counselling Psychology, 43*(4), 480-489.
- Arling, G. (1976). The elderly widow and her family, neighbours, and friends. *Journal of Marriage and the Family, 38*, 757-768.
- Bajekal, M., Blane, D., Grewal, I., Karlsen, S., & Nazroo, J. (2004). Ethnic differences in influences on quality of life at older ages: a quantitative analysis. *Ageing & Society, 24*, 709–728.
- Barefoot, J. C., Gronbaek, M., Jensen, G., Schnohr, P., & Prescott, E. (2005). Social network diversity and risks of ischemic heart disease and total mortality: Findings

from the Copenhagen City Heart Study. *American Journal of Epidemiology*, 161(10), 960-967.

Barrett, A.E. (1999). Social support and life satisfaction among the never married: Examining the effects of age. *Research on Aging*, 21, 46-72.

Berkman, L. F., & Syme, S. L. (1979). Social networks, host resistance, and mortality: A nine-year follow-up study of Alameda County residents. *American Journal of Epidemiology*, 109, 186-204.

Blazer, D. (1982) Social support and mortality in an elderly community population. *American Journal of Epidemiology* 115, 684-694.

Bosse, R., Aldwin, C. M., Levenson, M. R., Workman-Daniels, K., & Ekerdt, D. J. (1990). Differences in social support amongst workers and retirees: Findings from the normative aging study. *Psychology and Aging*, 5(1), 41-47.

Bosse, R., Aldwin, C. M., Levenson, M. R., Spiro, A., & Mroczek, D. K. (1993). Change in social support after retirement: Longitudinal findings from the normative aging study. *Journal of Gerontology*, 48(4), 210-217.

Bowlby, J. (1969). *Attachment and loss* (Vol. 1). New York: Basic Books.

Bowling, A. & Farquhar, M. (1991) Associations with social networks, social support, health status and psychiatric morbidity in three samples of elderly people. *Social Psychiatry & Psychiatric Epidemiology* 26, 115-126.

Bulcroft, K., & Bulcroft, R. (1991). The timing of divorce: Effects on parent-child relationships in later life. *Research on Aging*, 13, 226-243.

Cantor, M. H. (1979). Neighbours and friends. *Research on Aging*, 1, 434-463.

Cassel, J. (1976). The contribution of the social environment to host resistance. *American Journal of Epidemiology*, 104(2), 107-123.

Cavanaugh, J. C. (1998). Friendships and social networks among older people. In I. H. Nordhus, G. R. Vandenbos, S. Berg, & P. Fronholt (Eds.), *Clinical Geropsychology* (pp. 137-140). Washington, D. C.: American Psychological Association.

Cerhan, J. R., & Wallace, R. B. (1997). Change in social ties and subsequent mortality in rural elders. *Epidemiology*, 8(5), 475-481.

Chi, I., & Chou, K. L. (2001). Social support and depression among elderly Chinese people in Hong Kong. *International Journal of Aging and Human Development*, 52(3), 231-252.

Chou, K. L., & Chi, I. (2001). Stressful life events and depressive symptoms: Social support and sense of control as mediators or moderators? *The International Journal of Aging and Human Development*, 52(2), 155-171.

Chou, K. L., & Chi, I. (2002). Successful aging among the young-old, old-old and oldest old Chinese. *The International Journal of Aging and Human Development*, 54(1), 1-14.

Circelli, V. G., Coward, R. T., & Dwyer, J. W. (1992). Siblings as caregivers for impaired elders. *Research on Aging*, 14, 331-350.

Cohen, S., & Syme, S. L. (1985). *Social support and health*. New York: Academic Press.

Cooney, T. M. (1994). Young adults' relations with parents: The influence of recent parental divorce. *Journal of Marriage and the Family*, 56, 45-56.

Crohan, S. E., & Antonucci, T. C. (1989). Friends as a source of social support in old age. In R. G. Adams & R. Blieszner (Eds.), *Older adult friendship: Structure and process*. Newbury Park, CA: Sage.

Cutrona, C. E., & Russell, D. W. (1987). The provision of social relationships and adaptation to stress. *Advances in Personal Relationships*, 1, 37-67.

Cutrona, C. E. (1986). Objective determinants of perceived social support. *Journal of Personality and Social Psychology*, 50, 349-355.

