Psychosocial Factors Influencing Planning for Retirement: A Quantitative Analysis

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Abstract

A population approaching the end of their working life might reasonably be expected to be actively engaged in planning their retirement. This research investigates that assumption in a New Zealand population aged 55 through 70 who are currently in the work force and within ten years of being eligible for the New Zealand pension. The social and psychological factors impacting retirement planning, as determined by an examination of the literature, were identified as health and wealth. Distal to these two factors are the ramifications of income, selected occupation and career, educational choices and investment in dependents and family.

Survey results from a representative sample of this population were analysed using Structural Equation Modelling to assess whether these expected planning behaviours were relevant in New Zealanders. Two equivalent models utilised the survey questions in different combinations to gain an understanding of the impact of these psychosocial determinants. The results demonstrate how all these factors impact differently on women and men but that, contrary to expectation, health does not correlate with retirement planning. The implications of these results are discussed.

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John Donne wrote: "no man is an island entire and complete of himself" and I wholeheartedly concur.

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Introduction

A decline in both fertility and mortality is tilting the world's population balance toward older age, affecting the developed as well as the developing world. This pattern is repeated in New Zealand with the sixty five plus age group expected to double to twenty five percent by 2040 (Dunstan & Thomson, March, 2006) and increase the "elder" dependency ratio in that time to forty five percent. Over this period, the median age of the New Zealand (N.Z.) worker will exceed forty two years and the number of older workers will treble to 118,000 by 2026.

In many countries this population shift and subsequent retirement discussion is creating a Crisis discourse; a problem framed as "population aging as paradigm" and "deficit as paradigm" (Gazso, 2005). An Australian study assessing the impact of the impending demographic changes, notes that government expenditure will rise rapidly placing health care, welfare, and pension budgets under extreme pressure and recommends a change in current policy measures to reduce fiscal pressure (Lattimore, 2005). The Canadian and British governments have already taken action by moderating both pension entitlements and access (Hirsh, 2003; Gazso, 2005; Rudman, 2006).

Retirement and Pensions

Until the late 20th century in New Zealand, demands on pension funds were light due to shorter life span and rural workers remaining on their farms until

death (Glass & Flynn, 2000; St John, 2003). The last thirty years have seen that demand increase due to longer life spans and the move to urban occupations, complicated by political pension tinkering in the late 1980s. In New Zealand, policy changes to mitigate the fiscal and labour market impact of this trend recently centred on deferring the age of pension entitlement from 60 to 65 for men and women. See Appendix C for a discussion of the New Zealand pension.

To offset the predicted demand on pension funds, the pattern of retirement is expected to alter further with more men and women electing to continue in some form of employment for longer. In addition, governments will continue to push retirement provision responsibility onto the individual via the private sector. Kiwi saver is New Zealand's recent step in this process. To facilitate a positive retirement, the New Zealand pre-retiree will need to give consideration to savings and wealth, health status, employment choices and opportunities, tax incentives and pension options, and leisure expectations (Dunstan & Thomson, 2006)… in short, retirement decisions will increasingly require active planning.

Retirement has traditionally been a male prerogative (Joo & Pauwels, 2002), the concept of "Retirement" for women a more recent phenomenon precipitated by the unprecedented entrance of women into the paid work force from the 1970s (Price, 2000). World wide, the female retiree faces the financial pressures that accompany longevity. There are factors in the New Zealand retirement model which reduce these pressures but, while the universal pension remains in the political arena (St John & Gran, 2001) and fiscal pressures of an

older population increase (Lattimore, 2005), it would be prudent for New Zealand women to take responsibility for planning their futures.

These same financial and retirement factors are likely to also affect ethnic groups in New Zealand, as they already have in other parts of the Western world. Any group predisposed to a lower average income and socio-economic status (SES) will be adversely impacted by retirement provision changes. SES is a measure of status defined by educational attainment, occupation status, and economic well being (Wray, Alwin, & McCammon, 2005).

Researched to Death?

There are a large number of financially based studies on the impact of the ageing population and on financial aspects of retirement, including a number relating specifically to New Zealand (Dunstan & Thomson, 2006; Statistics New Zealand, 2004; Statistics New Zealand, 2005). In addition, there are numerous international studies on the financial, emotional, and physical status of retirees (DeVaney & Kim, 2003; Kloep & Hendry, 2006; Lusardi, 2000; Rosenkoetter & Garris, 2001). Other studies have assessed the psychological link between planning and retirement adjustment and satisfaction (Gall & Evans, 2000; Quick & Moen, 1998) and some consideration has been given to demographic reasons why some plan for retirement and some do not (Gee & Baillie, 1999). In these research papers, gender and ethnic differences in approaches to retirement for USA, UK, Australia, and Canada were discussed.

However, there is a paucity of research on the psychosocial factors that impact the pre-retirement planning behaviours of New Zealanders. There are three notable exceptions relating to the New Zealand population (Booth, Grimmond, & Stroombergen, 2000; Cervin, 2001; Marsault, 1999). What is missing is a coherent model examining the psychosocial factors impacting on New Zealanders' preparation and planning for retirement, and whether those factors differ in salience for males and females.

This paper will follow the scientific model for quantitative research. The literature review will start by investigating a relationship between wealth and planning for retirement. From wealth, it will assess the proximal factors that impact on wealth accumulation such as income and occupation and in turn the distal factors of human and social capital which impact income and occupation. A model will be proposed to investigate this flow of influence. The moderating factor of health will be considered in regard to its effect on planning for retirement and its capacity to interrupt planning.

The next section will introduce the research proposed to test this model, discuss method, and examine the results from a representative sample of New Zealanders in the 55 – 70 age range.

This will be followed by results, an assessment of limitations, a discussion on policy implications, and suggestions for future research.

Literature Review

Retirement

Traditionally, retirement has been defined as a decisive move out of the workforce with a subsequent reduced psychological commitment to work (Lindbo & Schultz, 1998). This "line in the sand" definition is blurring. Exceptions include retirees from one career (e.g. military, police) in mid-life to start another career, involuntary retirees, women with discontinuous work patterns, financially cashed up early retirees, part time retirees, and those taking bridge employment or who work past pension age. Mutran, Reitzes, and Fernandez (1997) suggest a distinction between a "crisp retirement" which is a clean break from full time work to full time retirement and a "blurred retirement" which is a reduction in work hours once retired. With the increasing percentage of the population predicted to enter this phase of life, retirement should be recognised as a new social structure and an important part of society (Anderson & Weber, 1993).

The traditional subjects of retirement studies were middle class white males who made voluntary decisions to retire from the work force (Flippen & Tienda, 2000). Today, retirement is a socially constructed concept; no longer a short rest before death (Lo & Brown, 1999) but a life phase that may last over 25% of the life span (Rudman, 2006). It may be "on-time" or "off-time" depending on a range of circumstances and factors which may or may not be in the control of the pre-retiree (Noonan, 2005).

Retirement Choices

Many studies note the difference in psychosocial adjustment between those who experience unplanned retirement (due to layoff or health) and those who move to a timely retirement (Choi, 2002; Richardson, 1989; Szinovac, 1986-87). Beehr (1986) considers "free choice" a necessity for a normative retirement, i.e. at an age in line with social and professional norms. While a "standard retirement age" is increasingly elusive, factors which may cause a non-normative retirement include the impact of physical and mental health of self or spouse/family, company downsizing targeting older workers, or obsolete job skills (Gustman & Steinmeier, 2000).

The term "retirement age" has also undergone a change of definition and should be thought of as the "age of pension eligibility". The 1993 Human Rights Act ended age indexed retirement and made discrimination of work on the basis of age illegal (McGregor, 2006). While pension availability may be the trigger to retire for a segment of the population, most pre-retirees include other factors in their decision making (Noonan, 2005; Rudman, 2006).

Factors influencing retirement

Shultz, Morton, & Weckerle (1998) list health and financial status as the two key predictors of retirement planning and retirement decision by respondents in

the Health and Retirement Survey1 study (HRS). The choice of full retirement was influenced by financial considerations such as investment assets and pensions, and by health considerations of insurance and current health (Kim & DeVaney, 2005). A similarly targeted study of U.K. subjects also found finances were a key factor in retirement decisions (Warr, Butcher, Robertson & Callinan, 2004)

The likelihood of partial retirement was correlated with health plus self-employment status and education level, findings that did not differ for age or gender (Kim & DeVaney, 2005). Poor health is an involuntary retirement "push" factor which correlates with poorer retirement adjustment (Reis & Gold, 1993; Shultz, Morton, & Weckerle, 1998). The key factor in retirement adjustment appears to be choice (Quick & Moen, 1998; Warr et al, 2004). Well being in retirement is an outcome of perceived control of the future, evidenced in planning, financial preparedness, and personal role choice.

Erik would agree with this assessment. He chose early retirement when the company he had long tenure and a good pension with was going through restructuring.

> "I think one of the greatest ways of retiring is when YOU decide to retire. You have to take into consideration what are you going to do, how much money you will have, what would your health be? And it's a mental process, the moment of retirement."

(Robertson, 2000, p. 73)

[1] The Health and Retirement Survey (HRS), launched in 1992, is a longitudinal study of a representative sample of the American population born after 1941.

"Off-time" retirees, whether due to health (Kloep & Hendry, 2006), layoff (Quick & Moen, 1998), or spousal pressure (Warr et al, 2004) adjusted poorly to retirement. Kloep and Hendry (2006) suggest that an overload of problems and challenges all occurring at the same time in later life depleted the retiree's psychosocial resources and made retirement difficult. This held true regardless of financial preparedness. Those respondents who retire voluntarily report a positive retirement, as measured by life satisfaction, physical and emotional health. They also report more pre-retirement planning, defined as thoughts of planning and discussion of plans with spouse and friends (Shultz et al, 1998; Van Solinge & Henkens, 2005). These voluntary retirees had a higher SES, as indicated by education, income and social status. They had choices.

Gender Differences

Sex is the biological difference between men and women and is incontrovertible. Gender refers to the socially produced institutions of control which shape the patterns of behaviour, domination, and opportunity between feminine and masculine which change according to culture and time (Alvesson & Billing, 1997). This study uses the term gender to distinguish men and women.

A Canadian study of mid-age workers (Adams, 1999) found evidence to suggest that gender role rather than gender per se influences retirement decisions. In older cohorts holding traditional gender role attitudes, women often consider taking early retirement to be with their partner or to care for their partner or dependents. Female Scottish psychiatrists cited family commitments

and an older retiring spouse as two of their main reasons for considering early retirement (Eagles, Addie, & Brown, 2005). Women have a different work and retirement experience to men due to different work trajectories, family responsibilities, and less financial security (Price, 2003), as do men and women of minority races (Flippen & Tienda, 2000). Interaction between gender and occupational status is critical to retirement decisions (Richardson & Kilty, 1991).

"Old age is a woman's issue because of the increased longevity of women's lives" (Glass & Flynn, 2000 p.596) and therefore individual retirement preparation should be a top priority (Ekerdt, Hackney, Kosloski, & DeViney, 2001). Women are likely to spend a third of their life in retirement, often alone as widows (70%) or divorcees, and fending for themselves on decreased finances. While the reported incidence of women engaging in pre-retirement planning is increasing, studies suggest men are more proactive in preparing for retirement than are women (Glass & Flynn, 2000; Hanson & Wapner, 1994). With comparable education levels, women still have less financial information and a smaller financial and asset base for their planning (Ekerdt et al, 2001; Glass & Flynn, 2000; Loretto, White, & Duncan, 2000). Females have higher financial risks due to marital disruption, increasing medical expenses, longer life span, job discrimination, and increased morbidity (Gazso, 2005).

Able to Retire?

Continuous work histories provide the employee with prestige, income, and resources while discontinuous work histories correlate with lower income (Quick & Moen, 1998). Women are more likely to have discontinuous work

histories. They exit the work force to engage in care giving obligations, are more likely to be in lower skill jobs exposed to market swings and redundancies, and are likely to have morbidity reasons to retire early (Choi, 2002; Flippen & Tienda, 2000). Discontinuous work histories, low paying jobs, and unfavourable pension industries all add up to reduced retirement income. While women in the lowest income groups are the most affected, retirement is detrimental to all female economic well being (Szinovac, 1986-87).

Women do not see retirement planning as a priority (Glass & Flynn, 2000) even when their earnings are adequate and they lack awareness of financial needs in retirement (Hanna, Gutter, & Fan, 2001; Joo & Pauwels, 2002). More resistant to delayed gratification (Akerlof, 2002; Glass & Flynn, 2000), they are less likely to save. Personality factors, including self agency, passivity, and dependence inhibit their proactivity (K. Perkins, 1992) and make them fearful of risky investments (Bajtelsmit & Bernasek, 1996; Glass & Flynn, 2000). In addition, fear of old age and isolation, ageism, and stereotypes are disincentives to look into the future (Perkins, 1992). Looking at these trends from a feminist perspective, Perkins (1992) suggests that the low earning power of women negatively impacts their psychological, physical, social, and economic well-being in older age. The surge of women into all sections of the work force during the 1970s and 1980s was unprecedented. However by 1985, when this study's participants were in their mid thirties, seventy seven percent of women were still in low-skilled work (Perkins, 1992).

The New Zealand Story

Do these norms hold true for New Zealand women? Reasons given by West Auckland women for not saving were financially based: they were on a low income or a benefit (Cervin 2001). These women were cautious about work based pension schemes as they could not guarantee unbroken or long term work due to dependent needs. In addition, they did not understand the schemes; a complaint echoed by British women (Loretto, White, & Duncan, 2000). The use of home as equity was an assumed option for many and some had a small savings scheme. Many women felt they could not rely on government for support and were looking at ways to pool resources, continue to work, and to cover their health needs with insurance. Those with partners tended to take less interest in planning, although they did have savings accounts. They felt that unforseen illness, of self or spouse, would negatively impact their retirement plans.

The women desired financial security and control; enabled via finances and health to make their own choices. It was important for them to not be a burden on their children and they therefore wanted to be able to pay for any family based care (Cervin, 2001). Because of their uncertainty over their own care needs and an unwillingness to face these issues, a number of these women were procrastinating.

Summary

Factors determining adjustment to retirement may be defined as resources retained: finances, health, leisure, marital quality, and contacts (Richardson & Kilty, 1991). The health of pre-retirees is salient as it impacts later quality of life and may consume revenue, while the poor health of one may impact their spouse due to carer responsibilities (Van Solinge & Henkens, 2005). Gender and racial disparities are acknowledged world wide, a trend which continues into retirement planning and finances. This is a disparity which holds true even within equal professions and occupations with equivalent educational status (Julia, Kilty, & Richardson, 1995). Women approaching retirement age tend to be more adversely affected by poor health and inadequate incomes than are men (Reis & Gold, 1993; Richardson & Kilty, 1991; Szinovac, 1986-87). All of these factors make planning important, and especially so for women.

Planning

Thirty three years ago Jacobson (1974) suggested that planning for retirement is an activity at the top of Maslow's needs hierarchy and was attended to only if primary needs had already been met. His comments might be dismissed, based as they were on interviews with semi-skilled factory workers and therefore not relevant to the 21st century. However, although our life today may be high-tech, we still have physical and psychosocial needs and large social gaps in our society. He could be summarising the theory behind the planning and non-planning behaviours of New Zealanders today. The stereotypical retirement planner is a white male professional with high education and income. A strong correlation exists between planning and accumulated wealth; non-planners have been found to have 100% less savings than those who had planned a little (Quick & Moen, 1998).

Planning leads to a realistic appraisal of retirement and therefore a successful adjustment. Those considering early retirement were more likely to have built their wealth or had job flexibility which allowed reduced hours. Retirement timing factors were generally determined by income (Lindbo & Schultz, 1998 ; Schultz, 2002): inadequate finances strongly correlated with a decision to continue working (Weckerle & Shultz, 1999).

What is Planning?

Retirement planning should include financial forecasting, health assessment, spousal expectations and preferences, personal expectations, career and job fulfilment, and leisure activities (Gall & Evans, 2000; Lindbo & Schultz, 1998). A desire to stay active and involved may lead to consideration of part time employment (Dorfman & Kolarik, 2005). American pre-retirees identified pension availability and amount of planning as key factors in a positive anticipation of retirement (Mutran, Reitzes, & Fernandez, 1997). Self planners, across a range of occupations, had the highest level of retirement satisfaction. Key factors were financial independence, self value, and personal and family health (Anderson & Weber, 1993).

The concept of retirement has changed over the past 40 years and is likely to continue to evolve as the Baby Boomers[2] enter retirement: personal identity, personal meaning, and quality of life are key areas for retirees to consider (Rosenkoetter & Garris, 2001). In their study of retirees, only 28% had participated in investment planning and 42% investigated retirement benefits. Post retirement, they overwhelmingly wished they had invested more planning into investments, finances, retirement benefits and general preparation. Other studies have found that planning behaviours correlate with organisational position; those in management tend to invest more effort into planning. This is a

[2] The "baby-boomer" generation, born in the post-World War II years of 1946 through 1964, are the largest cohort in the world. They have very different psychosocial characteristics to their parents. The women have entered the long term paid work force in greater numbers than any other generation in recent history. They will start to turn 65 from 2011 and continue to do so for the next 17 years (Glass & Kilpatrick, 1998).

trend that is not gender dependent, although there are fewer women in positions of management (Jacobson, 1974; Rosenkoetter & Garris, 2001). Reis and Gold (1993), in a review of the literature, found that planning correlated with positive retirement attitudes, happiness, and a sense of control. They suggest that planning (finances, activities, etc) is being delayed too long and should be started earlier.

The changing face of retirement preparation and the spectacular crashes of some pension funds over the last 20 years in the UK have highlighted the importance of personal financial preparation. Occupation was more salient than age in predicting sufficient income resources (Gall & Evans, 2000). While the amount of income available in retirement is not significant in itself, significance comes from the congruence between expected and actual income for each individual (Gall & Evans, 2000). Planning moderates the discrepancy between pre-retirement expectation and post-retirement reality.

Why don't people plan?

Qualitative research on private pension plans in the U.K. unearthed a number of reasons why people fail to plan: difficulty of anticipating needs, avoiding thoughts of ill health, dependence, or death, and the possibility of disappointment in retirement (Rowlingson, 2002). Current poor health often implied a need to retire while anticipated income did not facilitate that decision (McPherson & Guppy, 1979). Richardson (1989) concurs, noting that many pre-retirees associate retirement with death and old age. SES made a difference to planning behaviours: lower social class, gender, and age affected social

expectations and therefore lowered anticipated retirement needs (Rowlingson, 2002). SES may be ascribed, i.e. based on biological group and attributes received at birth, or achieved based on the effort of the individual through education, work, choices, etc. Jacobson (1974) suggested that those not planning lacked a "social model of retirement" on which to base their planning (Jacobson, 1974 p.77). Learned behaviour from parents or siblings strongly affects attitudes to planning. A positive role model by parents or older siblings positively influenced planning in pre-retirement age Americans (Lusardi, 2000).

Thirty percent of households in the HRS study did not plan for retirement (Lusardi, 2000). Their excuses were in agreement with their British counterparts regarding uncertainty of distant needs and the difficulty of planning for a time they were not looking forward to. Many procrastinated what they described as a complex planning task. Lack of financial literacy made planning difficult, a response reflected in the correlation between lower education and less planning (Jacobson, 1974; McPherson & Guppy, 1979; Richardson, 1989). Financial "illiteracy" included thinking retirement planning was too complicated, not knowing where to get help from, and uncertainty over inflation and tax implications. In addition, fear of the answer was a powerful disincentive to plan (Lusardi, 2000). As early as 1981, researchers found that planning was more likely if participants had higher occupational status, greater initiative, perceived management support, and an interest in planning (Harpaz & Kremer, 1981).

Proximity to Retirement

It is tempting to think that increasing age precipitates saving and planning behaviours (Rowlingson, 2002). While age played a small part in predicting planning for retirement in an American study (Taylor & Shore, 1995) it showed a reverse trend in a British study (Loretto, White, & Duncan, 2000). One difference may be the non-contributory pension scheme available to these British financial sector workers. This researcher found no studies which further investigated this planning discrepancy. Perhaps those who consider they will be taken care of by employer or state will put less personal effort into their retirement planning. While retirement planning does increase a little in the over fifties, Ekerdt et al (2001) found that almost half of respondents in their fifties and thirty seven percent of 61 year olds had no retirement plans. Those least likely to plan were younger, female, of limited education, or in poor health.

Gender Differences

The American Retirement Confidence Survey has seen no change in savings planning in the last 10 years (Joo & Pauwels, 2002) and the significant gap in retirement confidence by gender still remains. Women faced more savings barriers, particularly due to lack of knowledge, investment strategies, lesser income sources, and employment in areas with little or no employee benefits. Women with dependents were less confident and more risk averse. They may be more confident after financial education but still not perceive themselves to be any more knowledgeable (Joo & Pauwels, 2002). Reasons for lack of planning

by women were identified as early socialisation and education, confidence, role definition, locus of control, and risk aversion (Glass & Kilpatrick 1998).

Summary

Planning for retirement, contingent on wealth and health, includes a number of psychosocial aspects. Both men and women were more confident regarding their future requirements when factors of education, income, savings funds, and financial attitudes were considered. Those who do plan will adjust better to this life phase and will experience better health.

Wealth

Retirement wealth may be defined as the point when "adequate total retirement income is equal to or greater than the total desired retirement consumption level" (Yuh, Hanna, & Montalto, 1998, p. 180). That is, wealth at the point of retirement is at least as large as a personally accepted percentage of present consumption (www.sorted.org.nz). A number of factors impact on an individual's saving sufficiently for retirement: the life-cycle model of savings, attitude to precautionary saving, social status, and social attitudes (Booth et al, 2000).

Booth et al (2000) suggest that, for New Zealanders, income is the most powerful determinant in savings behaviour. While income per se is important in pre-retirement planning, the attainment of the pre-retiree's ideal economic standard is more relevant to retirement adjustment (Reis & Gold, 1993). Any funds in excess of the individual's requirement criteria do not significantly alter retirement satisfaction.

Psychosocial processes of Savings Behaviour

In the "life cycle model" of savings, people save or borrow to maintain a steady level of spending over their life time (Booth et al, 2000). They do this to maximise current as well as future benefits according to their psychosocial needs. Therefore, they may spend more or borrow more in younger adulthood while establishing their homes, start to put funds aside during the middle peak

earning years, and start to divest during retirement. This is a reasonable theory and would account for financial behaviour in a safe world. However, savings behaviour is complicated by a number of factors.

Precautionary Savings Theory

One of these, precautionary savings, relates to the savings activities people undertake if they expect a future income shock (Lusardi, 2000). Moderating factors on precautionary savings are: the risk profile of the household head, current assets and wealth, and a long planning horizon. Uncertainty of future income, due to health or labour market changes, is expected to precipitate an increased attempt to accumulate wealth. Males and those who were risk tolerant were less likely to save. Risk intolerant female headed households may be expected to have a stronger desire to accumulate wealth but be less able to do so (Lusardi, 2000).

This pattern was repeated in a UK panel study which also found a wide variance in precautionary savings behaviour. When future income uncertainty doubled, the savings ratio increased from between 18-41% in non-saving and already-saving households. This trend was not affected by health status or household permanent income (Guariglia, 2001; Lollivier, 2004) but by age, gender, and education (Jacobs_Lawson & Hershey, 2005). A similar French study also found positive educational, marital, and self employed correlations with savings behaviour (Lollivier, 2004). Contrary to English and American studies, the French study found no savings difference when the head of household was female.

The life cycle model also assumes rationality in savings behaviours. In reality, savings factors may be 'irrational'. Decisions are never simple and the complexity can often not be explained by the saver themselves (Booth et al, 2000). Childhood learning and the maintenance of social norms are powerful motivators. People will spend to maintain their social status.

Pension Savings

Guariglia and Markose (2000) assessed factors influencing additional voluntary contributions to British personal pension plans compared with conventional precautionary savings. (The favourable tax incentives of private pensions were expected to induce savers to prefer that savings vehicle.) Pension fund additions, as expected, were correlated with age, educational qualifications, monthly earnings, and conventional savings. Conventional savings also correlated with education and earnings. These two types of savings did not tend to offset each other; depending on financial ability and psychosocial factors, people would save in the form that was most relevant to them.

Tax and welfare systems may affect people's ability and/or desire to save. In New Zealand, the system may be a disincentive to public savings due to higher welfare tax rates that leave less in the pocket and pensions and welfare which negate motivation for precautionary savings. In addition, the saver may decide

against precautionary savings if benefits are asset tested. While lower lifetime income generally correlates with lower retirement savings, males in the lowest income decile are an exception. This group do not save at all, probably realising that the pension will meet their retirement requirements (Booth et al, 2000).

Psychosocial Factors

Psychological factors of saving and investment behaviours include self-control, information processing, the value attributed to different goals, expectations, planning horizons, and gender (Booth et al., 2000). Women are socially conditioned to leave the saving to men, are not as competitive, may receive poor financial advice, and have lower risk tolerance (Booth et al, 2000; Lindamood & Hanna, 2005). Callister (2006) found that in all age groups women were slightly more likely to own a house, the risk averse savings option, than were men. Akerlof (2002) would argue that the ability to delay gratification and the assumption that future changes will enable saving are also salient.

Future time perspective, financial literacy, planning horizon, financial knowledge, and investment knowledge all impacted on retirement planning in a recent study of American women (Jacobs_Lawson & Hershey, 2005). Those who were financially risk tolerant invested in high risk options (equities) while the risk averse preferred bonds and certificates. Knowledge of finances (.51), time to retirement (.25), and risk tolerance (.16) together accounted for 59% of variability in retirement savings scores. Risk tolerance, correlated with net worth, income, knowledge, and proximity to retirement better positioned the investor for success (Grable & Lytton, 2000; Hanna, Gutter, & Fan, 2001;

Rozkowski et al, 2004). Gender and education explained 93% of variance in risk tolerance in a USA population (Grable & Lytton, 2000).

New Zealand Pensions

Women are less likely than men to belong to a private superannuation scheme and, if they do belong, contribute less than men (Table 1). Approximately eight percent of the 70,000 employed women had employment based superannuation (St John, 2003, August).

Table 1 - Average private personal income in N.Z. dollars showing gender differences (St John, 2003)

	Earners	Age 15+	% with private income	% Gross private income
Men	30,600	27,900	91	92
Women	14,900	12,600	84	77
Total	22,600	19,800	88	87

The Government Superannuation pays a joint life pension of $14,407 for a single person and $11,082 each per couple retirement ("NZ Superannuation - current after tax rates," 2007). 2002 statistics show that half of those over sixty five have net worth assets under $112,800, while those in the pre-retirement group were not much better off with median worth of $140,000 (Paul, Rashbrooke, & Rea, 2006). As at 2005, only seventeen percent of pre-retirees were holding superannuation funds while many more held funds as residential properties, bank accounts, financial assets, and businesses (see Table 2) ("Demographic Trends 2004," 2005; Scobie & Gibson, 2002).

Table 2 - Assets held by two cohort sections of the New Zealand population in 2004

	Mean $ amount		% holding asset	
Assets	45-64	65+	45-64	65+
Residential	132,000	115,000	74	74
Superannuation	9,000	<500	17	1
Bank accounts	15,000	23,000	76	82
Life insurance	8,000	1,000	23	7
Financial assets	15,000	24,000	34	36
Business	60,000	20,000	24	8
Trusts	13,000	3,000	4	2
Vehicles, leisure items	13,000	7,000	89	79
Other assets	38,000	35,000	100	100
Liabilities				
Mortgages	32,000	2,000	43	6
Bank overdraft	5,000	<500	16	3
Credit card debt	1,000	<500	48	28
Other liabilities	1,000	<500	16	3

Kiwi Saver, introduced officially in the 2007 budget, aims to improve the savings and retirement preparation of New Zealand workers via a voluntary work based scheme. While it is anticipated that this will improve the retirement provision for a section of society, the defined contribution nature of the scheme makes it detrimental to women who have discontinuous work histories and an average lower income (McDaniel, 2000).

Women and their Assets

Separation, divorce, and widowhood still impact women's retirement preparation (St John & Gran, 2001). By retirement age, a girl 15 years old in 2000 will have saved approximately three quarters of her male counterpart's total. This is less than the gender wage gap (Booth et al, 2000). Male assets may be higher due to investment differences between the genders, i.e. quality of savings not quantity of savings. For a number of reasons, including risk

aversion, women may not receive the quality financial advice they need while their lower incomes may make home ownership more difficult (Booth et al, 2000; Grable & Lytton, 2000). Likewise, ethnicity pre se is not a factor in Maori saving; rather SES and education are the primary determinants.

The Self employed are a special case. They often understate their income due to the ability to write off a number of costs and expenses (Booth et al, 2000). Their reported income therefore is not a true reflection of their SES.

Summary

Retirement wealth generally comprises financial assets, savings, and house equity plus income from public pensions and private superannuation (Paul et al, 2006; Yuh et al, 1998; Hanna et al, 2001). Research shows that pre-retirees are not adequately prepared financially for their retirement (Hanna et al, 2001; Paul et al, 2006; Yuh et al, 1998). An individual's wealth-needs ratio is positively related to education, household income, planned retirement age, and investment assets. Knowledge can be seen to impact wealth via increased income and better financial knowledge (Mirowsky & Ross, 1998). There appears to be gender differences in wealth accumulation explained, in part, by SES and by financial intelligence. That is, psychosocial factors plus income predict savings and investment behaviours.

Income

The mathematical model for wage calculation is based on tenure, experience, and health as number of days sick. Additional factors impacting income are education, industry and occupation (Gustman & Steinmeier, 2000). The value of experience for females peaks at around 40 years of age and tenure at age 50. For males, these peaks are twenty percent earlier. These differences are explained by higher male overtime and lower female tenure (Jones, Latreille, & Sloane, 2003; Szinovac, 1986-87).

Labour Economic Models

Economic models assume an "individual selects that combination of consumption and hours of work which maximizes their utility, subject to budget and time constraints" (Jones et al, 2003 p6). Offered wages and personal circumstances form an individual's "utility". That is, the individual decides their availability for work based on psychosocial factors that are important to them: finances, age, health, dependents, or an alternate income earner in the household.

Thus a wage equation is composed of conventional human capital variables plus factors influencing the value of time (e.g. dependent children, other dependents) plus differences in productivity plus "unexplained" factors. These unexplained factors may include discrimination, unobserved productivity differences, qualification, ethnicity, occupation, public/private sector, and part time status (Akerlof, 2002).

Gender Wage Gaps

Economic discrimination may be defined as treating individuals with identical productive characteristics differently due to demographic characteristics such as sex or ethnical background (Weichselbaumer & Winter_Ebmer, 2007). In industrialised countries the gender wage gap has decreased over the last four decades due to productivity relevant developments: increased education, decreased labour market interruptions, technological change, industrial restructuring, and increased demand for white collar workers (Weichselbaumer & Winter_Ebmer, 2007).

Coincidental embracing of anti-discrimination laws[3] and global markets has also facilitated a closing wage gap (Weichselbaumer & Winter_Ebmer, 2007). Mean gender wage residuals are declining with increased economic freedoms and market competition in Australia (.14), UK (.18), USA (.19) and N.Z. (.20). Even so an unexplained gap remains, attributable, in part, to discrimination. In Western countries, this may take the form of educational discrimination, social norms, and insufficient public support for working mothers.

However, there are gender specific factors that also play a role. Women tend to not increase their performance in a competitive setting while men are generally more competitive (Weichselbaumer & Winter_Ebmer, 2007). Stereotypes are still prevalent and women may be assumed to lack career orientation if they put

[3] Interestingly, nations have increased the wage gap when attempting to protect women by signing International Labour Organisation (ILO) conventions C45 and C89 which prohibit women working underground and at night (Weichselbaumer & Winter_Ebmer, 2007).

less investment into on-the-job-training, overtime, travel and transfer. In addition, women cannot get away from the effects of an interrupted career, shown in the twenty percent difference in the wage gap between married and single women (Anderson, Binder, & Krause, 2002).

However, as the trend of the past thirty years continues, women are increasingly competing on equal terms with men in the labour market. The gender wage gap attenuates when new labour market entrants are examined, good news for young women today. In addition, there are smaller wage gaps within an occupation and within high-prestige jobs (Weichselbaumer & Winter_Ebmer, 2007).

Labour Market effects

Care giving responsibilities limit both earning and saving options (Anderson et al, 2002). Women having their first child birth before they were 20 years old had a lower percentage saving than did women who had delayed their first birth to an older age. In New Zealand the female economic position is generally inferior to the male position by approximately $20,000 per annum (Gibson, Le, & Scobie, 2004, September). Income differences in the New Zealand working population are evident between genders and ethnic groups (see Table 3).

Table 3 - Relative income split by gender and ethnicity for New Zealand workers (St John & Gran, 2001)

Gender / Ethnicity	Median annual income $	% European Male
European women	13,100	55
European men	23,900	100
Maori women	11,200	47
Maori men	16,100	67
P. Island women	10,800	45
P. Island men	15,300	64
Asian women	7,100	30
Asian men	12,100	51
Total women	12,600	53
Total men	22,000	92
Total adults	15,600	65

Median personal incomes by gender and ethnicity are shown here as a percentage of European male earnings in 1996, when our cohort are in their mid to late earning years. Men of all ethnicities fare better than their women, and all except Asian men earn more than European women.

The gender wage difference becomes apparent when looking at income across the population and the disparity of private source income. New Zealand Statistics show a pattern of male income decline in the years 1981 - 1996, when unemployment rates were at their highest. Generally, for the male cohorts, the pattern of income is quite confused, with no real overall improvement in income over time (Figure 1).

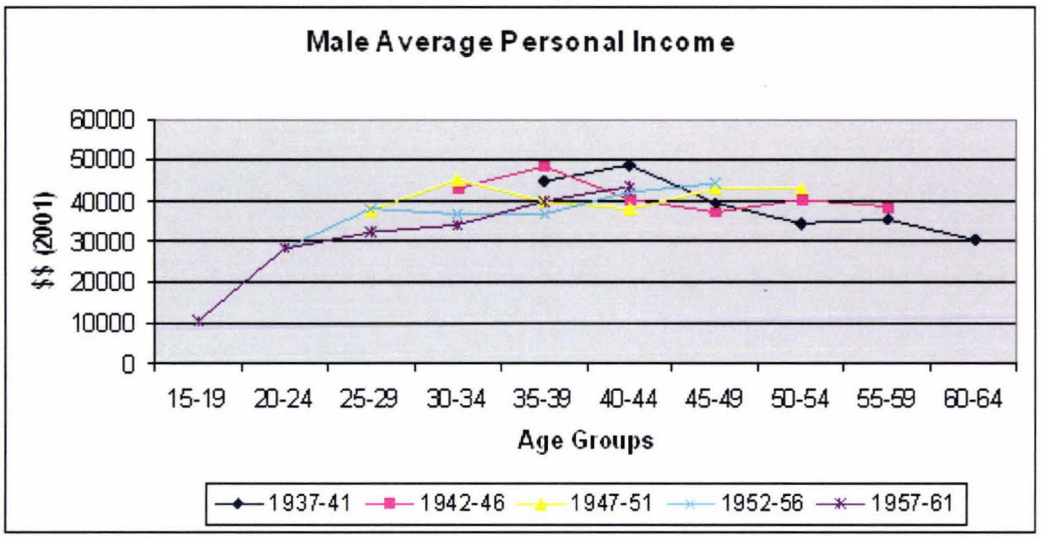

Figure 1 - Personal income of the average New Zealand male over the last 30 years (Callister, 2006).

Women, however, exhibit a definite trend, with average income increasing in each age group for each cohort over time, as shown in Figure 2. This is a reflection of increased full and part time employment and movement into higher paid occupations.

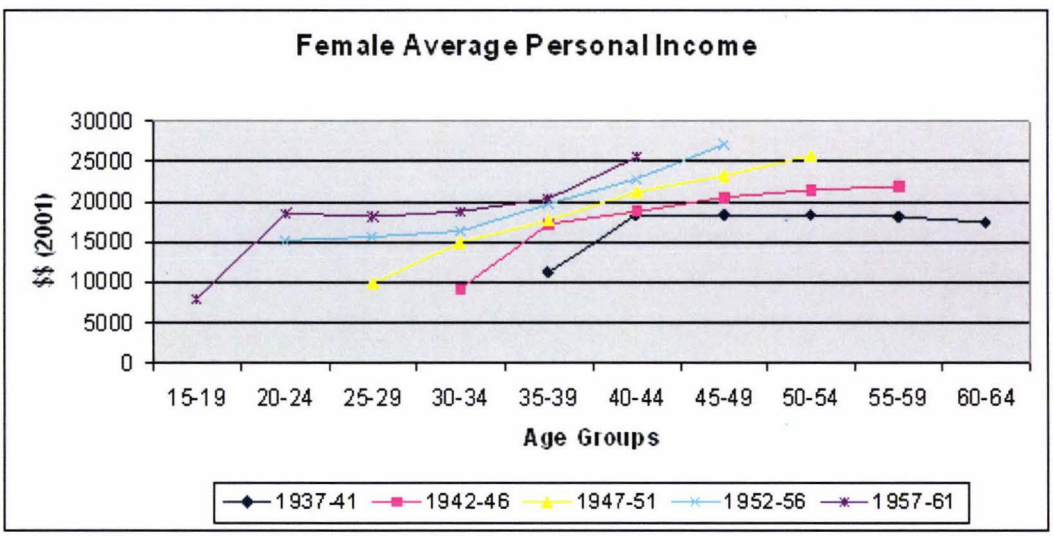

Figure 2 - Personal income of the average New Zealand female over the last 30 years (Callister, 2006).

The ratio of male average income compared with medial income is highest among younger cohorts who are still to accrue tenure and promotion. For women, the pattern is a little different, with the greatest ratio difference among women of an age to look after families. This ratio has decreased in subsequent cohorts reflecting the increasing work force participation of women with children.

Summary

Income is a reflection of human capital and tenure. While income levels have risen over time, the graphs demonstrate the average female income ($15,000 to 25,000) is still half the average male income ($30,000 to 50,000). This will be reflective of the part time nature of women's work, the discontinuous work histories of women due to family responsibilities, and wage and occupation differences.

Employment and Career

Employment trends have changed significantly across age groups and gender over time. These trends present a complex pattern which has been influenced by education and market changes and which further impacts on income and health.

Employment Trends

The percentage of New Zealand men, of all ages, in employment exhibited a slow and steady decline from 1956 through to the mid 1980's where employment declines accelerated to an all time low in the mid 1990s. There has since been a subsequent small rebound in employment. The youngest male cohort exhibits a lower employment rate in their early 20's probably due to engagement in tertiary education (see Figure 3).

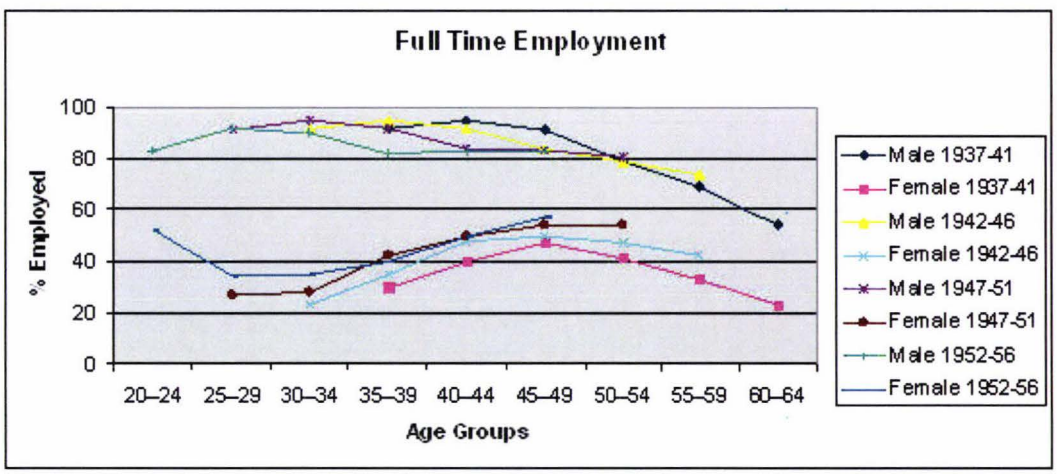

Figure 3 - New Zealand employment trends by cohort and gender over the last 30 years (Callister, 2006).

Successive female cohorts have enjoyed higher and higher employment rates, although not increasing above fifty seven percent. Part time employment has

been increasing in most age groups for all cohorts, and is the most common employment status among the youngest and the oldest, reflecting family needs and transition into and out of the work force (Callister, 2006).

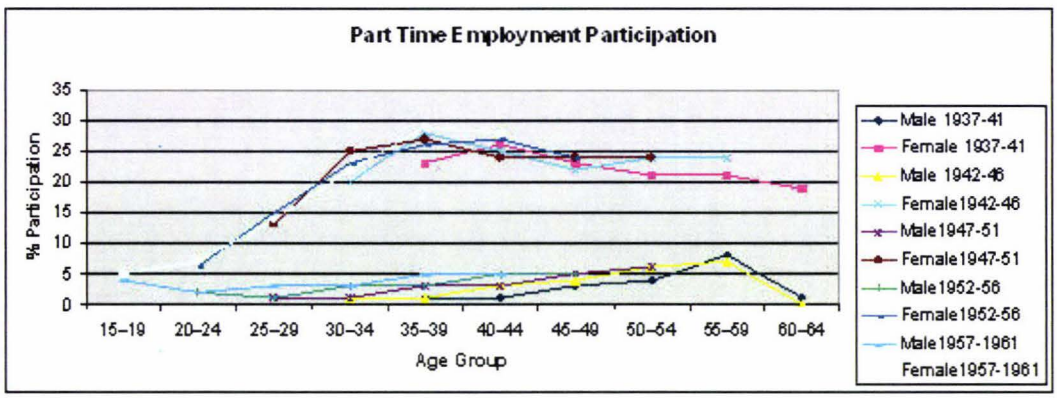

Figure 4 - Part time employment participation for the past 30 years, by cohort and gender (Callister, 2006).

Female part time employment exhibits less change over time than does the male pattern, with higher female part time employment rates during child raising ages (Figure 4).

For both genders, there is a trend toward a later start in full time employment due to tertiary education participation. However, there are still higher employment rates among married men and single women (see Figure 5). A drop in employment after fifty four years of age shows a similar trend for both men and women.

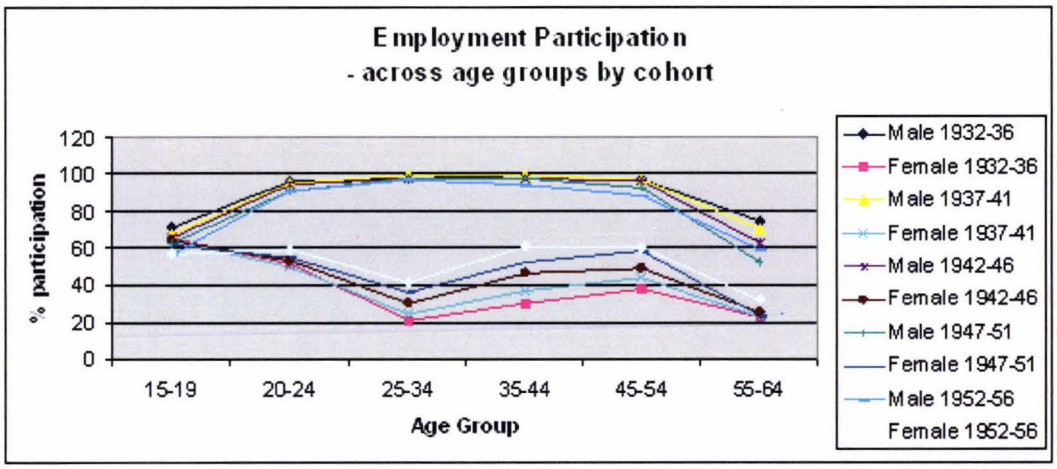

Figure 5 - New Zealand employment participation over 30 years, by gender and cohort (Callister, 2006).

Female employment trends confirm the youngest cohort are attaining the highest participation in their early twenties, declining to 35% employment during child raising years and returning to 57% employment in their forties.

Employment for older workers

Projections of New Zealand labour force participation rates (LFPRs) illustrate a significant increase among the population aged 55 plus, reflecting increasing flexibility around time of retirement due to the abolishment of compulsory retirement (Dunstan & Thomson, 2006). Increased longevity and elder wellbeing is changing society's attitudes to retirement while regulatory factors in our pension system encourage higher participation rates for seniors compared with some other countries (Lattimore, 2005).