Cutrona, C.E. (1996). *Social support in couples: Marriage as a resource in times of stress*. California: Sage Publications Inc.

Dean, A., Kolody, B., & Wood, P. (1990). Effects of social support from various sources on depression in elderly persons. *Journal of Health and Social Behavior*, 31(2), 148-161.

Depner, C., & Ingersoll, B. (1982). Employment status and social support: The experience of the mature woman. In M. Szinovacz (Ed.), *Women's retirement: Policy implications for recent research* (pp. 61-76). Beverly Hills: Sage.

Dillman, D. (2000). *Mail and internet surveys: the tailored design method* (2nd ed). New York: John Wiley.

Dorfman, L. T., & Mertens, C. E. (1990). Kinship relations in retired rural men and women. *Family Relations*, 39, 166-173.

Dupertuis, L. L., Aldwin, C. M., & Bosse, R. (2001). Does the source of support matter for different health outcomes? Findings from the normative study. *Journal of Aging and Health*, 13(4), 494-510.

Eggebeen, D. (1992). Family structure and intergenerational exchanges. *Research on Aging*, 14, 427-447.

- Ekerdt, D. J., & DeViney, S. (1990). On defining persons as retired. *Journal of Aging Studies, 4*, 211-229.
- Eng, P. M., Rimm, E. B., Fitzmaurice, G., & Kawachi, I. (2002). Social ties and change in social ties in relation to subsequent total and cause-specific mortality and coronary heart disease incidence in men. *American Journal of Epidemiology, 155*(8), 700-709.
- Essex, M. J., & Nam, S. (1987). Marital status and loneliness among older women: The importance of close family and friends. *Journal of Marriage and the Family, 49*(1), 93-106.
- Field, A. (2009). *Discovering statistics using SPSS* (3rd ed). London, UK: Sage.
- Field, D., & Minkler, M. (1988). Continuity and change in social support between young-old and old-old or very-old age. *Journal of Gerontology, 43*(4), 100-106.
- Floyd, F., Haynes, S., Doll, E., Winemiller, D., Lemsky, C., Burgy, T., Werle, M., & Heilman, N. (1992). Assessing retirement satisfaction and perceptions of retirement experiences. *Psychology and Aging, 7*, 609-621.
- Fox, J. H. (1977). Effects of retirement and former work life on women's adaptation in old age. *Journal of Gerontology, 32*, 196-202.
- Francis, D. (1990). The significance of work friends in later life. *Journal of Aging Studies, 4*, 405-424.
- Fratiglioni, L., Wang, H., Ericsson, K., Maytan, M., & Winblad, B. (2000). Influence of social network on occurrence of dementia: a community based longitudinal study. *The Lancet, 355*, 1315-1319.
- George, L. K., Blazer, D. G., Hughes, D. C., & Fowler, N. (1989). Social support and the outcome of major depression. *The British Journal of Psychiatry, 154*, 478-485.
- Giles, L. C., Glonek, G. F., Luszcz, M. A., & Andrews, G. R. (2005). Effect of social networks on 10 year survival in very old Australians: the Australian longitudinal study of aging. *Journal of Epidemiology and Community Health, 59*, 574-579.
- Gove, W. R., Hughes, M., & Style, C. B. (1983). Does marriage have positive effects on the psychological well-being of the individual? *Journal of Health and Social Behavior, 24*, 122-31
- Gubrium, J.F. (1974). Marital desolation and the evaluation of everyday life in old age. *Journal of Marriage and the Family, 36*(1), 107-113.
- Gurung, R. A., Taylor, S. E., & Seeman, T. E. (2003). Accounting for changes in social support among married older adults: Insights from the McArthur studies of successful aging. *Psychology and Aging, 18*(3), 487-496.