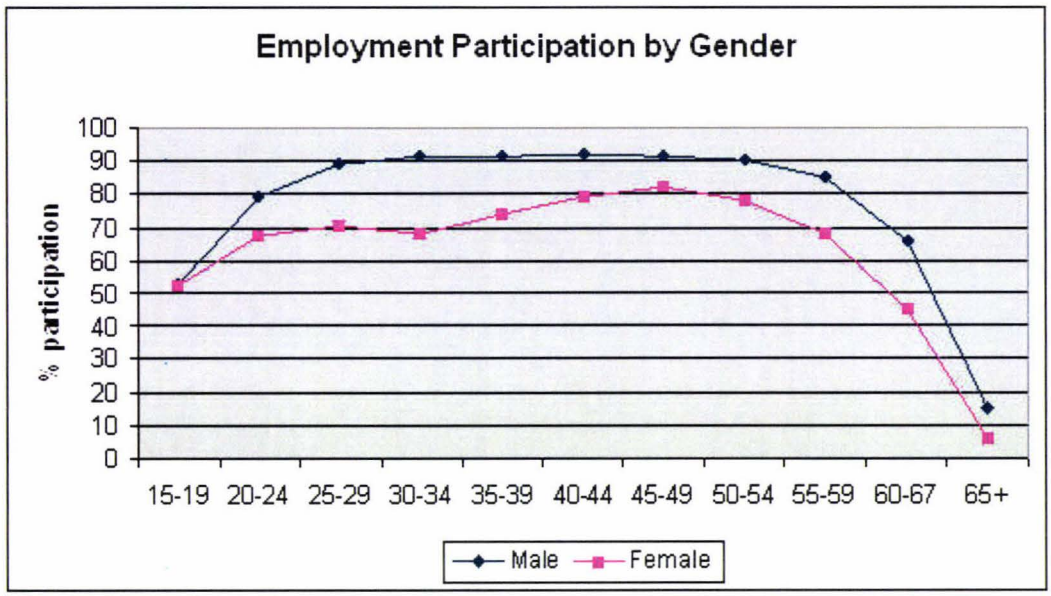

Figure 6 - Employment participation, by gender and age group show similar trends from the 2001 census

However, as Figure 6 illustrates, employment does decline through the older ages ("Older New Zealanders – 65 and Beyond," 2004). In the 2001 Census, 65–74 year old men and women averaged 34 and 25 hours per week compared with the 45–54 year age group at 48 and 36 hours. The growing numbers of older age employees, already active as volunteers, carers and community members, are likely to play an increasingly important role in both paid and unpaid work. These older workers will not necessarily want full-time work. They will seek a balance between work, family and leisure activities; creating a demand for part-time and casual work, and more flexible working arrangements (Dunstan & Thomson, 2006). This demand for flexible work may be beneficial for women with families.

Occupation choices

The socio-cultural force of gender ensures it is always implicated in organisations and jobs. Workers naturally bring their social behaviours and emotions into the work place (Halford, Savage, & Witz, 1997). Gender segregation is still a feature of the labour market: 'gendered' jobs/careers lead to decreased revenue, prestige, and autonomy for women. Recent studies have shown that a high percentage of workers choose careers where their gender predominates (Emslie, Hunt, & Macintyre, 1999). Typical female semi-skilled job sectors include clerical, service, sales, and factory work with semi-professional options of nursing, librarian, teaching and social work still popular. Professional careers include doctors, psychologists, sociologists, and lawyers.

Early researchers have argued that women "only gain entry to an occupation because it has become less attractive to men, due to decreased rewards, poorer working conditions or the increase of duties traditionally seen as 'female' " (Emslie et al, 1999 quote Legge, 1987). Therefore, "peripheral" occupations are more likely to feature women while economically "strategic" occupations are more likely to feature men. Over the last 40 years, gender redistribution within jobs and occupations appears to be in the direction of women moving into male domains as occupations have changed from "male" (less than 30% female) through "mixed" to "female" (over 70% female). Males successful in gaining entry to "female jobs" are usually specifically trained, e.g. teachers, hairdressers, nurses and are increasingly likely to reach management level due

to their competitive drive (Williams & Villemez, 1993). See Appendix B for an overview of factors shaping employment over the last 100 years.

Gendered Jobs and Social Control

Those occupations which increase in female dominance also decline in offered financial remuneration regardless of the gender of the employee (Williams & Villemez, 1993). When adjusting for changes in human capital and job demands, earnings increase or decrease as men and women move into or out of male dominated jobs (England & Herbert, 1993). Statistical analysis of the American workforce has shown a female coefficient of -.002 and male coefficient of -.008. That is, for every one percent of women in an occupation, pay declines by .2 cents/hour for female employees and by .8 cents/hour for male employees. A move from a career with no women to one with all women sees a pay decline of 20 cents/hour for female and 80 cents/hour for male employees (England & Herbert, 1993). This translates to a 65% salary differential for a male in a "female" occupation compared with a comparable "male" occupation (Williams & Villemez, 1993). It may be that wages drop when women enter an occupation. Alternatively, a wage decrease in a gendered occupation may precipitate a male exodus and female colonisation. For example, restructuring or deskilling a job leads to a wage decrease and employers take the opportunity to hire women (Reskin & Roos, 1990).

Social control mechanisms discourage males from female jobs and tend to pressure them to leave if they are in such a job (Jacobs, 1993). At a micro level we choose to conform to norms learnt through socialisation. We tend to select

education and employment in line with cultural norms, deviating slightly at most from a self identity established in childhood (Alvesson & Billing, 1997). In fact, International Labour Organisation agreements C45 and C89 reinforce this control by prohibiting women from "dangerous" and overtime occupations (Weichselbaumer & Winter_Ebmer, 2007).

Climbing the Corporate Ladder

American professional women, with higher education and continuous work histories, enjoy higher incomes than their non-professional sisters. These women held thirty percent of management and administrative positions, forty percent of sales supervisory positions and almost sixty percent of accountant and auditor positions (Price, 2003). In saying that, there does appear to be both a horizontal and vertical gender separation in employment. Males are over represented in management in all occupations (Williams & Villemez, 1993). Allowing for equal qualifications, gender does impact career choice and progression.

Eligible Canadian medical students agreed a surgical career would be a rewarding profession with excellent earning options (Baxter, Cohen, & McLeod, 1996). The males cited technical challenge, earning potential and prestige as their reasons for considering this path while females, who were less likely to become surgeons, cited residency conditions, part time options and parental leave as key factors in their decisions. Thus social control may impact recruitment and placement, equal pay, and comparable worth based on job demand. Jobs requiring the same demands (cognitive skills, training and education, management, personnel responsibility, physical hazards,

organisational characteristics) should have the same worth but do not (Bradley, 1993).

Possible reasons for female under-representation in management may include: education choices, less work experience, avoidance of working abroad, reduced managerial qualification investment, and a MBA bias against women (Alvesson & Billing, 1997). In addition, women may attend to advertised job qualification requirements more than do men and discount themselves from applying for promotions (Alvesson & Billing, 1997). The trend to performance related promotion may also conflict with home focus for many women. The criteria for promotion are often for a "competitive, performative, skills based manager who is not over burdened by domestic responsibilities" (Halford et al., 1997 p.267). Family responsibilities mean fewer options for overtime, travel, and relocation. If a higher percentage of female senior management do not have children, an organisation may assume this model applies to all women and therefore unwittingly disadvantage women with families (Alvesson & Billing, 1997).

In today's market women have a slight edge with their orientation to a democratic and personnel focused leadership style (Alvesson & Billing, 1997). Even so, females with equivalent education, skills, and occupation receive less opportunity to advance above the lower management levels. This trend persists despite recent research which shows women are as passionate as men to advance their careers (Alvesson & Billing, 1997; Halford et al, 1997). While the 1980's saw a decoupling of gender and age from organisational position, women were still over-represented in junior positions. In reality, opportunities

for female advancement correlate with the gender critical mass of the occupation (Alvesson & Billing, 1997).

Employment and Health

Orientation to gender roles, measured as work/home conflict and a traditional view of gender occupation correlated with health, measured as malaise, when other work factors were controlled for in this Scottish study (Emslie et al, 1999). General health (GHQ) was also gendered when work place conflicts and pressures are considered. Even so, gender had less impact on health than did psychosocial and physical working conditions. This study of banking employees found very little gendered differences in health in this homogenous population.

Good health increases chances of employment. That is, employment correlates with human capital and skills, plus physical and mental health. Health issues may not be those of the employee only, children with health problems are barriers to employment (Danziger, Kalil, & Anderson, 2000). The disabled, because they have more health problems, are also less likely to be employed (Jones et al, 2003). Mental health issues combined with human capital defects significantly affected employment in one third of welfare women seeking work (Danziger et al, 2000). They found an unemployed depression rate of 29-48% which is significantly higher than the total population rate of 13%, with an alcohol and drug rate twice the normal population rate.

Summary

Historical and cultural sanctions are keeping men and women in their gendered jobs. While women have come a long way, they have not yet reached full employment integration. Full integration would mean occupational equity based on equivalent experience and education, in all areas of industry and in organisational hierarchy. Full integration would mean equivalent remuneration. Instead, we are seeing re-segregation where women move into an occupation as men move out. Female socialisation away from aggressive and competitive behaviours and towards caring professions also contributes to gendered occupations. In addition, tenure and experience count against women who take time out of the workforce to raise a family.

Choice

There are four types of personal capital we should be investing in: 1) human capital which broadly relates to knowledge and skills, 2) social capital which may be defined as direct and indirect social relationships, 3) personal capital which includes psychological factors such as self-confidence and control, and 4) the psychophysical capital of physical and mental health (Alwin & Wray, 2005). We will now assess the impact of human and social capitals.

Human Capital

Human capital may be defined as the productive capacity developed, embodied, and stocked in human beings themselves (Mirowsky & Ross, 1998). Human capital measures may include: education attainment, work experience, and job skills (Danziger, Kalil, & Anderson, 2000). To this end, formal education cultivates skills and abilities of a general value which can then be applied to career and company specific purposes, including the ability to problem solve, analyse data, initiate ideas and implement plans. Education also develops effective habits and attitudes, such as dependability, judgment, motivation, and effort. Human Capital theory posits that experience and seniority provides increased financial returns and employer benefits because of the positive correlation between on-the-job training and productivity (Budig & England, 2001). Educated people become effective users of information (Mirowsky & Ross, 1998) and increasing individual level gains translate to aggregate gains in industry and society (Micklewright, 1999; Wurzburg, 2005).

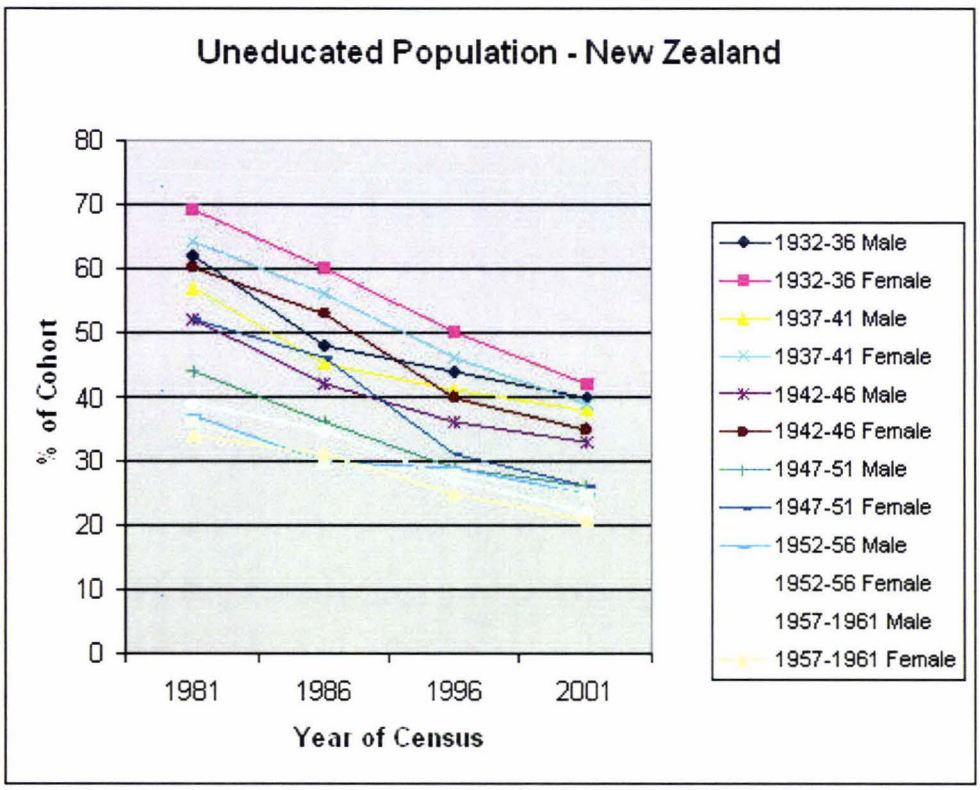

Figure 7 - New Zealand education trends by cohort and gender over 30 years, showing decline in numbers of uneducated (Callister, 2006).

Research by Callister (2006) based on New Zealand census data since 1981 has identified a promising trend in increasing education with each cohort measured (Figure 7). Education was not a high priority for women born before 1947 but has gained in significance since then. He predicts that changing education patterns over time will impact gender wage gaps, occupational segregation, and labour force participation, an effect that will probably operate separately and accumulatively. Increased education will also impact marriage, fertility, work-life balance and retirement decisions, a trend predicted to impact both males and females.

Human Capital and Income

A higher educational attainment should positively correlate with expected income and material standard of living (Micklewright, 1999 ; Mirowsky & Ross, 1998; Wurzburg, 2005) The educated individual is also anticipated to receive gains in prestige, health status, marriage, consumption efficiencies, fertility choices and offspring quality (Micklewright, 1999).

Education at an individual and social level is also salient for employment, changing job skill demands, and income inequalities. Human capital deficiency is strongly correlated with unemployment among female American welfare recipients (Danziger et al, 2000). A subsequent study of 614 white and African American women (Zhan & Pandey, 2002) found education strongly correlated with income for both races.

Education and SES

Micklewright's (1999) study, referenced above, is interesting as it reviews education trends in nations emerging from the breakdown of communism in Europe. He found that children of the higher social classes had a 400 fold and children of non-manual workers a 200 fold likelihood of obtaining an upper secondary or tertiary qualification than did children of manual workers. The privileged children were more likely to have access to education and more likely to perform better due to health and income benefits promoting mental alertness and cognitive development. That is, they were fed well, cared for, and stimulated at home. Parental SES, therefore, mediates the child's access to

education. In addition, it would appear that an individual with fewer assets requires a higher perceived rate of return as a stimulus to engage in education than does an individual with greater assets (Wurzburg, 2005). Perhaps this is due to a short term needs based focus of those operating at the lower end of Maslow's hierarchy.

Australian studies estimate a Batchelor degree returns an income 10-15% higher than completion of secondary school (Fox, Loon, Whitton, & Tunny, 2001). Income increases in direct relationship with education qualification and the higher status careers are more likely to involve stimulating work, pleasant work place environment, increased worker autonomy, etc. There is also a positive link between educational attainment and labour force participation, especially for women. It may be that employers hire and reward individuals with greater educational attainment on the assumption they will be more intelligent and motivated (Fox et al, 2001). An extra year in the average number of years schooling for the population increases output per capita by six percent (Syme, 2001), and increases social capital by up to ten percent (Fox et al, 2001). Social capital includes interpersonal relationships, strong social ties, civil obedience, and quality governance.

The current labour markets require retraining and up-skilling of workers of all ages and of middle age in particular (Davey, 2002; Wurzburg, 2005). Projections from a review of education in the Auckland population indicated that by 2011 over two thirds of jobs will require a tertiary qualification (Syme, 2001).

Women and Education

The following 2004 (Figure 10) tertiary statistics will include a mixed age of students, that is 18-24 year olds plus mature students ("Labour Market Statistics 2004," 2005). Females are moving more into sciences and IT, and are strong in health, education, business, commerce, and socio-cultural studies.

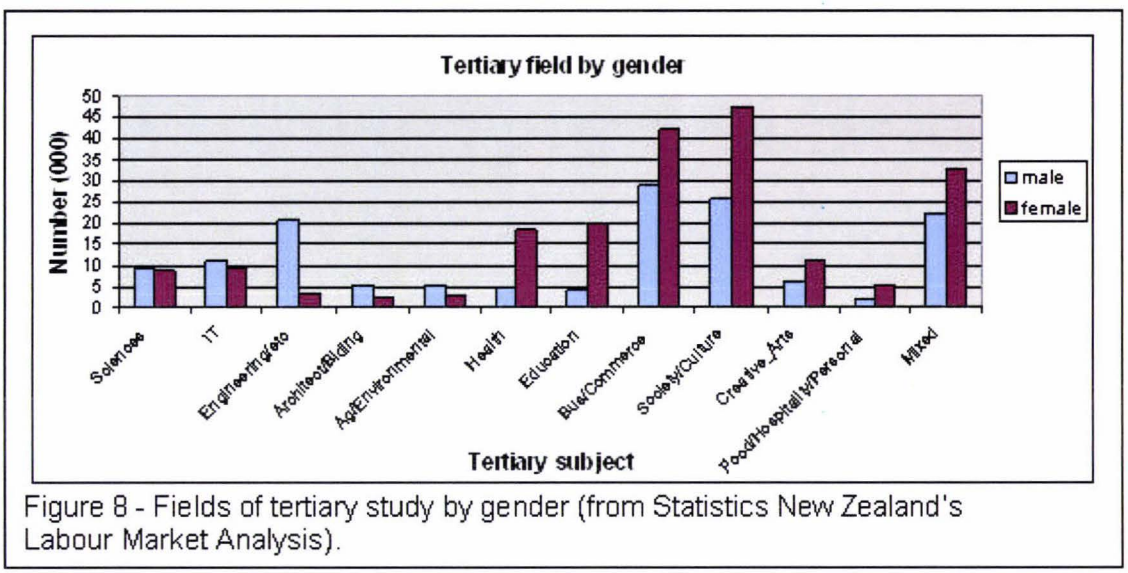

Figure 8 - Fields of tertiary study by gender (from Statistics New Zealand's Labour Market Analysis).

Males still dominate in engineering and related technologies. While the Baby Boomer women may have started the trend to invest in education to promote careers, the current generation of women are extending their reach into traditionally male areas. In New Zealand, more women (55-60%) than men (40-45%) have tertiary level qualifications.

Victoria University mature female students outnumbered male counterparts by more than 2:1. Eighty percent of these mature students were in paid work with 72% in professional or technical careers and 16% in managerial / administrative roles (Davey, 2002). Proving the point that the educated continue to invest in

education, many were in the higher income range and most had already attained formal education. The rationale for their study was work and career related.

Summary

Human capital correlates directly with quality employment and strongly increases employability. Women have been gaining in educational attainment and have, in New Zealand, outstripped men. Education is the key to social status and health, partly due to increases in an individual sense of personal control (Alwin & Wray, 2005; Mirowsky & Ross, 1998). Active ageing means being involved in lifelong learning which may assist to prolong working life and facilitate the transition to retirement and old age (Richardson & Kilty, 1991).

Social Capital and Dependents

Social capital, as noted above, includes interpersonal relationships and investment in the next generation. The direct time and labour investment in children is generally borne by women and often results in some time out of the work force.

A twenty year study of young American women found that motherhood caused depreciation of human capital (Anderson & Weber, 1993). Work experience, education, and time out of the market were economically salient for highly skilled women (Table 4). Controlling for age and marital status, the motherhood income gap was calculated as ten percent for one child, compounding for two or more children. There was no wage penalty for the least educated mothers.

Table 4 – the combined results on the occupational cost of motherhood from the three studies reviewed.

	Cross sectional model		Human capital	Time out		Experience	Control all variables
	1	2+		1	2+		
None	0%	0%					
High school	10%	10% x children	60%	35%	41%		<15% x children
College	10%	10% x children	60%	25%	32%	20%	15% x children

The greatest penalty was borne by tertiary educated women with two or more children. For high school graduates sixty percent of this penalty was linked to human capital differences, with time out of the work force accounting for almost forty percent of the penalty. For college graduates, a third of the penalty was explained by human capital, and lost experience accounted for an additional twenty percent. A similar study by Budig & England (2001) found the wage penalty for motherhood to be approximately seven percent per child, with a

higher penalty for subsequent children. These results impact not only the "Baby Boomer" women; Figure 9 demonstrates the number of New Zealand women at home with children in 2004 ("Labour Market Statistics 2004," 2005).

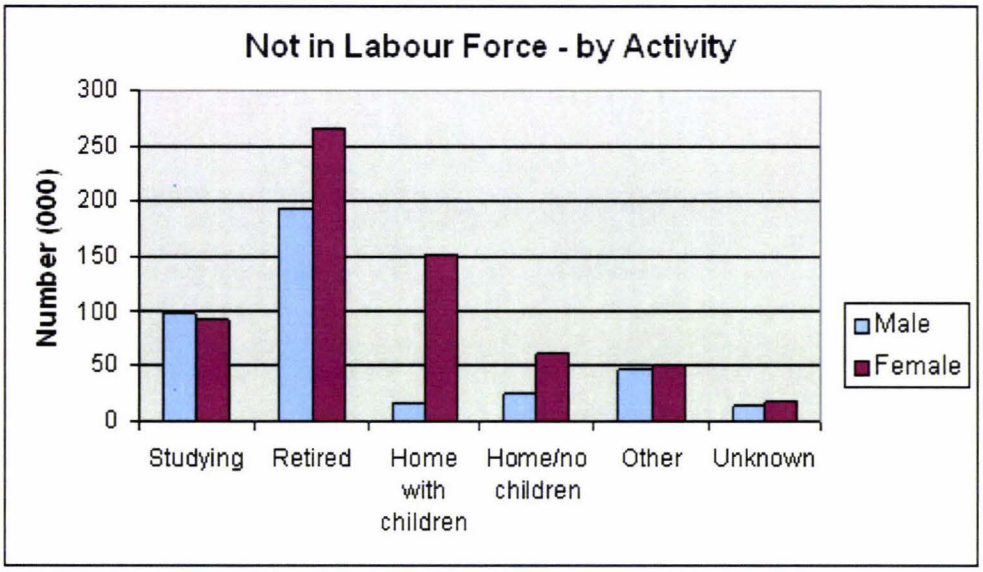

Figure 9 - An analysis of reasons why people are not in the labour force (2004).

However, a large percentage of the wage penalty could not be explained by human capital factors (Anderson & Weber, 1993; Marsault, 1999) so additional factors must also be in play. For example, career ambition which may increase earnings, may also act to discourage a woman from child-bearing (Budig, 2001). A financial cascade appears to be in operation, as time off lead to lower pay at one point in time, then to continued lower remuneration and reduced pension.

One third of the motherhood penalty is explained by discontinuous work history, part time employment, less experience and reduced seniority. This leaves two thirds of the penalty to be accounted for by factors such as productivity and discrimination. Human Capital theory, as noted above, posits that experience and seniority correlate with increased returns because on-the job

training correlates with productivity (Bundig, 2001). Therefore, time out of work equals less productivity. In addition, an employer may assume that mothers are less productive due to fatigue from or conservation of energy for home duties. Other penalty factors may include the expectation that mothers take more sickness absences. The percentage of working months decreases by 6.5 points for each young child (Danziger et al., 2000) and having children with health problems was an additional barrier to the mother's employment in this study. All of the above factors may lead to unconscious employer discrimination.

However, the penalty may not be solely due to employer perceptions. Mothers may choose less demanding occupations to conserve energy for home duties. For example, flexible hours, less travel requirements, less weekend/evening work, on site child-care may be more salient than wages for mothers returning to employment. Mothers may also seek work in occupations employing higher numbers of women (Bundig, 2001). Alternatively, lower education status may predispose a woman to motherhood as choice.

Care Giving

Care giving is not limited to bringing up children. Women are also called on to care for other family members, a role which also has personal and financial cost. Caregiver strain may manifest as poor adjustment at work, emotional strain, or financial strain (Phipps, Braitman, True, Harris, & Tester, 2003). From this longitudinal research on care givers, over half reported emotional difficulties and more than a third reported being completely overwhelmed. Half of these

carers had to make work adjustments, ranging from reduced hours to resignation and a quarter of caregivers reported the depletion of most or all of the family savings. The more highly educated carers reported financial stress, a trend which mirrors the motherhood cost theories discussed above. Women were more likely to be caregivers and bear the resultant psychological strains and decreased wellbeing of the role. These strains were exacerbated if the carer was also working (Hirsh, 2003; Moen & Chermack, 2005). Over a quarter of these carers found their work negatively impacted by their carer responsibilities.

Perkins (1992) suggests that the early retirement of women is mandated by the needs of others. Seventy two percent of caregivers in the USA are female, over half of these are over forty five years of age. Eight percent of them quit work to provide care and twenty percent take reduced hours (Perkins, 1992). Early retirement taken by women was often due to the need to care for dependents (Hanson & Wapner, 1994).

The reality of the "sandwich generation", who provide care for parents and children and "Dual Carers" who work while providing care, is that while the potential is high the actual need is low (Rosenthal, 2000). Gee (2000) found that the highest percentage of actual carers in any age bracket who helped their parents at least once a month was thirteen percent. These carers generally do not give up work to take up their additional responsibilities, a decision which results in increased stress on the caring individuals (Hirsh, 2003)). The 2001 UK census reported that twenty percent of people in their fifties are unpaid carers of grandchildren and parents. Fifty percent of adults over 50 years of age had some

caring responsibilities. Many of those who stopped work to care for a dependent family member struggled to adjust to retirement (Kloep & Hendry, 2006). This was possibly due to their "off-time" retirement and the added challenges of a life change while attending to the dependent. Women who have emotionally completed child care 'duties' and are forced back into a carer life are likely to view their life change negatively (Szinovac, 1986-87).

Direct Cost of Dependents

The Baby Boomer generation have generally delayed the age of procreation and are therefore paying education fees at a time when their own parents were saving for their retirement (DeVaney, 1995). Average American expenditure on children from birth through age 17, excluding college costs was 124,800 by low income parents, 170,460 for medium and 249,180 for upper income parents in 2002 (Ekerdt, 2004). Lollivier (2004) raises the point that the more wealthy (or educated) couples tend to choose a smaller family size (dependents) than do poorer or less educated couples, so there is a wealth bias to start with before they start the family.

In New Zealand, over the twenty years to 2000, various studies have computed expenditure equivalence scales to assess the cost of children. These scales show how much must be earned to retain the same standard of living as two adults without children (Poland & Seth-Purdie, 2005). Assuming a two adult household, this averages to one child (1.3), two children (1.5), and three children (1.75).

Summary

The motto of mothers tends to be: "family comes first" (Cervin, 2001). Caring for any family member limits earnings and savings options. Even if the carer does not relinquish employment they will make some employment adjustment. In addition, older carers are subjected to health strains at a time when they should be planning their own retirement. What we do not yet know is the impact the current trend of delayed procreation by career women in their late 30s will have on retirement in the future. Some preliminary research shows that delayed childbirth may keep women in the workforce longer (Cervin, 2001). Conversely, childless career women may be financially able to retire earlier, although some studies (Choi, 2002) show they generally do not take up that option.

Health

Health and expected income have been shown to increase retirement planning behaviours (Jacobson, 1974) because health implies options (Dwyer, 2001; McPherson & Guppy, 1979). However, health status may adversely affect planning if health interrupts to force premature retirement (Perkins, 1992). That is, a person's anticipated timing of retirement may be affected by the health status of themselves or their partner. Poor health may be defined as preventing work, limiting work hours, or limiting the type of work able to be performed, and is often the impact of long term health problems (Gustman & Steinmeier, 2000). Health, therefore, may be expected to impact retirement planning in several ways.

What are the impacts of health and do they apply equally to men and to women? Women live longer but have a higher rate of morbidity, possibly due to inadequate income, which lowers their quality of life (Richardson & Kilty, 1991). However, men tend to have a higher rate of acute conditions which lowers their length of life (Hanson & Wapner, 1994). A number of recent studies are questioning these gender differences in health (Alwim & Wray, 2005; Emslie et al, 1999; Grossman, 2000; House, Lantz, & Herd, 2005; Phelan & Link, 2005; Rieker & Bird, 2005).

Health and Early Retirement

The effect of poor health, when considering retirement age, is the equivalent of adding two years to chronological age for women and adding three years to chronological age for men (Gustman & Steinmeier, 2000). Many studies found health was a key factor in retirement timing (Choi, 2002; Kloep & Hendry, 2006; Shultz, Morton, & Weckerle, 1998; Sutinen, 2005; Szinovac, 1986-87; Taylor & Shore, 1995). For example, women with a work disability were 5.5 times more likely to be completely retired and three times more likely to be partly retired than their healthy colleagues (Choi, 2002). Those reporting fair or poor health were twice as likely to be completely retired. There was no differential in retirement timing for those reporting good, excellent, or very good health; which suggests there is a cut-off point on the health continuum above which health is not a factor in early retirement consideration.

Health shocks, even close to retirement, will affect retirement planning and decisions (Dwyer, 2001). At this stage in life, health has a greater impact on retirement decisions than do economics. Health explains the desire to retire early, wealth dictates the ability to do so. Health will impact savings pre retirement due to shortened work schedules which affect tenure, promotion and income (Lum & Lightfoot, 2003) and impacts on post retirement expenses through medical costs (Dwyer, 2001).

We must beware of over-generalising, as not all early retirement can be attributed to health reasons. Robertson (2000) found that only seven percent of

Canadians in her study of early retirees cited poor health as a factor in their decision to leave the work force.

Health as Human Capital

The human capital model of health sees health as a durable capital stock that yields an output of healthy time (Grossman, 2000). Good health is a commodity: medical care and behaviours are the input, longevity and illness free days are the output. Health as human capital is the sum of time available to produce income and commodities. We start with a set "stock" of health that gradually declines over time but which can be increased by our behaviours. Risky behaviours can decrease the stock of health, exercise and effort increase it, education and finances impact it, time and effort can improve it. The health depreciation rate increases with age, so older adults will need to increase their health investment over time (Grossman, 2000).

The higher a persons wage rate, i.e. the rate at which they can convert work hours into income dollars, the higher will be the value to them of available working time/health time and vice-versa (Jones, Latreille, & Sloane, 2003). Education years, the most important stock of Human Capital, directly and indirectly impacts health capital. The implication is that education leads to increased health knowledge which results in life style changes and a reduction of risky behaviour such as smoking, drinking, and drugs. While some may debate this health causality direction and suggest that increased health leads to

better education and learning ability, the study by House et al (2005) discussed below demonstrates a direction from education to health.

Emerging Thoughts on Health

An emerging thought from recent studies is that there are no foundational gender health differences. There are, however, income and educational differences which may differently impact gender. Where genders are equal in SES they are equal in health, with some small allowance for a 'preference' by gender for some diseases (Rieker & Bird, 2005). Men tend to more life threatening diseases such as heart disease, cancer, CVD, emphysema, liver and kidney disease. Women tend to morbidity disorders such as autoimmune and rheumatologic disorders. If these autoimmune diseases are due to immune responses during pregnancy and breast feeding, then they would count as biologically based illness. They may also explain some of the stress disorders affecting female health. Men and women are roughly equivalent in overall mental health but differ in mental conditions, with women exhibiting a higher incidence of depression (Rieker & Bird, 2005)

It may be that biology, social processes, political policies, and psychological choice factors together and in varying degrees contribute to the mix of health and gender similarities and differences (Rieker & Bird, 2005). It would appear that sex-linked biology pre se is not a primary factor in gender health differences. The premise is that gender health differences may be due to gender differences in income and education. That is, SES coupled with gender roles and

psychosocial attributes (risky behaviours, hostility or anger, stress response, social support) may be the primary health determinants (Alwin & Wray, 2005)

When controlling for organisational culture, working conditions, work type, education, income, etc., Emslie et al (1999) found no significant health differences between male and female bank employees. Employees were of a limited age range and SES and few were working mothers. That is, they were a homogenous sample of the Scottish population, enjoying reasonable SES. Conversely, when assessing the effects of low income on health, Mirowsky and Ross (1998) found that three quarters of the health impact was due to the direct effect of poverty. Their model of education and health shows "female" as a negative factor. This finding further supports the theory of the impact of income and education on gender differences.

Health and SES

Social status is a multidimensional concept which includes ascribed status (gender, race, age, and ethnicity) and achieved status (income, education, occupation status) of both the subject and of their parents (Alwin & Wray, 2005). Social status impacts health at any point from conception to death with inequalities accumulating over time. The timings of these inequalities are crucial for the individual. Pre-birth investment and childhood social inequality impacts adult health, while adult achievements can moderate childhood deprivation. However, inequality effects persist across the life span (Alwin & Wray, 2005).

The increase in educational standards in the population in general has seen an increase in population health. A 15 year study of 3,617 subjects found SES was the strongest determinant of good health through the life span and into old age. Higher education delayed ill health, experienced by mid-age lower educated persons, for another 20 years (House, Lantz, & Herd, 2005). Those with above average education tend to have above average health. SES facilitates access to and utilisation of health care, insurances, and health behaviours as well as moderating roles, relationships, and psychological and physical stressors. SES, with its associated knowledge, money, power, prestige, and social connections, correlates with increased access to and benefits of health advances (Phelan & Link, 2005).

Education is seen as salient in the prevention of health problems and in predicting the transition from "no health limitations" to "some limitations". Income's role moderates the course of the health problem and more strongly predicts mortality due, perhaps, to increased access to health providers and care (House et al, 2005). Income impacts health; there is little evidence of reverse causality. While there have been general population improvements in health over the last 100 years, the population gap between higher and lower SES groups still exists due to higher SES groups benefiting from new discoveries (Phelan & Link, 2005).

New Zealand data shows a similar trend as the statistics in Table 5 demonstrate. Health differences appear to correlate more strongly with SES (and small area deprivation) rather than with gender. Income was most salient for all mortality

factors, and particularly for preventable causes of death. Cancer may be the gender exception, with a higher overall incidence of male cancer deaths recorded (Blakely et al., 2002, March 8th).

Table 5 - Mortality and SES results from the N.Z. Census-Mortality study (Blakely et al., 2002) covering 1991-1994.

Relative risk all causes mortality	Male	Female
Household income < 20,000 c.f. > 50,000	2.16	1.68
All causes mortality by income	2.22	1.77
All causes mortality by N.Z. Dep 91	1.94	1.69
All causes mortality by education	1.58	1.57

Physical Health

Socially constructed expectations affect women's health as much as biological and medical issues do (Moen & Chermack, 2005). For example, gendered choices of occupation and carer roles will impact on individual health resources. While employment has been shown to be healthy for all peoples (Perkins 1992), women are more affected by the stresses of work- family conflicts and choices. In addition, a higher percentage of males are in jobs offering personal control and flexibility and greater remuneration. Personal control is an important factor in stress control and psychological health, and assessment of resources is an integral part of that control (Moen & Chermack, 2005). Based on comparisons between cohorts in the HRS and AHEAD data, Wray et al (2005) found that both ascribed and achieved status independently correlated with behavioural health risks. Mental and physical health problems are over-represented in low income women (Danziger et al, 2000)

Mental Health

Gendered mental health problems narrow with increasing age, suggesting that a "cycles of control" model better explains mental health issues than does the "cumulation of advantage" model. That is, as a woman ages and frees herself from family demands, makes choices for herself, or takes on full time employment she changes the power dynamics in the household and subsequently improves in mental health (Moen & Chermack, 2005). However, women are also subject to the psychological stresses of care giving to spouse, parents, and children which may adversely impact their mental health. Females report a greater number of symptoms for issues categorised as psychological distress and only report more "physical" symptoms during their change of life: aged 39 and 56-60. Males are more prone to schizophrenia, personality disorders, and alcoholism (MacIntyre, Hunt, & Sweeting, 1996).

The only way to track mental health causation is via longitudinal studies. A thirteen year study of Maryland residents found that both gender and limited education strongly predicted depressive syndrome across time (Miech, Eaton, & Brennan, 2005). Once depressed, those with limited education were more likely (86% chance) to continue in depression than were those of higher education. It may be inferred that the social factor of low educational attainment impacted on mental health prior to adulthood and persisted over time. Looking at gender differences, women without depression at the start of the study were more likely than men (79% higher chance) to report onset of depressive syndrome 13 years later. Gender correlated with 'accumulated'

distress over time, perhaps due to the stresses described above. Social factors of disparity operate both over time and the life course to affect new women.

Health has a great ability to predict employment and directly correlates with occupation and education. Mental health in the Dutch population predicted lower employment rates and education attainment ten years prior to admission for treatment. By following the population over a lifetime this study was able to show that "causation goes from health to labour market outcome and that the reverse causation is a minor issue" (Westergaard-Nielsen, Agerbo, Eriksson, & Mortensen, 2004, p. 7). Mental health problems decrease options for gaining employment and for increasing earnings (Jones et al, 2003); our Human Capital model again (Marcotte & Wilcox-Gok, 2001).

Summary

In general, there does not appear to be significant gender differences in self-reported health and the gender specific risk factors (violence, alcohol, and smoking) appear to cancel each other out. Reviewing the literature, MacIntyre at al (1996) found no consistent patterns in gendered health across Western nations. While studies may occasionally find mixed results in health between genders; when controlling for SES, there are no significant differences in reporting longstanding illness at any age. Gender role changes, labour market changes, social context, phase of life may all impact health and affect men and women differently while SES equally impacts the health of both genders.

Hypotheses of this study

Savings and retirement planning behaviours have been investigated by researchers and planners from a variety of disciplines at both macro-economic and micro-economic levels for seventy years and more (Harpaz & Kremer, 1981; Jacobson, 1974; Richardson, 1989). Macro-economics have focused on the effects of workplace withdrawal on national economies and on political interference in retirement provision (Akerlof, 2002; Gazso, 2005; Yuh et al, 1998). Micro-economic analysis is generally conducted at a household level (Lindamood & Hanna, 2005) and is financially focused (Weagley & Huh, 2004). This plethora of research has informed the retirement debate around how much is being saved, by whom, and what the financial and social impacts will be.

However, less research focuses on why people are or are not planning for retirement and what are the psychosocial reasons underlying their behaviour. What impact does socialisation and the choices individuals make between investing in a family or investing in their careers have on savings or retirement planning? How important are career choices and income in predicting savings behaviours or wealth accumulation? Does wealth impact on retirement planning or are there more salient social factors such as career status or income. Does health, either mental or physical, impact on retirement planning? Does health correlate with income and education levels, and if so, in what direction? When assessing the psychosocial factors expected to impact on retirement planning, how salient are these independent variables of health, investment, career choice,

income, and wealth for our cohort? Are there direct correlations or are there mediating relationships of significance and are they equivalent for both men and women?

Bajtelsmit and Bernasek (1996), in exploring reasons why women invest differently than men, proposed a model of psychosocial factors which interrelated to predict investment and risk taking behaviours. The present study develops this model based on relevant factors from the literature. The important psychosocial factors in this model include health, human capital, dependent care, employment choices, income, and wealth. The proposed relationship between these various factors is demonstrated in Figure 10.

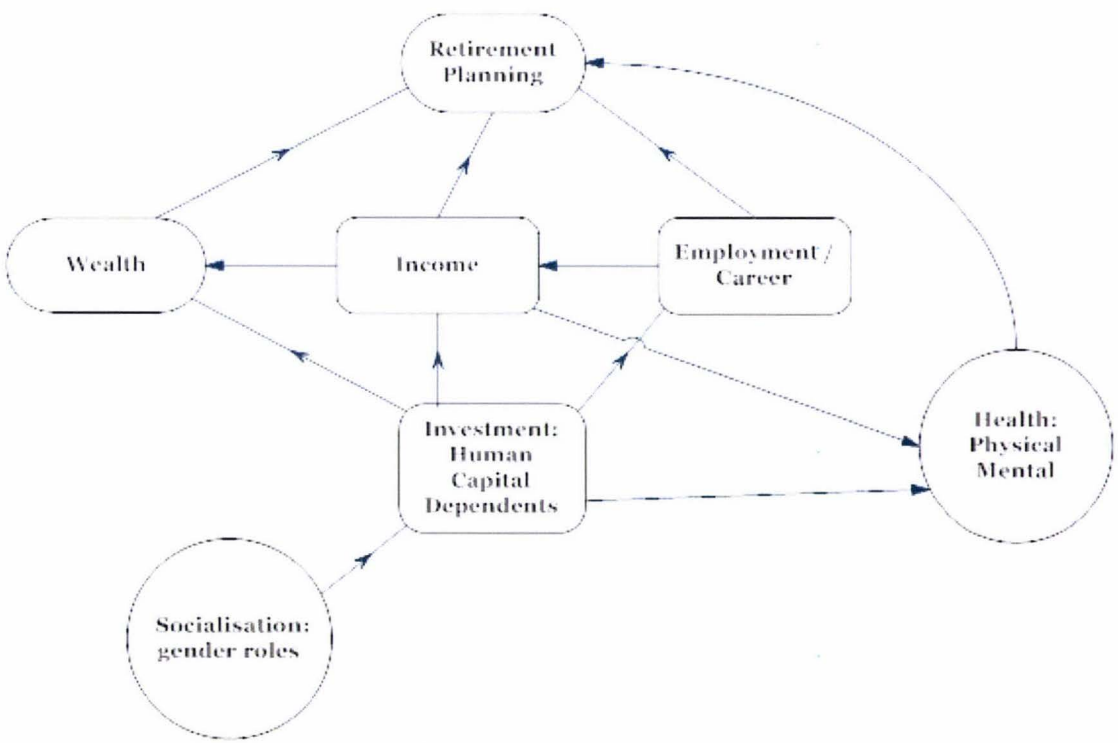

Figure 10 – The proposed model: Psychosocial factors expected to impact on retirement planning.

This model assumes that both social and psychological factors will influence the retirement provision behaviours of the cohort close to retirement. Some of these factors may have a direct effect on planning while others may be indirect. We acknowledge additional factors such as cultural beliefs, economic trends, and institutional and policy decisions may also impact retirement planning decisions; however, this model focuses on psychosocial factors.

Wealth would be expected to affect retirement planning, although this may be a complex relationship with the exceptionally wealthy not needing to plan and those of very limited means perceiving no benefit in planning (Rowlingson, 2002).

Hypothesis 1: wealth is expected to affect retirement planning.

Wealth may be defined as the amalgamation of assets over time and will generally include income.

Hypothesis 2: income will have an indirect impact on retirement planning through wealth.

Careers attracting a high status would be expected to correlate with commensurate higher incomes. Choice of career and employment opportunities may correlate with retirement planning directly as well as indirectly impact planning through income and wealth.

Hypothesis 3: higher status occupations will be positively correlated with higher incomes.

How do the investment choices of individuals impact on career choice and employment, income, and wealth? A choice to invest in human capital, as

defined by education, tenure, and promotion would be expected to pay off over time in career status, increased income, and increased wealth.

Hypothesis 4: education will be positively related to career status, income, and wealth.

Alternatively, the decision to invest in family could be differently expected to impact on career, employment choice, and income for women and for men. What impact does the need to care for dependents have on women and men in relation to career status, income, and wealth?

Hypothesis 5: providing care for dependents will mediate the relationship between education and wealth for women

Physical and mental health status may impact on person's career and earnings potentials as well as directly impact retirement planning decisions in regards to early retirement. Those in poorer health may increase their planning behaviours to enable an early retirement. Socio-economic factors may have mediating influences on health which subsequently impacts retirement planning.

Hypothesis 6: very poor health or a change in health status will be correlated with thoughts of early retirement.

Underlying all this, socialization factors, gender impact on risk, education, career choice, and retirement, may impact on the investment decisions of human capital and family. Socio-historical cohort group and ethnicity will also be salient, but are outside the scope of this study. Socialisation factors, not measured but expected to impact these hypothesis, include risk and ethnicity. The present study aims to test these hypotheses on retirement planning in a representative sample of the New Zealand pre-retirement cohort and to examine gender differences in the application of the model.

Method

Participants

The data used to answer these research questions and test the research hypotheses are from the 2006 wave of the New Zealand Health, Work, and Retirement Study, a joint research project for the Health Research Council of New Zealand. A representative sample of the 545,930 New Zealanders between the ages of 55 and 70 were randomly selected from the general electoral roll. The Maori roll was over sampled to account for lower percentages in this population.