- Hawkey, L., & Cacioppo, J. T. (2004). Stress and the aging immune system. *Brain, Behavior and Immunity, 18*(2), 114–119
- Hilleras, P., Jorm, A., Herlitz, A., & Winbiad, B. (2001). Life satisfaction among the very old: A survey on a sample aged 90 years or above. *International Journal of Aging and Human Development, 52*, 71-90.
- Honig, M., & Hanoch, G. (1985). Partial retirements as a separate mode of retirement behavior. *Journal of Human Resources 20: 21-46.*
- Horwitz, A., & White, H. (1998). The relationship of cohabitation and mental health. *Journal of Marriage and the Family, 60*, 505-514.
- House, J. S., Robbins, C., & Metzner, H. L. (1982). The association of social relationships and activities with mortality: Prospective evidence from the Tecumesh community health study. *American Journal of Epidemiology, 116*(1), 123-140.
- House, J. S., Umberson, D., & Landis, K. R. (1988). Structures and processes of social support. *Annual Review of Sociology, 14*, 293-318.
- Howard, J. H., Marshall, J., Rechnitzer, P., Cunningham, D. A., & Donner, A. (1982). Adapting to retirement. *Journal of the American Geriatrics Society, 30*, 448-500.
- Hughes, M., & Gove, W. (1981). Living alone, social integration and mental health. *American Journal of Sociology, 87*, 48-74.
- Hurlbert, J., & Acock, A. (1990). The effects of marital status on the form and composition of social networks. *The Social Science Quarterly 71:163–74.*
- Johnson, C. L., & Catalano, D. J. (1981). Childless elderly and their family supports. *Gerontologist, 21*, 610-618.
- Kafetsios, K., & Sideridis, G. D. (2006). Attachment, social support and well-being in young and older adults. *Journal of Health Psychology, 11*(6), 863-876.
- Kahn, R. L., & Antonucci, T. C. (1980). Convoys over the life course: Attachment, roles, and social support. In P. B. Baltes & O. B. Brim (Eds.), *Life-span development and behaviour, 3*, pp. 253–268. New York: Academic Press.
- Kaufman, G., & Uhlenberg, P. (1998). Effects of life course transitions on the quality of relationships between adult children and their parents. *Journal of Marriage and the Family, 60*, 924–938.
- Kawachi, I., Colditz, G. A., Ascherio, A., Rimm, E. B., Giovannucci, E., Stampfer, M. J., & Willett, W. C. (1996). A prospective study of social networks in relation to total mortality and cardiovascular disease in men in the USA. *Journal of Epidemiology and Community Health, 50*, 245-251.

- Keith, P. M. (1986). The social context and resources of the unmarried in old age. *International Journal of Aging and Human Development*, 23, 81-96.
- Kim, J. E., & Moen, P. (2002). Retirement transitions, gender and psychological well-being: A life-course ecological model. *Journal of Gerontology*, 57B(3), 212-222.
- Knoll, N., Rieckmann, N., & Kienle, R. (2007). The other way around: Does health predict perceived support? *Anxiety, Stress and Coping*, 20(1), 3-16.
- Kohen, J. A. (1983). Old but not alone: Informal social supports among the elderly by marital status and sex. *The Gerontologist*, 23, 57-63.
- Larson, R., Mannell, R., & Zuzanek, J. (1986). Daily well-being of older adults with friends and family. *Psychology and Aging*, 1, 117-126.
- Lee, G. R., & Ishii-Kuntz, M. (1987). Social interaction, loneliness and emotional well-being among the elderly. *Research on aging*, 9, 459-482.
- Lee, G. R., & Shehan, C. L. (1989). Social relations and the self-esteem of older persons. *Research on Aging*, 11, 427-442.
- Levitt, M., Antonucci, T. C., Clark, M. C., Rotton, J., & Finley, G. (1985-86). Social support and well-being: Preliminary indicators based on two samples of the elderly. *International Journal of Aging and Human Development*, 21, 61-77.
- Levy, S. M. (1980). The adjustment of older women: effects of chronic ill health and attitudes toward retirement. *International Journal of Aging and Human Development*, 12, 93-110.
- Litwin, H. (2007). What really matters in the social network-mortality association? A multivariate examination among older Jewish-Israelis. *European Journal of Ageing*, 4, 71-82.
- Matt, G. E., & Dean, A. (1993). Social support from friends and psychological distress among elderly persons: Moderator effects of age. *Journal of Health and Social Behavior*, 34, 187-200.
- McCrae, R. R., & Costa, P. T. (1983). Social desirability scales: More substance than style. *Journal of Consulting and Clinical Psychology*, 51 (6), 882-888.
- Mendes de Leon, C. F., Glass, T. A., & Berkman, L. F. (2003). Social engagement and disability in a community population of older adults. *American Journal of Epidemiology*, 157(7), 633-642.
- Mendoza, S. P. (1984). The psychobiology of social relationships. In . R. Barchas, S. P. Mendoza (Eds.), *Social Cohesion: Essays Toward A Sociophysiological Perspective*, pp. 3-29. Westport, Conn: Greenwood Press.