6662 respondents completed the survey. Of these 3102 were either partly or fully retired. Removing the partly and fully retired subjects left a possible sample size of 3560. Removal of responses due to outliers and missing information further reduced the sample to 1716. Male respondents slightly outweigh female respondents, with 992 (59%) males and 701 (41%) females. 89% of this sample were New Zealand born, with negligible gendered differences (see Table 6).

Table 6 - Age distribution of Participants in this sub-sample of the HWR study

	Male		Female		Total	
Years	Frequency	%	Frequency	%	Frequency	%
54 yrs	92	9.3	68	9.7	160	9.5
55 - 59	506	51	397	56.6	903	53.8
60 - 64	297	29.9	187	26.7	484	28.9
65 - 69	87	8.8	38	5.4	125	7.5
70 +	4	0.4	1	0.1	5	0.3
Total	986	99.4	691	98.6	1,677	100

The majority of the sample is under 65 years of age, although eight percent of those eligible to receive the pension are still working. Over half the sample is between the ages of 55 – 59 and almost 30% are in the age bracket 60-64. There is little gender difference in the age distribution. Men are more likely to be married or partnered (83%) than are women (62%) and women are more likely to be widowed (11%) than are men (2%) and twice as likely to be separated or divorced.

While this population represents peoples from a number of ethnic backgrounds and some recent immigrants (Table 7), this study is not focusing on ethnicity as a factor in retirement planning. St John and Gran (2001) have demonstrated that the gender differences in income remain regardless of ethnicity and Callister (2006) concurs. That is, on average Asian women earn less than Asian men; Maori women earn less than Maori men, etc. Of the total HWR population, 185 were not New Zealand born. Sixty five percent of these immigrants had a trade certification or higher educational qualification.

Table 7- the HWR population distribution according to their main ethnicity self-identification.

Main Ethnicity	Frequency	%	Female %	Male %
N.Z. European/Pakeha only	877	51.9	49.9	53.3
Maori/Cook Islands Maori only	405	24.0	25.3	23.0
Pacific Peoples only	6	0.4	0.1	0.5
Asian only	13	0.8	0.6	0.9
MELAA	4	0.2	0.6	0.0
Other ethnicity only	46	2.7	2.7	2.7
N.Z.Euro/Maori	305	18.0	18.5	17.8
N.Z. Euro/Other	4	0.2	0.3	0.2
Maori/Pacific	5	0.3	0.3	0.3
Maori/Asian	4	0.2	0.1	0.3
Maori/Other	5	0.3	0.4	0.2
N.Z. Euro/Maori/Pacific	6	0.4	0.3	0.4
N.Z. Euro/Maori/Asian	6	0.4	0.6	0.2
N.Z. Euro/Maori/Other	4	0.2	0.3	0.2

Almost thirty percent of this population have no educational qualifications, a statistic applying equally to males and females. There are noticeable gendered differences at two educational levels; a higher percentage of males have attained skilled vocation certificates (level 4) while a higher percentage of women have attained an advanced diploma (see Figure 11).The two genders are equally attaining higher tertiary qualifications, as confirmed in the similar means and standard deviations of the education statistics, although women have a slightly lower median.

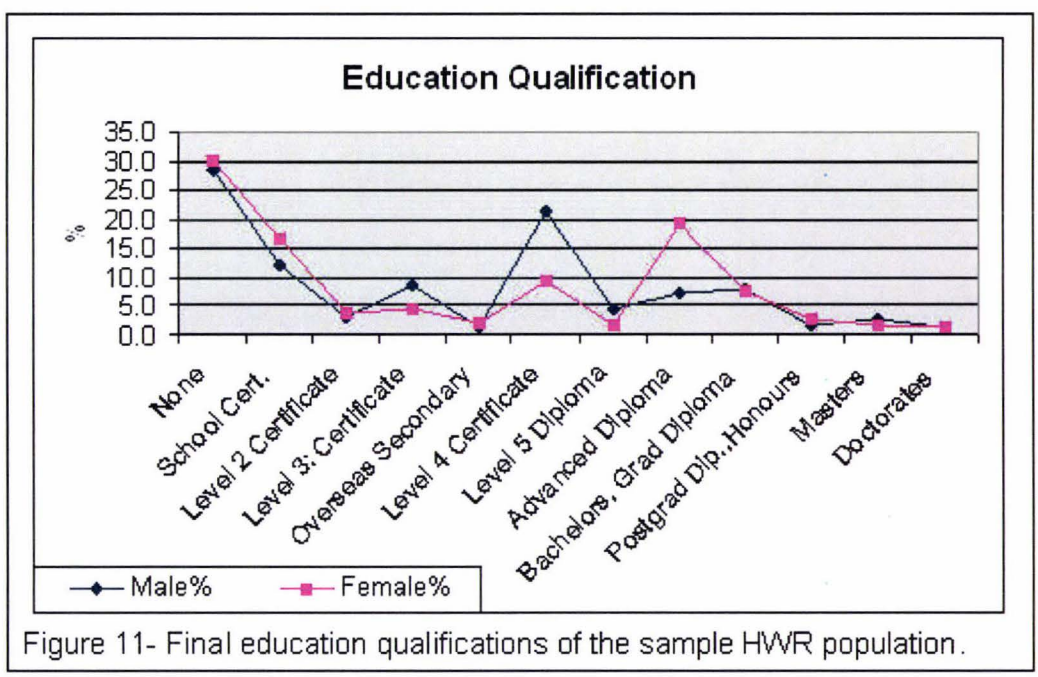

Figure 11- Final education qualifications of the sample HWR population.

Note: Level 2 Certificate represents 6th Form, City & Guilds basic, Level 3 Certificate is Bursary, City & Guilds trade level, Level 4 Certificate applies to Skilled Vocations, Level 5 represents Entry level Diploma.

The study required all respondents to identify themselves as working and to identify the nature of their main current occupation (Table 8). These were then coded to the ANZSCO ("Statistical standard for occupation," 2007) scale.

Table 8 - Occupational status of the sample HWR population based on participant primary occupation description.

	Male		Female		Total	
	#	%	#	%	#	%
Managers	255	25.7	106	15.1	361	21.9
Professionals	190	19.2	185	26.4	375	22.8
Technicians / trade	181	18.2	28	4	209	12.7
Community/ personal service	43	4.3	92	13.1	135	8.2
Clerical / administrative	54	5.4	145	20.7	199	12.1
Sales workers	39	3.9	40	5.7	79	4.8
Machinery / drivers	100	10.1	24	3.4	124	7.5
Labourers	103	10.4	60	8.6	163	9.9
Unrecognised	1	0.1	2	0.3	3	0.2
Total	966	97.4	682	97.3	1,648	100

Almost half of the participants are in managerial and professional positions, with a higher percentage of males holding managerial roles and a higher percentage of women working as professionals. Following traditional gendered occupations, men are strongly represented in technical and trade and the blue collar occupations while women are strongly represented in community and personal service and in clerical/administrative positions. There is little statistical difference between genders, with males showing slightly more variance in occupational codes.

As Table 9 demonstrates, twice as many men receive income from self employment and business than do women while women tend to be salaried. More women receive unemployment, invalid and other government benefits while more men are collecting N.Z. superannuation or pensions. The measurement item allowed for participants to identify more than one source of income.

Table 9 - Reported sources of income for the HWR population sample.

	Male		Female		Total	
	Frequency	%	Frequency	%	Frequency	%
Wages/salary	735	74.1	621	88.6	1356	80
Self-employment / business	341	34.4	123	17.5	464	27
Interest/rent/investments	408	41.1	258	36.8	666	39
ACC or insurer	13	1.3	8	1.1	21	1.2
N.Z. super or pension	81	8.2	40	5.7	121	7.1
Other scheme (foreign, pension, annuity)	32	3.2	18	2.6	50	3
Unemployment benefit	8	0.8	20	2.9	28	1.7
Domestic purposes benefit	4	0.4	7	1	11	0.6
Invalids benefit	4	0.4	12	1.7	16	0.9
Student allowance	2	0.2	6	0.9	8	0.5
Other govt. benefits	15	1.5	20	2.9	35	2.1
Other sources	13	1.3	8	1.1	21	1.2
No source of income	3	0.3	1	0.1	4	0.2

A larger difference can be seen in the income and wealth comparisons between men and women (Table 10). There is little difference in the number of assets held by men and women (mean, median and mode were all equivalent), however, the value of the assets differs with men holding the larger portfolios.

Table 10 - Income and asset statistics for this sample population

		Income $			Wealth $	
N	Total	Female	Male	Total	Female	Male
Mean	53,198	39,991	62,727	651,983	536,827	738,353
Std. Error of Mean	1,181	1,313	1,754	22,069	30,254	31,319
Median	43,000	35,000	50,000	400,000	340,000	440,000
Mode	30,000	30,000	40,000	400,000	1,000	400,000
Std. Deviation	48,913	34,752	55,257	914,194	801,021	986,413
Variance (000)	2,392	1,207	3,053	835,750	641,634	973,010
Range	618,000	600,000	616,500	9,804,000	8,804,000	9,804,000
Minimum	0	0	1,500	1,000	1,000	1,000
Maximum	618,000	600,000	618,000	9,805,000	8,805,000	9,805,000

Measures

The Health Work and Retirement survey instrument is 31 pages long and covers health, physical activity, social support and networks, work, retirement, demographics, and Whakapapa (see Appendix A).

Items for the present research were selected from these sections to measure the following constructs:

Retirement Status

Current retirement status was measured with a single Likert scale indicating Not retired at all, Partly retired, and Completely retired. Following Mutran et al's, (1997) model, the items used in the HWR study on which this paper is based, were self definitions. The respondent was asked if they considered themself completely retired, partly retired, or not retired at all. Their pre-testing found that the salient issue was whether the respondents thought themselves to be retired, regardless of age, pension eligibility, or work status. Therefore, those subjects indicating they are not retired were retained, while fully and partly retired respondents were filtered out of the data used in this research (Kim & Devaney, 2005).

Physical and Mental Health

SF-36 version 2 (Ware & Sherbourne, 1992) was used to provide the Health measures. This short form health survey has 11 questions, some with multiple sub-items, in a mix of Likert scales and dichotomous responses. These items form 8 health subscales to measure physical and mental health. The physical

scales are 1) physical function, 2) role limitations: physical, 3) bodily pain, and 4) general health. The mental scales are 5) mental health, 6) role limitations: emotional, 7) social function, and 8) vitality. The items are presented in a mixture of positive and negative question formats. An additional item measured reported health transaction.

This measure has good generalisability to national populations and excellent reliability and validity established by numerous researchers. The health-related quality of life of 998 African Americans aged 49 through 65 was assessed using SF-36 (Wolinsky, Miller, Andresen, Malmstrom, & Miller, 2004). They found it to be a reliable and valid measure on this sample of ethnically disadvantaged people. (Outram, Mishra, & Schofield, 2004) successfully used the mental health index (MH) measure of SF-36, plus SES, general health, and psychosocial health, to examine the health of fourteen thousand middle aged Australian Women. They included tangible measures such as doctor visits, menopausal status (surgical and peri-menopausal), exercise, and smoking as comparison health measures and found good agreement between measures. (Mishra, Ball, Dobson, & Byles, 2004) also examined the health of Australian women using this measure. Their study compared two population groups: mid age women 45 -50 years and older women of 70-75 years. The eight dimensions of the SF-36 formed the outcome measures for this study. The measure reliably showed changes in health correlating with SES.

However, there are studies which show weaknesses in the SF-36 measure. The SF-36 responses of healthy Swedish subjects aged 40 through 74 were

compared with exercise capacity and metabolic efficiency (Lindholm, Brevinge, Korner, & Lundholm, 2003). They found that the overall correlation was poor between objective and subjective scores among individuals and urged caution in using the SF-36 as the only health measure when assessing subjects. Whether their objective measures are an appropriate comparison against the SF-36 is beyond the knowledge of this researcher. However, the caution is noted. Differences in SF-36 health outcomes in a three generation sample of Australian women were found to differ across the age groups (Schofield & Mishra, 1998). In this study, the SF-36 was the more reliable measure for assessing changes over time while the SF-12 physical health scores were more effective in discriminating between poor and good physical health. An assessment of the differential item functioning (DIF) of the SF-36 found that while there were consistent patterns of DIF over two separate data samples, the effects did not transfer to the scale level (Perkins, Stump, Monahan, & McHorney, 2006). Guthlin and Walach (2007), , in assessing the construct validity of the items and the two component (summary) scales, discovered poor validity in the second and first order factor solutions. Therefore, the generalisability of the SF-36, while reasonable is not assured on all population groups.

For the present study, the subscale transformed scores were normed with New Zealand statistics for 55-74 year-olds only, converted to z-scores, transformed to 0-100 range scores and aggregated. The resultant two combined components of Mental Functioning (Skew -1.312 and kurtosis 1.777) and Physical Functioning (Skew -1.084 and kurtosis 1.087) met requirements of normality. Of the

individual transformed subscale scores (for ages 55-74), General Health, Vitality, Health Transition were within normal skew and kurtosis limits, Social Functioning and Mental Health were acceptable for kurtosis. The remaining 4 items, Role Physical, Bodily Pain, Role Emotional, Mental Transition, were unacceptable for skew and kurtosis and therefore pushed the aggregated two items to the limits of normality acceptability.

Table 11 - Health constructs, a reliability test on these items for the population sample reduced the number of constructs to seven.

Construct	Survey item	Construct definition	Alpha
Physical Function	Item 3	Limitations in physical activity due to health problems	0.83
Physical Role	Item 4	Limitations in usual role activity due to physical health problems	0.83
General health	Items 1 + 11	Self evaluation of health	0.82
Vitality	Item 10 (a,e,g,i)	Energy and fatigue	0.80
Social Function	Items 5 + 9	Limitation in social activity due to physical or emotional problems	0.83
Emotional Role	Item 7	Limitation in usual role activity due to emotional problems	0.82
Mental Health	Item 10 (b,c,d,f,h)	Psychological stress and well-being	0.82

These health measures are positively rated, i.e. higher values equate to better health and functioning. Reliability analysis on all 9 health scales returned a Cronbach's alpha of .74 which is acceptable. However, reviewing the item total statistics revealed a negative .26 item value for Health Transition and a poor item value of .06 for Bodily Pain. Both of these items also correlated poorly with the other health items and were therefore removed (see Table 11). The final seven items show good construct reliability, with Cronbach's alpha of .85 (.86 standardised).

Planning for Retirement

Planning was measured with five items to assess different aspects of planning. These items were taken from the HRS study (Shultz, Morton, & Weckerle, 1998).Three of these are four point Likert scales exploring the amount of time engaged in Thinking about retirement, discussing with partner, and discussing retirement with work colleagues and friends. Specifically, the items are as follows and score as: A lot, Some, A little, Hardly at all, scoring lowest (1) for most thought and highest (4) for least thought. The first question: While still in the paid work force, how much have/had you thought about retirement? is termed "Thought about" in this study.

The second question: While still in the paid workforce, how much have/had you discussed retirement with your spouse/partner? is termed "Discuss with Partner". The third question: While still in the paid workforce, how much have/had you discussed retirement with your friends or co-workers? is termed "Chat with others". The Discuss with Partner item had an additional option for Not Applicable coded as 9.

The fourth "Anticipate" item is a Likert scale assessing respondent anticipation: thinking about your future retirement years compared to your working years, would you say the retirement years will be Better / About the same / Not as good. These also scored lowest (1) for Better and Highest (3) for Not as good.

A Yes / No response is elicited for the question: While still in the paid workforce, have/had you attended any meetings on retirement or retirement

planning? To standardise all item responses the Likert values were reverse coded so that the highest value represented maximum planning. These items met the normal distribution requirements and had little missing data.

For reasons of parsimony an attempt was made to combine the first three items, "thought about", "discuss with partner", and "chat with others" as they shared the same scale and all measured a similar underlying construct. To assess reliability, Cronbach's alpha was reviewed for the three items with a resultant alpha value of 0.44 which was unacceptable. However, "discuss with partner" item included a Not Applicable (N/A) response which made it incompatible with the other two items. We considered coding N/A as 5 to represent a status lower than the "hardly at all" response but could find no logical or statistical justification to do so. For the final results, the N/A response was coded as a null response and this item was not included in our aggregated item. The "thought about" and "chat with others" items were then assessed for reliability, returning Cronbach's alpha of 0.71 which was acceptable. Subsequently, a new item Thought/Talk was constructed which combined these two items and was used in initial modelling. While the model results were reasonable when the Thought/Talk item was used, it was found to reduce the granularity of response when reviewed on female only data. We therefore returned to using all five items as they were presented in the survey.

Adams (1999) suggests that planned retirement age and retirement planning should both be considered when investigating factors affecting planning.

However, correlation analysis found no link between these factors in our data, so the decision was made to use the retirement planning items only.

Educational Qualifications

A single educational Likert scale explores highest secondary school qualification. In addition, respondents are asked to identify their highest qualification gained since leaving secondary education. Therefore, education comprises both the status of the respondent on leaving secondary school and their educational attainments since that time. New Zealand tertiary education encourages continuing learning as shown in studies on New Zealand mature students (Davey, 2002), a trend assumed to apply to some respondents for this study. This creates a confound when assessing the correlation of education on wealth, as the respondent's current educational attainments may have been gained part way through their working life limiting the period in which they may have been able to use higher attainments to accumulate wealth, assuming education does correlate with increased income opportunities.

The education categorical descriptive items were combined to provide a scale of current highest qualification and then assigned to a ranking based on Tertiary Qualification Coding statistical ("Statistical standard for education," 2007) where zero is no secondary qualification and 12 indicates PhD. Trades and guilds, nursing, etc are included in the ranking. SEM does not accept ranking scales (Arbuckle & Werner, 1999). Therefore, the items selected to measure education were dichotomous based on logical qualifications breaks. These became:

"Tertiary" which included all qualifications of tertiary level (ranking of 6+) coded as "yes". This includes nursing training, university diplomas, etc.
"BA+" grouped respondents with a BA or higher (ranking 8+) as "yes".
"Secondary" was coded as dichotomous based on final qualifications attained, indicating that at the time of the survey the respondent had, at minimum, gained secondary qualifications.
"Initial secondary" is a dichotomous indicator of secondary qualification when the respondent first left school.

Reliability analysis of the four education factors reports a Cronbach's alpha of 0.76. The four items, Initial secondary attainment, Final secondary attainment, Tertiary attainment, and BA or higher, contribute equally to the Education construct. Covariance between the items is small.

Dependents

The Dependents construct was built from several items which asked for total number of people dependent on the respondent for their financial support, make up of those living in the same household, and number of children in the household. 61% of respondents reported being responsible for dependents, whether children, parents, or other family members. The item measuring number of children at home was not within normal skew (2.98) and kurtosis (14.29) even with outliers removed. "Children" was therefore coded as a dichotomous item with 997 reporting children in the household.
A second item assessing responsibility for any dependent found 1811 respondents were responsible for others. The distribution of the number of

dependents was outside acceptable limits when outliers were removed and was therefore coded to a dichotomous response. The item assessing whether these dependents were parents received a positive response from 50 respondents. However, as there was no item which enable these parents to be assessed as dependents, i.e. contributing or not, this item was not used in the model.

Current Occupation

Occupation was coded from the respondent's description of their current job. This was recoded to classify each person's current occupation into 1 of 9 distinct codes (e.g., manager, administrative/clerk) based on the Australian and New Zealand Standard Classification of Occupations ("Statistical standard for occupation," 2007). This scale was then used to group respondents into three groups: Professional or not, High Occupation defined as professional and managerial or not, and White collar worker defined as those who were not machinery operators, drivers, or labourers. These three dichotomous items met the requirements for normality. White Collar correlates poorly with Professional and moderately with High Occupation, which is the intention of these items as they are designed to separate the occupations into levels of prestige. Cronbach's alpha on Occupation (.69) borders on acceptability.

Current Income

Income was determined by asking for total pre-tax income from the last 12 months. This single measure required transformation to meet normality requirements. Eight outliers who reported a yearly income of one million dollars

or more were removed. The resultant data was transformed using natural Log to obtain an acceptable distribution of Skew (-.64) and kurtosis (3.2).

Financial Wealth

Number and value of assets were calculated from ten categories of wealth. The respondent was asked to indicate if they owned any of: property where you live, farm or farms, business or businesses, holiday house, rental property or properties, shares, managed funds, bank deposits or savings, motor vehicle, or other major assets. The respondents also had the option to provide approximate value against any or all of these assets. The new item, Total number of assets owned, was calculated by summing the positive responses to ownership. While indicative of the total number of positive responses, this item is not an actual count of assets that may be represented. That is, a respondent may have more than one farm, house, business, etc. The Total Asset Value item was calculated by summing the dollar value (in thousands) entered against each of the above asset categories. A discussion on the difficulties of this item is raised below.

Procedures

The study utilised approaches and methods that were designed to effectively reach the population groups identified for research. A postal survey was sent to community dwelling older adults selected from the electoral roll. Over sampling of the Maori population as noted above was undertaken to ensure a representative sample. Following the Tailored Design technique five steps were taken to ensure maximum response (Dillman, 2000).

A brief pre-notice letter was sent to potential participants shortly prior to the questionnaire. The questionnaire with covering letter and return post envelope was then delivered to the target population. A follow-up postcard followed a week later thanking respondents and encouraging non-respondents to return the questionnaire.

A replacement questionnaire was sent 2-4 weeks later to those who had not responded and final contact, a week later, attempted to encourage non-respondents to fill in and return their responses. Returned survey data were then examined for completeness and entered into SPSS. Approval for the procedures in this data collection was obtained from the Massey University Human Ethics Committee.

Statistical Analysis

SPSS version (12) and AMOS version 7.0 (Arbuckle & Werner, 1999) were used to perform the statistical analysis. Several phases of basis statistical analysis were required to confirm the items reached the levels of normal

distribution required to meet Structural Equation Modelling (SEM) assumptions (Byrne, 2001). SEM or Analysis of Covariance Structures also includes general linear modelling and common factor analysis. SEM enables the simultaneous testing of a set of regression equations, essentially assessing the degree of fit between the theoretical model and the data. The resultant outputs are indexes of model fit, parameter estimates, standard errors, and test statistics for each free parameter in the model (Arbuckle & Werner, 1999; Burn, 2001; Hoyle & Panter, 1995).

To enable the model to be assessed against the sample data, there are strict requirements for the data (Arbuckle & Werner, 1999). All observations must be independent, i.e. the subjects must be picked independently and randomly from the study population. In addition, the observed variables must meet multivariate normal distribution requirements and are required to be continuous data. That is, the data must show a normal spread around the norm for the population. Statistically, we identify a Skew and Kurtosis value between plus/minus 1 as excellent, and between plus/minus 2 as acceptable (George & Mallery, 2006). The relationships between the variables are also required to be linear. This required testing for missing data and ensuring normal distribution. Where data are not continuous, dichotomous data, though not ideal are acceptable (Arbuckle & Werner, 1999).

Outliers were identified using the z-scores created by SPSS Descriptives. Outliers were identified in the full sample of the 3560 subjects not yet retired. The Income item had 610 non responses and 4 subjects reporting an income for

the previous year above $1,000,000. These were filtered out of the final data set. The Wealth item, measured as a sum of declared asset values, had 6 subjects reporting total wealth above $10,000,000. These subjects were also filtered out. Those not disclosing their net asset worth are discussed below in the section on wealth. Recoded education achievements were coded zero through 12. Any qualification that could not be coded to the Tertiary Qualification Coding scale was coded as 77. These subjects were also filtered out of the final data.

The sum of asset values was filtered to exclude outliers with total asset values over ten million dollars and then transformed using Log (n). This resulted in acceptable Skew (-.44) & kurtosis (-1.68). Total number of assets owned was also checked and was found to be normally distributed with Skew (.35) & kurtosis (-.21).

However, 1500 of the 3560 respondents reported zero asset value. To determine the validity of this response, corroborating data were reviewed to see whether the zero asset responses were because respondents had chosen not to answer, or whether they genuinely had zero assets. If a null response was because respondents were very wealthy and did not wish to disclose their wealth, this is a non-ignorable error (Byrne, 2001). Respondents reporting zero asset value were found to have answered yes to owning one or more of the assets listed in the questionnaire. These included homes (904), rental properties (511), businesses (460), shares (540), and savings (689). Therefore, these respondents did have assets but chose not to disclose their value and are therefore filtered out of the model data.

For SEM analysis, these items were required to be transformed to meet requirements of normal distribution. The Pearson correlation between income and wealth returned r =.34, significant at .01 for one tailed condition. Linear regression r^2 of .11 indicates 11% of the variance in asset value is explained by wealth while quadratic r^2 returned .13. With the small difference in variance explained between the linear and quadratic variance, we can retain the assumption that the relationship between income and wealth is a linear one.

AMOS uses full information maximum likelihood to handle missing data (Arbuckle & Werner, 1999). A multi-stage process was enlisted to analyse the models investigated in this study.

- data were confirmed as valid for SEM analysis requirements, as noted above.
- measurement model was modified based on the fit statistics.
- EFA was used to confirm that the calculated dichotomous items are contributing to the underlying factors as expected (Pallant, 2002).
- based on the results of the EFA, two items contributing to the components of the structural model were redistributed and the measurement model reassessed.
- the structural model was then tested for fit.

Results

Confirmatory Factor Analysis

To assess the factorial structure underpinning the constructs, the measurement model was assessed within AMOS using SEM. The hypothesised constructs of Planning, Wealth, Income, Occupation, Education, Health, and Dependents were included in a measurement model which was run on the combined male and female data using maximum likelihood (ML) estimation (Hoyle & Panter, 1995). SEM analysis is based on several assumptions: large sample size, independent randomly sampled observations, a valid model, and continuous item variables meeting multivariate normal distribution (Hu & Bentler, 1995) With the transformation of items discussed above, these data meet the criteria.

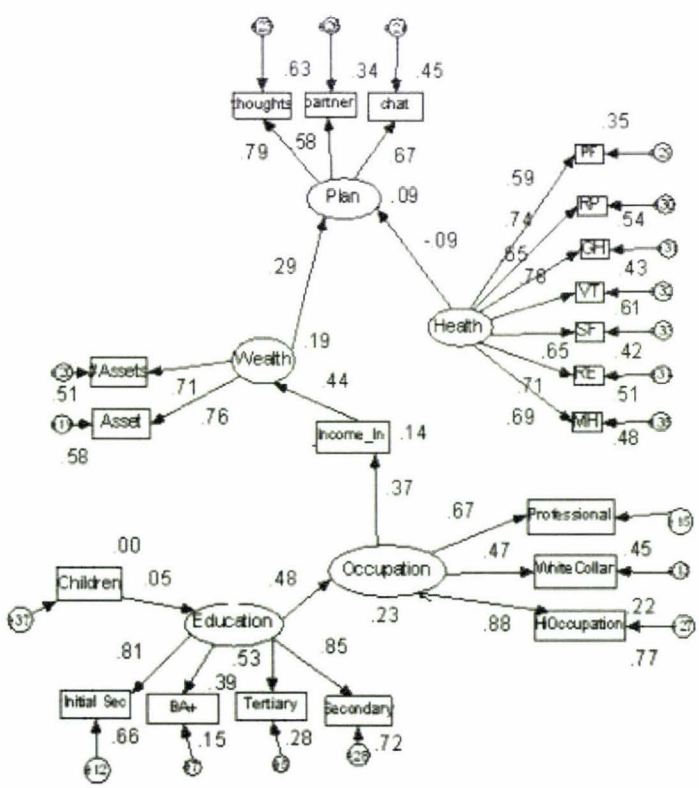

Figure 12 - The initial measurement model showing standardised regression values of each item on to the model constructs.

Adding all of the expected unobserved variables into the model, with their related measurement items produced the above model (Figure 12). Regression weights, intercepts, and variances were all significant (Table 12). With the large sample size, all of the health scales in the SF-36 Health Survey were examined and found to load .59 or better onto the Health construct. The three planning items loaded .58 and higher onto the Planning construct. Number of assets and asset value loaded strongly on to the unobserved Wealth item. Of the three items loading onto Occupation, the constructed White Collar item was the weakest at .47. The transformed education item of BA qualification or higher was the weakest of the four Education items at .39. Both Dependents (number of children) and Income were single observed variables.

Table 12 - AMOS item regression output for the initial measurement model.

			Estimate
Tertiary Qualification	<---	Education	0.53
BA+	<---	Education	0.39
Initial Secondary	<---	Education	0.82
Final Secondary	<---	Education	0.85
Professional	<---	Occupation	0.67
White Collar	<---	Occupation	0.47
High Occupation	<---	Occupation	0.88
Asset $	<---	Wealth	0.76
# Assets	<---	Wealth	0.72
Thoughts	<---	Retire	0.81
Chat	<---	Retire	0.67
Partner	<---	Retire	0.58
PF - Physical function	<---	Health	0.59
RP - Physical Role	<---	Health	0.74
GH - General health	<---	Health	0.66
VT – Vitality	<---	Health	0.78
SF - Social function	<---	Health	0.65
RE - Emotional Role	<---	Health	0.71
MH - Mental Health	<---	Health	0.69

The model statistics indicate a failure to achieve $\chi 2$ model fit, $\chi 2/df = 12.5$, TLI = .76, CFI = .80, PNFI = .64, RMSEA = .08 (.079, .085). Tucker Lewis Index (TLI) and Comparative Fit Index (CFI) are below the required .90, although Parsimony adjusted normed fit index (PNFI) and root mean square error of approximation (RMSEA) are statistically acceptable with values greater than .5 and less than .1 respectively.

Advocates of the relative $\chi 2$ statistic (cmin/df), which adjusts $\chi 2$ for degrees of freedom, suggest a value up to 5.0 may be acceptable (Marsh & Hocevar, 1985) while others argue for a more stringent maximum value of 2.0 (Byrne, 1998). The $\chi 2$ goodness of fit statistic is a dichotomous decision strategy based on a statistical decision of model fit to the observed data (Hu & Bentler, 1995). Although adopted as the standard when it was first proposed, subsequent testing has found that its accuracy is affected by non-normality, the power of the test, and model misspecification. They found that a large sample, which increases statistical power, may result in the rejection of a valid model because a trivial difference between the sample covariance matrix and the fitted model may be magnified. In addition, the $\chi 2$ goodness of fit statistic does not provide a continuum of model fit with data.

Hu and Bentler (1995) suggest that alternate fit statistics are more accurate indicators of model fit, particularly when Maximum Likelihood is used and the latent variables are distributed independently. These suggested alternative measures include the Tucker Lewis Index (TLI), Bentler's Fit Index (BFI), and Comparative Fit Index (CFI) which modifies the BFI to fit a 0 – 1 range A

criteria of .90 or greater is suggested as the standard with which to confirm model fit.. The PNFI, parsimony adjusted BFI, takes model complexity into account, and is acceptable above .50. For completeness, we include the RMSEA, a measure of lack of fit per degree of freedom used to verify that the model is disconfirmable (MacCallum, 1995). A valid RMSEA is statistically acceptable when less that .1 and the 95% Confidence Indexes are narrow.

In this full data model, regression weights were not significant between Health and Planning (-.09) and Children and Education (.05) and did not meet significance when run on the female only data. These weak standardised relationships were insufficient to justify retaining the Health and Children constructs in the model.

Table 13 shows the following measurement model once weak measurement items, identified by Cronbach's alpha, were removed from the model. The regression weights of each of the measurement items achieve significance.

Table 13 - AMOS item regression output for the final measurement model.

			Estimate
Tertiary	<---	Education	0.84
BA+	<---	Education	0.72
Initial Secondary	<---	Education	0.41
Professional	<---	Occupation	0.75
High occupation	<---	Occupation	0.8
Asset $	<---	Wealth	0.77
# Assets	<---	Wealth	0.71
Thoughts	<---	Retire	0.79
Chat	<---	Retire	0.68
Discuss partner	<---	Retire	0.59

The fit statistics for this model run on the full data set as χ^2 (37, N=1716) =378.03, p <.001 fail to reach significance, however relative fit statistics of TLI = .88, CFI = .93, RMSEA = .07 are acceptable (Hu & Bentler, 1995). The model, as shown in Figure 13, is acceptable.

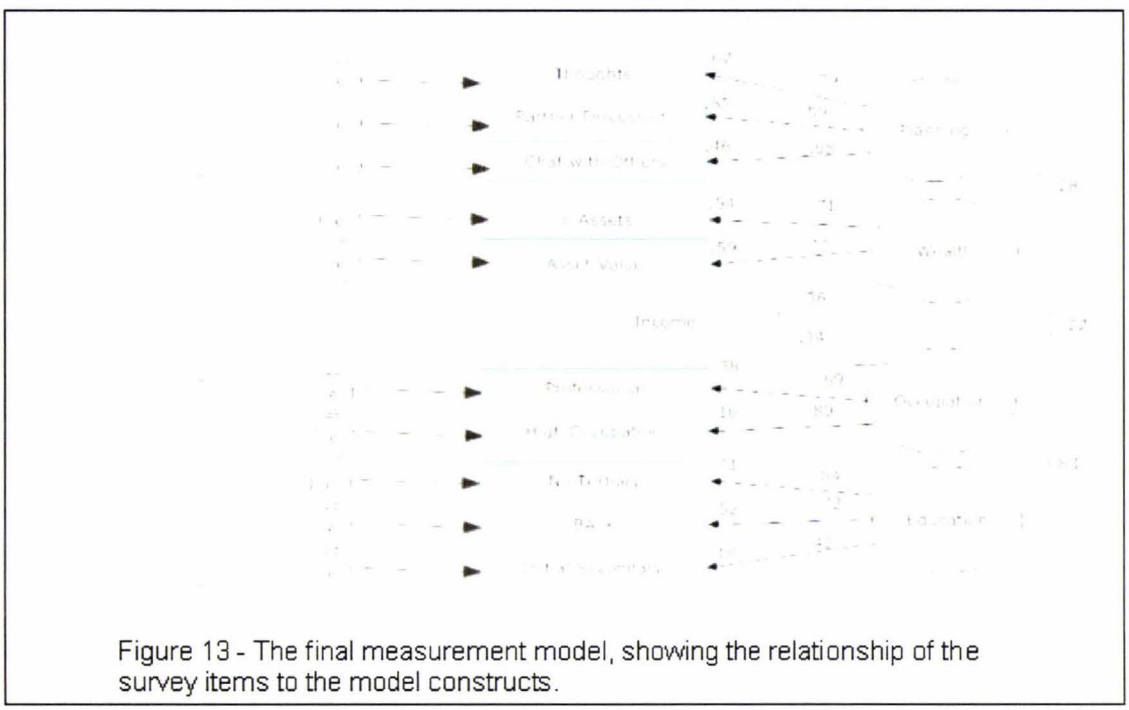

Figure 13 - The final measurement model, showing the relationship of the survey items to the model constructs.

Structural Models

Model 1

Once the model fit the total sample population, gender differences were then investigated by running the hypothesised model on the male population and observing the fit of the structural model and salience of the hypothesised constructs. The model was then run on the female population to again determine fit and any differences in salience of the hypothesised constructs. Quick and Moen (1998) concur with this concept of running the model on gendered data sets. Examining the significance of various factors in the pathway to retirement

between men and women was clearer when they ran the model for each gender rather than by controlling for gender.

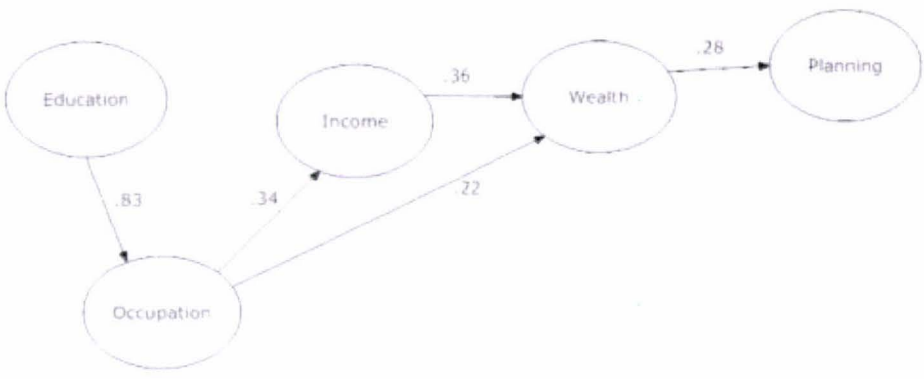

Figure 14 - The structural model, generated from the above measurement model is based on total data, with Health and Dependents removed.

Once the relationship between Wealth and Planning and the down stream contributors to Wealth (Figure 14) were identified and the model was shown to be a good fit, the data were split by gender and the model run on each gendered data set (see Table 14).

Table 14 - The structural model applied to male only and female only data.

	NPAR	χ2	DF	P	CMIN/DF	TLI	CF	PNFI	RMSEA
Male	37	185	40	0	7.87	.91	.95	.57	.061(.052, .07
Female	37	186	40	0	4.66	.83	.9	.53	.072(.062, .08)

Note: χ2 = Normal Theory Weighted Least Squares Chi-Square, CMIN/DF = relative χ2 , TLI = Tucker Lewis Index of Fit, CFI = Comparative fit index, PNFI = Parsimony adjusted NFI (Normal Fit Index), RMSEA = root mean square measure error of approximation, presented here with the 95% Confidence Indices.

While χ2 is not significant for the gendered data sets, indicating inadequate strict model fit, relative chi square (cmin/df) is just outside the acceptable level of 5 for the male model but acceptable for the female model (Marsh & Hocevar, 1985). CFI, which adjusts NFI for sample size, is acceptable for the model run on both sets of gendered data. Both PNFI and RMSEA are within the statistically acceptable limits (< .5 and <.08). Hoetler's critical N is also

significant at .05 and .01 significance levels. The results of the fit indices (summarised above) indicate a reasonable fit with the data.

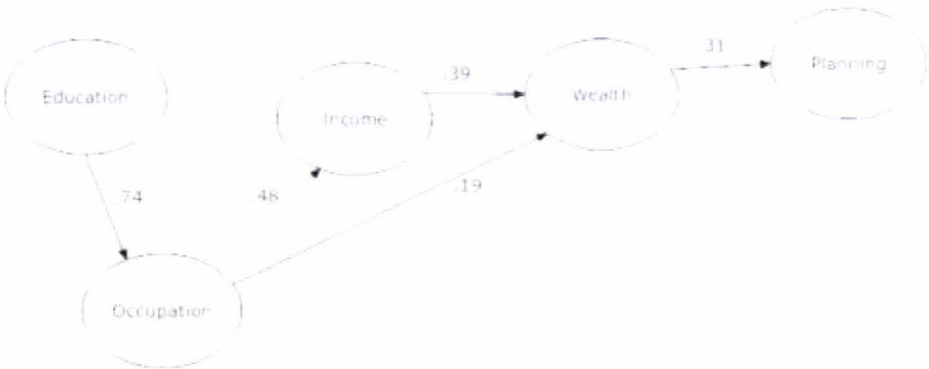

Figure 15 - AMOS results for the structural model - Model 1 - on male only data.

The structural model, run on male only data (Figure 15), shows a stronger correlation between occupation and income and between income and wealth while the direct correlation between occupation and wealth is weaker. There is a modest correlation between wealth and retirement planning activities.

The structural model applied to the Female data (Figure 16) shows some interesting distinctions from the Male dataset, which will be investigated in the discussion section.

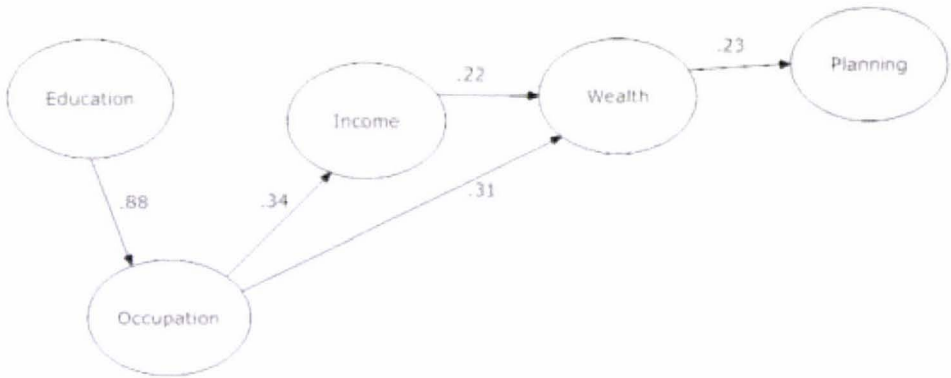

Figure 16 - AMOS results for the structural model - Model 1 - on female only data

Factor Analysis

MacCallum (1995) asserts that alternate equivalent models should be assessed when constructing any model, to confirm salience of the proposed model. One possibility for an alternate model, from the HWR data, was the use of data items in a different configuration to the above method of loading items onto their unobserved variables using logic and their relationship to the survey item or items. We note the survey items were not designed specifically for this study and the above assumption of the logical approach, while providing a valid model, may be fallacious. The data items were therefore assessed using an exploratory factor analysis technique.

As noted in the measures section, some items required for this research did not naturally meet SEM requirements and were transformed into dichotomous items. To confirm that the 19 items were measuring the expected constructs, they were subjected to principal components analysis (PCA) using SPSS

version 14. Before performing PCA the suitability of data for factor analysis was assessed.

The data were confirmed for normal distribution and a correlation matrix of all items was reviewed to confirm sufficient items of coefficient .3 and above, as required for PCA (Pallant, 2002) as shown in Table 15. Low correlations indicate that variables are measuring disparate things and should not be grouped together while high correlations indicate items are tapping into the same construct.

Table 15 - SPSS correlation coefficients for all items available for the model.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	RP	0.55															
2	GH	0.49	0.50														
3	VT	0.44	0.52	0.57													
4	SF	0.37	0.52	0.37	0.42												
5	RE	0.32	0.56	0.36	0.51	0.52											
6	MH	0.26	0.37	0.40	0.66	0.43	0.62										
7	Sec.	0.10	0.12	0.06	0.01	0.09	0.05	0.03									
8	Prof	0.06	0.08	0.05	0.02	0.06	0.02	0.00	0.24								
9	Income	0.13	0.16	0.06	0.11	0.07	0.14	0.11	0.26	0.16							
10	BA+	0.10	0.11	0.04	0.06	0.05	0.04	0.01	0.26	0.38	0.25						
11	Initial Sec	0.11	0.10	0.05	-0.02	0.09	0.07	0.00	0.73	0.23	0.26	0.24					
12	W/Collar	0.04	0.07	0.03	0.03	0.01	0.02	0.01	0.25	0.24	0.22	0.16	0.22				
13	Assets	0.12	0.17	0.11	0.09	0.13	0.16	0.10	0.27	0.12	0.33	0.17	0.26	0.20			
14	Tertiary	0.11	0.10	0.05	0.04	0.07	0.05	0.02	0.41	0.43	0.22	0.62	0.35	0.24	0.16		
15	Partner	0.04	0.03	0.02	0.01	0.06	0.08	0.07	0.07	0.01	0.11	0.10	0.09	0.07	0.27	0.05	
16	Hi.Occ	0.07	0.08	0.04	0.05	0.04	0.06	0.03	0.27	0.60	0.33	0.33	0.27	0.41	0.26	0.38	0.08
17	Thoughts	0.00	-0.06	-0.07	-0.13	-0.05	-0.07	-0.10	0.09	0.05	0.09	0.07	0.10	0.11	0.11	0.10	0.43
18	Chat	0.00	-0.02	-0.01	-0.03	0.00	0.00	0.00	0.04	0.05	0.10	0.06	0.06	0.10	0.06	0.08	0.38

Note: PF = physical health, RP = physical role, GH = general health, VT = physical vitality, SF = social functioning, RE = emotional role, MD = mental health, Sec = final secondary level educational attainment, Prof = professional career, BA+ = attained Batchelor degrees or higher, Initial sec = secondary attainment on leaving secondary school, W/Collar = white collar worker, Tertiary = educational attainments post secondary school, includes trade schools, nursing, etc., Partner = discussion retirement with partner, Hi. Occ = managerial or professional work status, Thoughts = thought about retirement, Chat = talked with friends and/or co-workers about retirement.

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy of .78 was above the acceptable minimum of .6 while Bartlett's Test of Sphericity reaches statistical significance. The correlation matrix was acceptable for factor analysis using the Varimax rotation.