- Mutran, E., & Reitzes, D. C. (1981). Retirement, identity and well-being: Realignment of role relationships. *Journal of Gerontology, 36*(6), 733-740.
- Newson, 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*(1), 34-44.
- Norris, J. (1993). Why not rethink Carnegie Hall? Working and retirement among older professionals. *Canadian Journal on Aging, 12*(2), 182-199.
- Oxman, T. C., Berkman, L. E., Kasl, S., Freeman, D. H., & Barrett, J. (1992). Social support and depressive symptoms in the elderly. *American Journal of Epidemiology, 135*, 356-368.
- Palmore, E., Fillenbaum, G. & George, L. (1984). Consequences of retirement. *Journal of Gerontology, 39*, 109-116.
- Pearlin, L. I., Aneshensel, C. S., Mullan, J. T., & Whitlatch, C. J. (1996). Caregiving and its social support. In R. H. Binstock & L. K. George (Eds.), *Handbook of aging and the social sciences* (4th ed., pp. 283-302). San Diego, CA: Academic Press.
- Phillips, D.R., Siu, O.L., Yeh, A.G.O., & Cheng, K.H.C. (2008). Informal social support and older persons' psychological well-being in Hong Kong. *Journal of Cross Cultural Gerontology, 23*, 39-55.
- Pinquart, M. (2003). Loneliness in married, widowed, divorced and never married older adults. *Journal of Social and Personal Relationships, 20*(1), 31-53.
- Price, C. A. (1998). *Women and retirement: The unexplored transition*. New York: Garland Publishing.
- Quinn, J.F. (1981). The extent and correlates of partial retirement. *The Gerontologist 21*, 634-643.
- Rasulo, D., Christensen, K., & Tomassini, C. (2005). The influence of social relations on mortality in later life - a study on elderly Danish twins. *The Gerontologist, 45*(5), 601-608.
- Reed, D., McGee, D., Yano, K., & Feinleig, M. (1983). Social networks and coronary heart disease among Japanese men in Hawaii. *American Journal of Epidemiology, 117*, 384-396.
- Reinhardt, J. P., & Fisher, C. B. (1988). Kinship versus friendship: Social adaptation in married and widowed elderly women. In L. Grau & I. Susser (Eds.), *Women in the Later Years: Health, Social and Cultural Perspectives* (pp. 191-213). New York: Harrington Park Press.
- Richardson, V., & Kilty, K. M. (1991). Adjustment to retirement: Continuity vs. discontinuity. *International Journal of Aging and Human Development, 33*, 151-169.

- Roan, C. L., & Raley, R. K. (1996). Intergenerational coresidence and contact: A longitudinal analysis of adult children's response to their mother's widowhood. *Journal of Marriage and the Family, 58*, 708-717.
- Rodriguez-Laso, A., Zunzunegui, M. V., & Otero, A. (2007). The effect of social relationships on survival in elderly residents of a Southern European community: A cohort study. *BMC Geriatrics, 7*(19).
- Rosenkoetter, M. M., & Garris, J. M. (2001). Retirement planning, use of time, and psychosocial adjustment. *Issues in Mental Health Nursing, 22*, 703-722.
- Rosengren, A., Wilhelmsen, L., & Orth-Gomer, K. (2004). Coronary disease in relation to social support and social class in Swedish men. *European Heart Journal, 25*, 56-63.
- Ross, C. E., & Mirowsky, J. (1989). Explaining the social patterns of depression: control and problem solving - or support and talking. *Journal of Health and Social Behavior, 30*, 206-219.
- Rubinstein, R. L., Alexander, B. B., Goodman, M., & Luborsky, M. (1991). Key relationships of never married, childless older women: A cultural analysis. *Journal of Gerontology 5*:S270-77.
- Schulz, J.H. 1995. *The Economics of Aging* (6th ed.). Westport, Conn: Auburn House.
- Secombe, K., & Ishii-Kuntz, M. (1994). Gender and social relationships among the never-married. *Sex Roles, 30*, 585-603.
- Secombe, K., & Lee, G. R. (1986). Gender differences in retirement satisfaction and its antecedents. *Research on Aging, 8*, 426-440.
- Seeman, T. E., & Berkman, L. F. (1988). Structural characteristics of social networks and their relationship with social support in the elderly: who provides support. *Social Science & Medicine, 26*(7), 737-749.
- Sibai, A. M., Yount, K. M., & Fletcher, A. (2007). Marital status, intergenerational coresidence and cardiovascular and all-cause mortality among middle-aged and older men and women during wartime in Beirut: Gains and liabilities. *Social Science and Medicine, 64*, 64-76.
- Siebert, D. C., Mutran, E. J., & Reitzes, D. C. (1999). Friendship and social support: The importance of role identity to aging adults. *Social Work, 44*(6), 522-533.
- Silverstein, M., Chen, X., & Heller, K. (1996). Too much of a good thing? Intergenerational social support and the psychological well-being of older parents. *Journal of Marriage and the Family, 58*(4), 970-982.