Table 16 - Total variance explained using Varimax rotation. Components having an eigenvalue greater than 1.0 were retained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.206	22.13	22.13	4.206	22.13	22.13
2	3.207	16.9	39.02	3.207	16.89	39.02
3	1.85	9.74	48.75	1.85	9.74	48.75
4	1.244	6.55	55.3	1.244	6.55	55.3
5	1.089	5.73	61.03	1.089	5.73	61.03

The Varimax rotation (Table 16) provided a clear assignment of items to the five factors with only one variable loading strongly on more than one component. Five valid components were found with eigenvalues exceeding 1. The five factors contributed 20.1%, 11.9%, 10.1%, 9.4% and 9.3% of the variance respectively to a cumulative total of 61%. All items loaded onto at least one component.

Items used in the first model had already been assessed for suitability using reliability analysis once weak items rejected. These weak items were also rejected on this Factor Analysis, in which all the items were included, indicating good agreement between the statistical tests.

These components (Table 17) have been labelled as Health, Professional, Planning, Wealth, and Education and have been used in the alternate model (Model 2). To ensure that the data did not provide a good fit to any model applied to it (MacCallum, 1995), a variety of alternate models were tested on the whole data. These alternate models failed to reach significance. Therefore,

we will explore the second model to check whether it equally explains the observed data.

Table 17 - SPSS Factor Analysis on all items, using the Varimax rotation.

	Health	Professional	Planning	Wealth	Education
Physical Function	**0.656**	0.126	0.044	-0.091	0.155
Physical Role	**0.777**	0.079	-0.018	0.04	0.109
General Health	**0.718**	0.063	-0.016	-0.049	0.024
Vitality	**0.808**	0.02	-0.06	0.068	-0.108
Social Function	**0.696**	0.012	0.018	0.018	0.087
Emotional Role	**0.751**	-0.058	0.003	0.173	-0.018
mental health	**0.721**	-0.081	-0.02	0.179	-0.117
Professional	0.009	**0.758**	-0.03	0.271	-0.036
BA+ attainment	0.068	**0.744**	0.089	0.027	0.188
Tertiary attainment	0.061	**0.76**	0.07	0.04	0.337
Professional/Manager	0.004	**0.598**	-0.034	0.595	-0.021
Partner Discussions	0.068	-0.051	**0.728**	0.205	0.03
Thoughts	-0.11	0.07	**0.829**	0.017	0.066
Chat	-0.01	0.08	**0.809**	0.009	-0.032
Income	0.115	0.107	0.071	**0.621**	0.188
White Collar worker	-0.03	0.255	0.043	**0.594**	0.042
Assets	0.144	-0.065	0.164	**0.639**	0.259
Secondary attainment	0.044	0.206	0.011	0.221	**0.848**
Initial Secondary	0.029	0.172	0.037	0.216	**0.851**

Model 2

The models that follow use the constructs identified by the EFA. The Professional construct consists of occupational and higher education items, while the Education construct represents secondary level attainment only. Two models were acceptable and represent levels of increasing complexity.

The first task was to establish the relationship between Wealth and Planning and to identify factors which impact on Wealth.

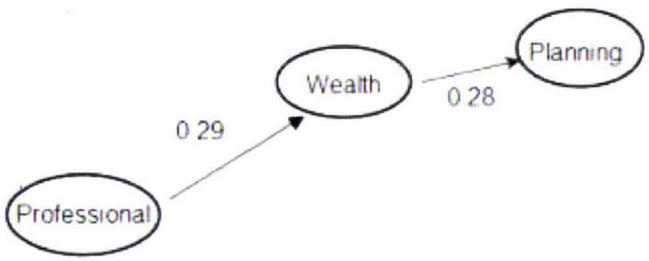

Figure 17- AMOS SEM Model 2: a relationship between wealth and planning and factors which impact on wealth.

The model (Figure 17) represents the regression between the Professional and Wealth constructs, and between Wealth and Planning as represented by the three planning activities of Thinking about retirement, Discussions with Partner and Chatting with others. The standardised coefficients indicate that Professional status has a modest but significant correlation with Wealth in a positive direction. Results of the fit indices indicate a modest fit with the data, with $\chi 2$ model fit just outside the acceptable level of 5 (Marsh & Hocevar, 1985) and relative fit indices are all acceptable (see Table 18).

The relationship between early educational attainment, professional status and wealth was then investigated (Figure 18).

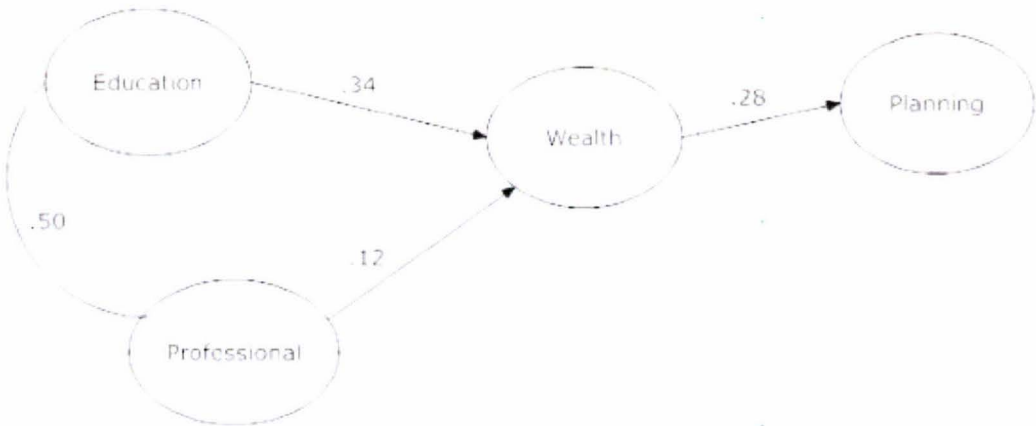

Figure 18 - AMOS SEM Model 2 B: the final model showing the relationship between wealth and planning and the factors which impact on wealth.

This second model adds in the Education construct, which also correlates with Wealth and has a considerable correlation of .5 with the Professional construct. Adding Education halves the correlation between the Professional construct and Wealth, indicating that a portion of the Professional - Wealth relationship is accounted for by Education. However, the Professional – Wealth regression, though small is significant. The model which removed the Professional construction, retaining Education only, did not reach significance.

The Educational Construct comprises two items which measure educational attainment at a secondary level. Initial Secondary attainment separates those attaining some secondary qualification prior to leaving secondary school from those who did not, regardless of educational attainments in later life. The Secondary qualification item separates those who, at the time of the survey, had less than secondary qualification from those had subsequently attained secondary education or higher. Logic might suggest that a regression might exist between Education and Professional status. However, modelling this concept provided no fit with the data. A review of these data confirms many

subjects not graduating from secondary school went on to achieve some level of tertiary education and researchers (Callister, 2006; Davey, 2002) have found that New Zealanders continue to improve their formal education as "mature" students.

As indicated by Table 18, this model has the strongest fit with the data of the three models. Adding the EFA Health component failed to reach significance in regression on the constructs of Education, Professional, or Planning.

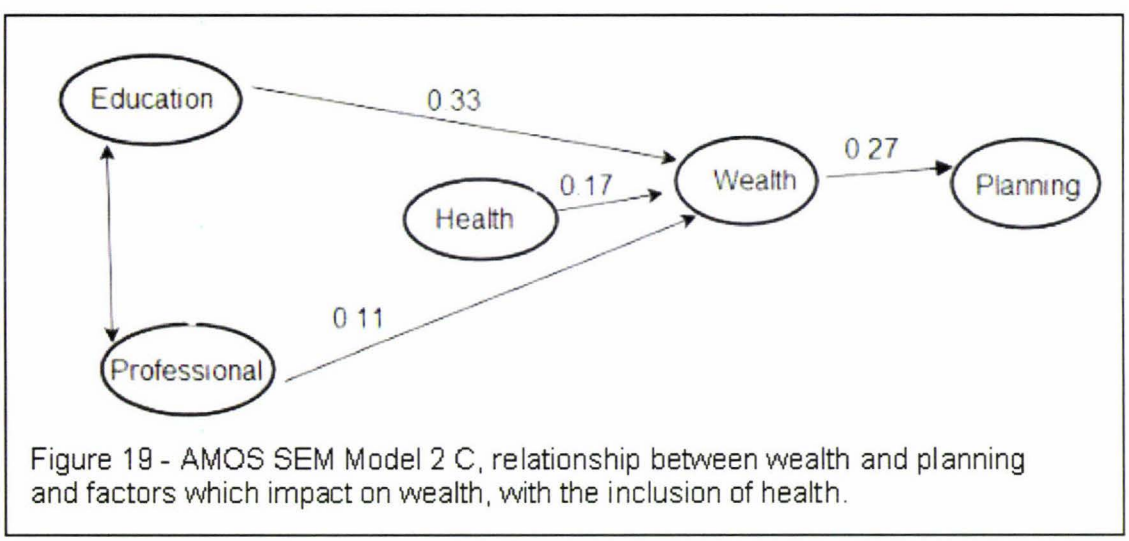

Figure 19 - AMOS SEM Model 2 C, relationship between wealth and planning and factors which impact on wealth, with the inclusion of health.

A small relationship however, was found between Wealth and Health (Figure 19) and this will be investigated in the discussion section. This model is rejected as an option as it has the poorest data fit of the three models and does not represent the original hypothesis.

Table 18 - AMOS SEM Fit Indices for the three versions of model 2.

	NPAR	χ2	DF	P	CMIN/DF	TLI	CF	PNFI	RMSEA
2 A	29	180	25	0	7.22	.91	.95	.53	.060 (.052, .07
2B	37	249	40	0	6.24	.93	.96	.58	.055(.049, .062)
2C	59	1316	130		10.12	.85	.85	.67	.073 (.069, .077)

Note χ2 = Normal Theory Weighted Least Squares Chi-Square, CMIN/DF = relative χ2 , TLI = Tucker Lewis Index of Fit, CFI = Comparative fit index, PNFI = Parsimony adjusted NFI (Normal Fit Index), RMSEA = root mean square measure error of approximation, presented here with the 95% Confidence Indices.

The best fit with the whole data is represented by Model 2 B (hereafter termed Model 2), so this model was then run on gendered data to produce the results listed in Table 19. These results indicate a good fit with the data, with both the Male and Female relative χ2 (cmin/df) within the acceptable level of 5 (Marsh & Hocevar, 1985).

Table 19 - AMOS SEM Fit indices for the selected Model 2, showing the results from the Full and gendered data.

	NPAR	χ2	DF	P	CMIN/DF	TLI	CF	PNFI	RMSEA
Full	37	249	40	0	6.24	.93	.96	.58	.055(.049, .062
Male	37	160	40	0	4.01	.94	.96	.58	.055(.046, .064)
Female	37	159	40	0	3.99	.90	.94	.59	.065 (.055, .076)

The gendered models are represented by the following diagrams.

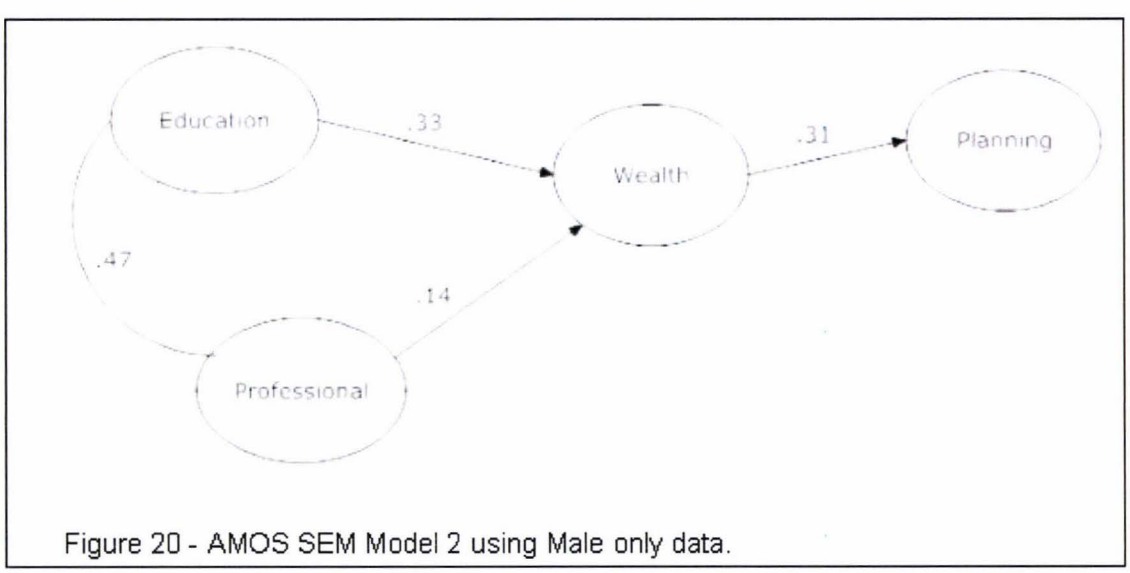

Figure 20 - AMOS SEM Model 2 using Male only data.

The Male model (Figure 20), based on the constructs generated from the EFA, essentially replicates the originally assumed Model 1 investigated above, as does the female model (Figure 21). The differences in salience of education and occupation / professional status between genders found in Model 1 are also replicated in Model 2.

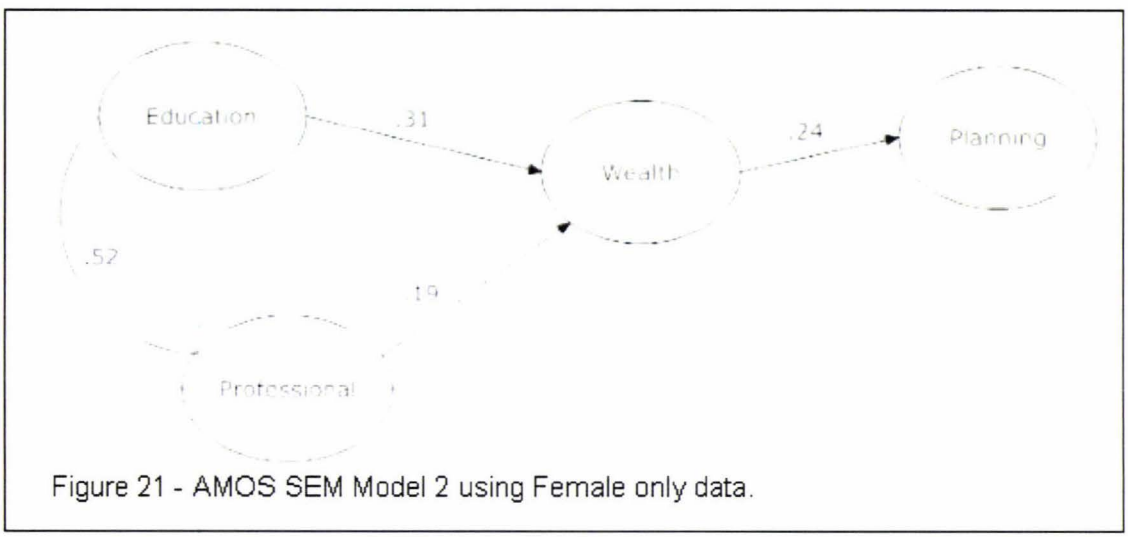

Figure 21 - AMOS SEM Model 2 using Female only data.

Again, the female data shows a stronger regression weight between occupation and wealth and a weaker regression weight between wealth and planning when compared with results from the male data. The correlation of the education and professional constructs are slightly stronger in the model based on female data.

Discussion

Two a priori models have been compared on the full set of data and on the two gendered data sets (MacCallum, 1995). While the models take slightly different approaches in their use of the survey items, they both report equivalent results and trends.

Educational attainment and occupational choices relate to income and to wealth, which in turn relate to retirement planning. The two models agree on these relationships whether the concepts of education, occupation, income and wealth are separated out into discrete components (Model 1) or accumulated to form a more parsimonious model (Model 2). Both models are also in agreement on differences in salience of the model components to men and to women.

Model Components Summarised

Education and Occupation

Reviewing Model 1, the relationship between Education and Occupation was stronger for women (.88) than for men (.74).reflecting an increased salience of education on career prospects for women. That is, women attain an occupational position primarily through eduction. This might indicate a difference in approach to occupation by men, in that they use their educational attainments and add other (unmeasured here) factors to gain occupational status. Men, for example, are more likely to be aggressive in pursing promotions (Williams & Villemez, 1993). There is evidence from other studies that women take job

requirements more literally than do men, and so self-select to not apply for jobs they would otherwise be eligible for (Alvesson & Billing, 1997).

Perhaps women, in this cohort, are less confident and feel they require a good qualification before they have the self-belief to apply for a position; especially as many will have been absent from the workforce at some time in their life. Many women in this cohort will have started working in the typical "gendered occupations" of nursing, teaching, secretarial positions and will have subsequently up-skilled to their current career (Davey, 2002). The data does indicate that a percentage of this population up-skilled subsequent to their original education.

Model 2 combines occupational status and higher education into the Professional construct thus creating a way to look at the profile of men and women who have attained to similar career positions. That is, we have created a level playing field. The correlation between Education and Professional status is slightly stronger for women (.52) than for men (.47). This outcome strengthens the emerging concept from Model 1 that women use education to attain an occupational status while for men education is the first step to which they add career ambition, willingness to take risk, etc. As discussed in the literature review but unable to be modelled here, the professional status of women is also likely to be impacted by discontinuous work histories and family needs.

This variance may also indicate that women attain occupations through education and then do not seek or achieve promotion once within the occupation (Jacobs, 1993). Such behavioural differences may explain the divergence we found in occupational status: more women in professional roles and more men in managerial positions. Women may also be interested in occupations that require less educational attainment, regardless of their own attainment, due to their interest in the occupation itself (Emslie et al, 1999). The prevalence of women in the caring and social professions, such as psychology, sociology, etc. is a case in point.

Occupation and the Financial Benefits

The pathway from occupation through income to wealth, as demonstrated in Model 1, is weaker for women while the direct pathway between occupation and wealth is stronger. We might therefore conclude that occupation, per se, is more salient for women's accumulation of wealth. Conversely, the male pathway reflects a "value added" component to occupation which impacts income and therefore wealth. This might mirror the literature which shows males receiving higher wages for the same occupation and also achieving more promotions than do women (England & Herbert, 1993; Price, 2003; Williams & Villemez, 1993). These gender differences may also reflect the impact of a discontinuous work history on women's income (Anderson & Weber, 1993). Of course, the wealth measured here may be combined household wealth and women in higher status occupations might marry higher occupational status husbands.

The relationship between Professional status and Wealth in Model 2 is slighter stronger for women (.19) than for men (.14), indicating that women who have reached an equivalent occupational level are earning and/or saving as well as or better than their male counterparts. Other studies indicate it may be that these women are earning slightly less but saving slightly more than are the men (Lusardi, 2000), a reason suggested by Model 1.

The Education construct of Model 2, which assesses the initial and final attainment of secondary level education, another level playing field, is not statistically different in explaining wealth between men (.33) and women (.31). This suggests that basic level education does not differentiate men and women when explaining income and wealth. The literature on the impact of dependents and interrupted work histories does indicate there is little financial impact on mothers with minimal educational qualifications (Anderson et al, 2002).

Another psychosocial factor to consider, when attempting to explain gender differences, is the concept of risk (see Appendix D). Financial risk tolerance can be defined as "the maximum amount of uncertainty someone is willing to accept when making a financial decision" (Grable & Lytton, 2000 p.625). Risk tolerance, which impacts all of life and not just investments, is moderated by personality and socioeconomic background. Women are more risk averse than men in most situations involving risk; including allocation of assets and preference for fixed pay over performance based remuneration (Rozkowski et

al, 2004). This tendency to risk aversion may also explain job choices, career paths, and promotional aspirations.

Planning: the End Result

The regression between Wealth and Planning shows a modest positive relationship for both men and women. This relationship is weaker for women (.23) compared with men (.31). We might conclude that women have less wealth and so see little need to plan (Cervin, 2001) or that they are relying on their partner to take care of the planning or that they see the pension as sufficient for their retirement needs. Analysis of the data found that women were as likely as men to think about retirement planning and slightly more likely to "chat with others" but less likely to discuss planning with their partners. The three items for the Female dataset correlated with Planning as Thoughts (.77), Chatting with others (.73) and Partner discussion the weakest correlation at .47. For males, Thoughts (.78), Partner discussion (.72), and Chatting (.67) were all moderate to strong correlations; a result which suggests that many women leave the planning to their partners or that they have no partner to discuss these issues with.

The gender differences in the pathway through Wealth to Planning are replicated in the two models. That is, although Model 2 combined Income and Assets into one construct and Model 1 omitted income from Wealth, the gender relationship with Planning was the same in both models. For women this was .23 and .24 respectively in models one and two and for men it was .31 in both models. This may reflect the different impact that finances has on retirement

planning for men and for women. Additional factors, unable to be analysed here, must impact retirement planning for women; elderly or second generation dependents may be one such factor.

The strong similarities between the two models, which differently assign the observed measures to the unobserved constructs, serve only to confirm the underlying differences between genders and the salience of the theory. Therefore, we can review the hypotheses on the basis of the results from either of the models.

Five Hypothesis in Review

This section discusses five of the six hypotheses; the following section will discuss the sixth hypothesis relating to health.

The first hypothesis was that wealth is expected to affect retirement planning. There is modest support for this hypothesis, with a stronger correlation between wealth and planning for males than there is for females. Two of the planning items, Thought About and Chat with Others, were roughly equivalent for men and women. Of interest, the item that showed greatest variance between men and women, and the weakest of the three planning items for women was Discussion with Partner. As speculated above, perhaps these women are leaving retirement planning to their partners, if they have a partner. Conversely, it is positive to find that women are thinking about their retirement and are discussing it with their friends and colleagues.

However, there are other factors that impact retirement planning other than wealth. For example, Model 1 demonstrated that higher status occupation has a stronger direct relationship with planning for women[4] (.28) than for men (.13). Both male and female managers were more likely to have thought about retirement planning than were those in the professions. This replicates the conclusions of Jacobson (1974), Rosenkoetter and Garris (2001) and Gall and Evans (2000). As their educational attainment increased, women were less and less likely to indicate that they had "hardly thought" about retirement planning. This educational correlation was not repeated in the male data.

The Planning items of Anticipating Retirement and Attending meetings, removed from the model because they failed to achieve item reliability on the full data, were able to be included in a simple Planning – Occupation model for men but failed to reach model significance for women. This suggests that men were more active in a number of planning areas, some of which were totally irrelevant for women.