- Siu, O. L., & Phillips, D. R. (2002). A study of family support, friendship, and psychological well-being among older women in Hong Kong. *International Journal of Aging and Human Development*, 55, 295-315.
- Smith, A. E., Sim, J., Scharf, T., & Phillipson, C. (2004). Determinants of quality of life amongst older people in deprived neighbourhoods. *Ageing & Society*, 24, 793-814.
- Statistics New Zealand (2006a). *Marriage and divorce in New Zealand*. Retrieved 06/07/09 from <http://www.stats.govt.nz/analytical-reports/dem-trends-07/downloadable-excel-tables.htm>
- Statistics New Zealand (2006b). *Population indicators*. Retrieved 04/05/09 from <http://www.stats.govt.nz/tables/population-indicators.htm>.
- Statistics New Zealand (2007). *Demographic trends*. Retrieved 14/10/09 from <http://www.stats.govt.nz/~media/statistics/publications/population/demographic-trends-2007/demo-trends-07-full-report.aspx>.
- Stack, S., & Eshleman, J. R. (1998). Marital status and happiness: A 17-nation study. *Journal of Marriage and the Family*, 60, 527-536.
- Stoller, E. P., & Earl, L. L. (1983). Help with activities of everyday life: Sources of support for the non-institutionalised elderly. *Gerontologist*, 23, 64-70.
- Stull, D.E., & Scarisbrook-Hauser, A. (1989). Never-married elderly: A reassessment with implications for long-term care policy. *Research on Aging*, 11, 124-139.
- Sugisawa, H., Liang, J., & Liu, X. (1994) Social networks, social support and mortality among older-people In Japan. *Journal of Gerontology*, 49(1):S3-S13.
- Szinovacz, M. E., & Davy, A. D. (2001). Retirement effects of parent-adult child contacts. *The Gerontologist*, 41, 191-200.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed). Boston: Allyn and Bacon.
- 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(4), 535-544.
- Turner, R.J., & Marino, F. (1994). Social support and social structure: A descriptive epidemiology. *Journal of Health and Social Behavior*, 35(3), 193-212.
- Umberson, D., Wortman, C. B., & Kessler, R. C. (1992). Widowhood and depression: Explaining long-term gender differences in vulnerability. *Journal of Health and Social Behavior*, 33, 10-24.
- van Tilburg, T. (1992). Support networks before and after retirement. *Journal of Social and Personal Relationships*, 9, 433-445.

Weiss, R. (1974). The provisions of social relations. In Z. Rubin (Ed.), *Doing unto others* (pp. 17-26). Englewood Cliffs, NJ: Prentice Hall.

Wood, V., & Robertson, J. (1978). Friendship and kinship interaction: Differential effect on the morale of the elderly. *Journal of Marriage and the Family*, 40, 367-375.

Work & Income (2009). *New Zealand Superannuation*. Retrieved 7/12/2009 from <http://www.workandincome.govt.nz/documents/new-zealand-superannuation-supe0001.pdf>.

Wu, Z., & Hart, R. (2002). Social and health factors associated with support among elderly immigrants in Canada. *Research on Aging*, 24, 391-412.

Yasuda, N., Zimmerman, S.I., Hawkes, W., Fredman, L., Hebel, J.R., & Magaziner, J. (1997) Relation of social network characteristics to 5-year mortality among young-old versus old-old white women in an urban community. *American Journal of Epidemiology*, 145(6):516-523.