The second hypothesis was that income would have an indirect impact on retirement planning through wealth. The first model shows moderate support for this hypothesis, especially so for men. The link between income and wealth for women is half the strength of the male result; reflecting educational, career, and work history influences. As we will discuss in hypothesis 3, the deficit on income's relationship with Wealth for women is made up for by Occupation,

[4] The SEM of occupation and planning for women provided a good fit with the data: at χ^2 /df = 1.69, p =.149, TLI = .98, CFI = .99, as did the model when run for men at χ^2 /df = 1.60, p <.08, TLI = .98, CFI = .99)

which has a stronger relationship with Wealth for women than it does for men. Income and Occupation together explain 0.58 of Wealth for men and 0.53 for women. Model 2, which combined Income into Wealth, also shows moderate support for this hypothesis.

For women, Planning Thoughts and Partner Discussion show a stronger relationship with income than does Chatting with others which appears to be independent of Income. Income above $35,000 is strongly related with Planning Thoughts for men. Chatting with others is also relatively independent of income for men. This leads us to conclude that Chatting with Others may be correlated with other psychosocial factors such as personality. Men in the middle income brackets appear to discuss retirement planning with their partners more than do those who are at the extremes of the income range.

The third hypothesis, that higher status occupations will be positively correlated with higher incomes is also supported by the two models. Model 1 confirms the moderate relationship between Occupation and Income; a direct result that is stronger for men than for women. This may be due to gendered jobs, the wage gap, male ambition, promotion, etc as noted in the literature review. Also of note in Model 1 is the stronger direct relationship between Occupation and Wealth for women, a relationship that is half as strong again as that found for men. This may be reflective of gender differences in income for the same occupation and position and is in agreement with the findings of England and Herbert (1993).

Model 2 confuses this pattern a little, due to the combination of Occupation and higher Education into the Professional construct. The relationship between Professional status and combined Income and Wealth is a modest one. It is slightly stronger for women than for men, and demonstrates the importance of higher education on occupational status for women. This combination appears to moderate the differences between men and women, indicating that a professional career is the way to wealth for women. The retirement planning item of Chatting with Others is independent of occupation for both men and women, although male machinery operators and labourers are the least likely to discuss retirement planning with their partner or others.

Hypothesis four, that education will be positively related to career status, income, and wealth is also supported. Model 1 strongly supports the relationship between education and occupation, a relationship that is stronger for women than for men. The weaker relationship for the male model indicates that factors other than education must explain almost a quarter of the occupation status for men. As discussed above, male ambition and discontinuous work careers of women may contribute to these differences.

Model 2 shows a moderate direct relationship between Education and Wealth (a combined measure of income and wealth in this model) with negligible gender differences due to the "level playing field" created in the redefinition of the education construct in this model. Subsequent modelling of Education with Planning for men and for women confirms that Planning behaviours are contingent on different educational levels for women. Modelling Tertiary and

BA+ item direct correlation with planning reached significance with a regression of .13 for men but failed to reach significance for women. Secondary schooling status and subsequent tertiary status (which includes certificates for skilled vocations and diplomas) is more salient for women when reviewing a direct relationship to retirement planning. These findings concur with those of McPherson and Guppy (1979) and Richardson (1989). Almost fifty percent of women with post-graduate and master's degrees had attended planning meetings. This pattern of university education predicting attendance at planning meetings was significant for men, but was more significant for women.

The fifth hypothesis was that providing care for dependents will mediate the relationship between Education and Wealth for women. Although this relationship has been suggested throughout this discussion, the hypothesis was not supported by the data. The age of the cohort at time of sampling (55 – 70) is past the standard age of child birth, and dependant children would be expected to have left home. While thirty percent of respondents reported children living in the household, the age of these children ranged from under 5 to over 40. These younger children might therefore be grandchildren or children of a blended family with a younger partner. These factors therefore obscure the impact, in this data, of children on the working history of their mother.

Is there a Place for Health?

The sixth hypothesis, that very poor health or a change in health status will be correlated with retirement planning, was also not supported by the data. Neither of the two models admitted Health as a variable of any significance. This result was surprising as HRS and various other studies found a relationship between health and retirement planning and intentions (Devaney, 1995; Lindbo & Schultz, 1998; Rowlingson, 2002). There was no significant correlation between Health and Planning in Model 1. However, Health did show a small positive regression on Wealth in Model 2, and Wealth correlated with Planning. As already noted, the direction of the relationship between Health and Wealth or Health and Planning cannot be determined from this SEM model.

It may be that, in this age group, a number of respondents to the survey who were in poor health already considered themselves to be retired and so self-selected out of this study. A small number of the respondents in the data used for the models indicated receiving Government Health and Invalid Benefits as part of their income (Table 9).

However, this population is generally in good health, with eighty percent of respondents scoring from slightly below average through high on the Physical Functioning scales. Comparing males and females, as a percentage of gender, within each of the Physical Functioning brackets shows no differences between men and women. Additionally, there are no significant correlations between an aggregated Physical Health score and gender.

Likewise, for Mental Health, a high percentage of this pre-retiree population falls into the middle and upper range of mental health functioning. Women, collectively, score higher for Social Functioning and Emotional role. However, there are no significant correlations between the aggregated Mental Health score and gender. There is also no gender difference in reported Health Transition, i.e. how is general health rated now compared to one year ago. This item was not significant in SEM models on these data, even though other studies show that health transition is significant for planning behaviour (Noonan, 2005; Shultz, Morton, & Weckerle, 1998).

Exploratory SEM models (Byrne, 2001) were run to investigate the simple relationship of Health with anticipated retirement age. Anticipated retirement age was captured by two questions which asked the participant to determine, from a 5 point Likert scale, whether they were more or less likely to be still working at ages 62 and 65. No models were found which were able to show any correlation between health and anticipated retirement age. This lack of a relationship between Health and Planning corroborates the findings of Choi (2002).

It is possible that, in removing the participants who declined to reveal the value of their assets, we have also removed participants who genuinely have no assets and are at the lower end of the SES scale. As health is correlated with SES, we may have therefore inadvertently removed those with poor health. For that reason, the analysis moved into exploratory mode to investigate alternate models that removed the asset value item and assessed wealth as income and

number of assets only (Byrne, 2001). The rationale was that, if it was possible to create a valid model without the asset value item, then the model could be run on the larger dataset unfiltered by zero asset value. While it was possible to achieve a valid Model 1 using a single item for wealth, the use of this model was discarded as two or more indicators are necessary to adequately identify unobserved variables (Hoyle, 1995). Removing the asset value item from the Wealth variable in Model 2 resulted in an unidentified model. This line of enquiry was therefore abandoned.

As alluded to above, further exploration of the Model 2 possibility (Figure 19), where Health is correlated with Wealth, found a significant difference in results on the gendered data.

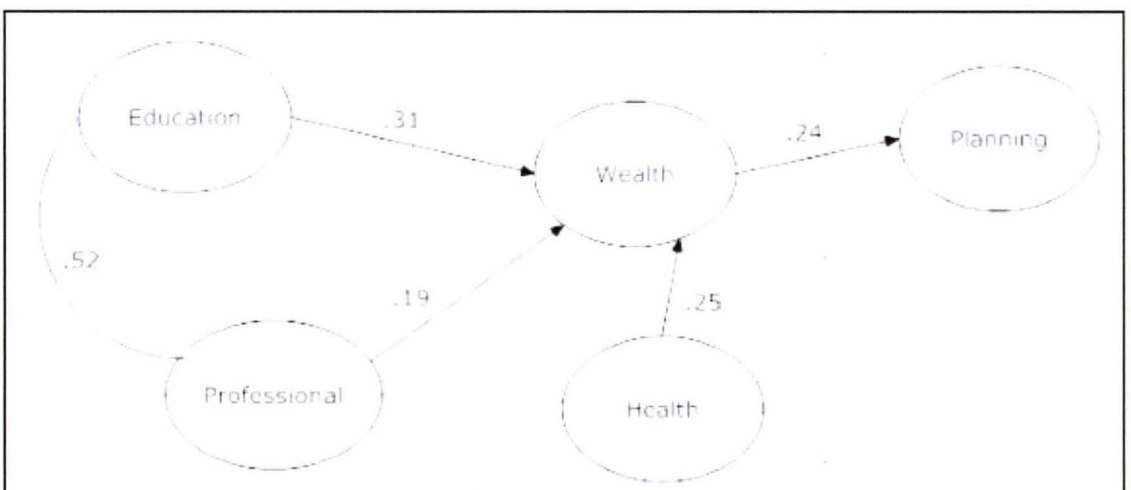

Figure 22 - Relationship between Health and Wealth for female only data

An acceptable level of model fit was found when the model was run on the female data ($\chi 2/df = 5.01$, TLI = .85, CFI = .88, PNFI = .64, RMSEA = .08 (.07, .082)). Figure 22 presents the relationship between Health and Wealth, which for women is .25. The model fit on the male data was not as good ($\chi 2/df = 6.6$, TLI = .84, CFI = .88, PNFI = .66, RMSEA = .075 (.07, .08)) and the

relationship between Health and Wealth was half that of the female model at .12.

This stronger relationship between Health and Wealth for women is particularly important as these women look toward a long period of retirement. We have demonstrated that these women have less wealth than do their male counterparts. The literature review has confirmed the relationship between health and wealth, and particularly that SES predicts health status. Assuming this SES-health relationship continues through into retirement, these women will be further disadvantaged in the area of health. In addition, less available wealth during retirement reduces the options for access to health interventions not provided under the National Health System.

The literature reviewed for this study indicated that poor health was a factor in retirement decisions (Devaney, 1995; Lindbo & Schultz, 1998; Rowlingson, 2002). This study is unable to replicate that finding. However, the literature reviewed also demonstrated a strong relationship between planning and subsequent health in retirement due to retirement adjustment (Kloep & Hendry, 2006; Richardson & Kilty; Warr et al, 2004). This avenue of enquiry would be worth pursing in subsequent data collections from this population as they move into retirement.

Limitations

Planning requires decision making over time, so a longitudinal approach would provide a greater understanding of this subject (Beehr, 1986). For example, regarding the ontological assumptions underlying the model, we can know a certain amount about the respondent's wealth and income at the time of data collection. However, we do not know the respondent's earning history leading up to this point and can only assume that it has been representative of this cohort. This limitation also applies to the number of dependents which may have impacted the earning history of the females in the study, a drawback which has resulted in the "dependent" factor being dropped from the model. The data used in this study are not longitudinal; they are the first response in a predicted series of data collections. As such, the results gained here provide a springboard for further analysis over time.

It must be stressed that SEM cannot test directionality and that the directional arrows in the diagrams are not representing directionality. Directionality can only be shown through logic, theory, or research design (Hoyle & Panter, 1995). For example, while logic and research may suggest that a professional career would provide increased income and wealth, numerous studies also show that children from wealthy backgrounds are better educated and more likely to enter a professional career (Micklewright, 1999; Wurzburg,2005) and that those with a profession will also invest in on-going education (Davey, 2002). Another example of directionality logic is that income would be expected to increase wealth; however wealth in the form of investments will also increase income.

Some response items of wealth, from couple households, may be appraisals of aggregated assets; a confound we are unable to control for. However, the income items are separated into 'my' income and 'other' person income; so we have used the income of the respondent only. In addition, a number of respondents may have been through divorce and remarriage which further impacts wealth and therefore retirement planning (DeVaney, 1995). The experience of interrupted marriages is not unusual in this cohort, so we have not attempted to control for its impact on the data.

The planning items used in the survey, although used successfully by the HRS studies (Lusardi, 1998), may be insufficient for providing answers to the questions posed in this study. The open nature of these items about retirement discussion or thoughts is nebulous and may be equally reflecting the effectiveness of the Retirement Commission's education campaign (www.sorted.org.nz) and not measuring action taken toward retirement. These data would benefit by follow-up interviews or focus group discussion with respondents to determine how these items translate to concrete action.

There is a notion that those who consider they will be taken care of by employer or state will put less personal effort into their retirement planning (Loretto et al, 2000). Gibson et al (2004) suggest that the New Zealand pension scheme has a strong impact on savings decisions and is the primary source of income for many, leaving voluntary private savings as a low priority. Kiwi Saver, the current initiative to encourage retirement saving, commenced on July 1st, 2007. Income may become a salient factor in the decision to join Kiwi saver for the

very same reasons that income and wealth have been shown to correlate with retirement planning. The findings of this study should therefore remain applicable.

When assessing education, our measures assess enrolment and qualifications gained. Factors such as quality and relevance of education received and actual learning achieved cannot be measured (Micklewright, 1999).

For the period 1996- 2000 there was a net professional influx into New Zealand of 5.3%. This study includes some migrants with professional qualifications; however higher unemployment rates amongst migrants and their employment in jobs that do not fully utilise their skills may confound some of our results (Syme, 2001).

The self employed are more likely to have thought about and planned for retirement (Lusardi 2000; Rowlingson, 2002). They appear to be an exception to the retirement planning norm; generally more certain about the type of retirement they want but less certain about timing (Ekerdt et al., 2001). Their retirement fund is usually their business, so retirement planning will be contingent on business success (DeVaney & Kim, 2003)(DeVaney & Kim, 2003). This group is seen as a possible exception to the model and would make a meaningful separate study (see Appendix D).

There would also appear to be a difference in retirement experiences between rural and urban populations. Rural dwellers were more likely to own their own

homes but have lower income levels (Glass & Flynn, 2000). This has not been controlled for in this data and may therefore constitute a confound to the model.

Directions for further research

A number of questions were raised in the process of this research.

Retirement and the subsequent responsibilities of the younger generation to care for their elders is a socially determined expectation which will differ between ethnic groups. An understanding of these differences would be instructive in understanding the planning attitudes of the minority populations in New Zealand.

Wealth, as defined by value and number of assets, explains almost thirty percent of the planning behaviours of this cohort while Health appears to have no correlation with planning. What other factors impact planning behaviour for this cohort? The need to care for dependents may be one such factor, as is the desire to retire at the same time as your partner. Other factors such as fear of ageing, unwillingness to review financial status, difficulty in assessing needs, etc may also be factors. The larger percentage of women living outside of a relationship (38%) may also be a factor in both access to wealth and someone to plan with. These possibilities would be worth investigating using direct questions. It may be that the N.Z. psyche has come to expect the Universal Pension will be adequate for retirement needs and therefore planning is not seen as a priority. Studies have shown that our retirement attitudes are learnt from older siblings and parents (Lusardi, 2000) who may be satisfied with their retirement experience.

The Precautionary Savings Theory is based on a number of psychosocial factors which include risk perception, comfort with future uncertainty, goal setting, planning ability and the ability to delay gratification (Lusardi, 2000). Is the perception of future risk moderated by the welfare policies of New Zealand? A better understanding of these factors would aid in assessing why New Zealanders are not good at planning ahead in any of the human capital areas discussed above.

Studies have shown that New Zealand women want to be able to prepare for retirement more actively than they are at present (Cervin, 2001). A more in depth understanding of the factors stopping them should be sought. Questions should be asked such as, how aware of their saving and investment options are they? If they are in a relationship, do they leave financial and retirement planning decisions to their partner and if so why? What psychosocial factors are hindering their planning: are they afraid to face the future, are they overwhelmed by the contradictory information swirling around them, does uncertainty and caution cause them to procrastinate? It may be that a number are so busy parenting their grandchildren that they have no time to consider their own future. Further research which assesses these factors should be able to result in an intervention which provides the tools to enable women facing retirement to be proactive in their planning.

What of the next cohort, those in the 40 – 55 age brackets? Do the psychosocial factors that have impacted this cohort apply to the following cohort and how have these factors affected their retirement thoughts? Social factors are

constantly changing and impacting on planning decisions. The recent introduction of Kiwi Saver is one such example which may well impact on this model, the public opinion of which would be worth exploring moving forward. With the uptake of Kiwi Saver an understanding of the impact on home ownership, shares, and precautionary savings would be useful.

Policy Implications

A Productive Older Age

Retirement is another stage of life: generativity is the need to guide and contribute to succeeding generations (Calo, 2005). The health, financial, psychological and social benefits of continued employment post retirement should not be underestimated (Perkins, 1992). Businesses can harness the experience and wisdom of older workers by promoting them to positions of training, mentoring, and representation (Elovainio et al., 2005). This can be accomplished if employers can retain older workers longer by assessing and providing the flexibility that is salient to older workers. Strategies might include flexi-hours, job sharing, reduced workload, work control, mobile working, increased remuneration, reduced bureaucracy and paperwork (Eagles et al, 2005; Elovainio et al., 2005; Kim & DeVaney, 2005). Employers will need to address the impact of new technologies on older workers by providing effective training and guarding against the depersonalisation these technologies can introduce into the workplace (Robertson, 2000).

In line with this, the tide of public opinion regarding older workers has already started to turn, with studies showing that the older worker's superior attributes include dependability, dedication, experience, and willingness to work hard (McDaniel, 2000). Lack of experience, the disadvantage of the young, is the strength of the older worker. It is surprising to note that the women in her study were more positive than the men in their perception that age is not a factor in retaining superior skills.

If employment is related to education, then some of the barriers to study for mid-age and older workers will need to be addressed (Booth et al., 2000; Davey, 2002; Wurzburg, 2005). Solutions might include release from work or family responsibilities, financial aid, institutional flexibility, and government commitment to resource the educational sector. Benefits to the individual will be employability and financial gains, while employers will benefit from increased productivity and employee adaptability. A true "knowledge economy" will result in financial and health gains in society.

Governments worldwide are using the fear of insufficient social security to encourage early planning and self reliance in retirement. While this is seen as a positive and well meaning strategy, the possible down stream affects might include an emphasis on retirement rather than work, an increase in unrealistic retirement expectations, and a reduced labour pool (Ekerdt, 2004). This new political discourse of positive ageing sounds encouraging: continued independence, self reliance, and freedom. However, it also pushes a new ageism; the focus on an active old age that has no place for disability and dependency. These discourses create new standards, by which older people may judge themselves and be judged by others (Rudman, 2006). If the benchmark is of a self managed, productive older age then those elders failing in this imperative may be negatively framed and increasingly marginalised. Such discrimination must be guarded against.

Conclusion

This research has produced some interesting insights into this cohort of New Zealanders born 1935 through 1950. Four of the hypotheses were supported by the data and the model was confirmed as applicable to this population, with significant differences in item salience between men and women. While there is not yet full educational and occupational equality between the men and women of this cohort at the end of their working life, they are reasonably close. There is evidence of an attitude of continuing education and improvement across the life span. While this study cannot assess the career paths taken by the participants, there is support for a movement by women into professional occupations. However, there are still disparities between men and women when occupation and income are assessed, due to psychological and social differences. Some of these differences may always remain; women may always be the first to put the needs to dependents of any age ahead of their own needs.

This population, with an age spread of fifteen years, will be diverse in their psychosocial experiences. Their individual life events will have differed in a myriad ways and diversity of priorities and philosophies will have determined how their income has been utilised. Those with families will have varied in the time and materials they have invested in their children, balancing the traditional roles inherited from their parents with the changing social patterns of the last three decades of the 20th Century. Such turbulent social changes will have also impacted the stability of the family and the role of women in the home and workforce.

It is important to note that this group is engaged in some degree of retirement planning, although there is evidence that women in partnerships may take a more passive role and that discussions with others may be a reflection of personality. For this cohort, factors affecting retirement planning are accumulated assets, professional status, education and social attitudes. In general, this cohort has probably surpassed their parents in their preparation for retirement, although they are also facing a longer retirement. The women of this cohort have been caught between the traditional roles of their parents and the breaking down of those gender stereotypes. They may want to be more active in their retirement planning but are hindered due to a number of reasons, poor financial resource being one of them. They are, therefore, under-resourced for their long journey through retirement.

Most of this population has average to good health and subsequent data analysis has shown the stronger correlation between wealth and health for women. While women in lower income groups are the most exposed; retirement is disadvantageous to all women (Szinovac, 1986). This correlation between SES and health makes retirement planning even more important for women. As this research has shown, these life time psychosocial factors impact on retirement planning and are therefore likely to continue to impact the health and life experience of this cohort though their retirement years.

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Appendices

Appendix A. Sample Questions from HWR Survey

Firstly, we would like to ask you some questions about your health. This information will help us keep track of how you feel and how well you are able to do your usual activities. For each of the following questions, please tick the box that best describes your answer.

1 In general, would you say your health is: Excellent, Very Good, Good, Fair, Poor (Please tick one box)

2 Compared to one year ago, how would you rate your health in general now?

Much better than one year ago

Somewhat better now than one year ago

About the same as one year ago

Somewhat worse now than one year ago

Much worse now than one year ago

(Please tick one box)

3 The following questions are about activities you might do during a typical day.

Does your health now limit you in these activities? If so, how much?

(Please tick one box on each line)

Activities: Yes, limited a lot / Yes, limited a little / Not limited at all

(a) *Vigorous activities*, such as running, lifting heavy objects, participating in strenuous sports

(b) *Moderate activities*, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf

(c) Lifting or carrying groceries

(d) Climbing *several* flights of stairs

(e) Climbing *one* flight of stairs

(f) Bending, kneeling, or stooping

(g) Walking *more than one* kilometre

(h) Walking *several blocks*

(i) Walking *one block*

(j) Bathing or dressing yourself

4 During the past 4 weeks, how much of the time have you had any of the following problems with your work OR other regular daily activities as a result of your physical health?

(Please tick one box on each line)

All of the time / Most of the time / Some of the time / A little of the time / None of the time

(a) Cut down on the *amount of time* you spent on work or other activities

(b) Accomplished less than you would like

(c) Were *limited* in the *kind* of work or other activities

(d) Had *difficulty* performing the work or other activities (for example, it took *extra* effort)

5 During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbours, or groups?

(Please tick one box)

Not at all / Slightly / Moderately / Quite a bit / Extremely

–

6 How much bodily pain have you had during the past 4 weeks?

(Please tick one box)

None / Very mild / Mild / Moderate / Severe / Very severe

7 During the past 4 weeks, how much of the time have you had any of the following problems with your work OR other regular daily activities as a result of any emotional problems (e.g. feeling depressed or anxious)?

(Please tick one box on each line)

All of the time / Most of the time / Some of the time / A little of the time / None of the time

(a) Cut down on the *amount of time* you spent on work or other activities

(b) Accomplished less than you would like

(c) Didn't do work or other activities as *carefully* as usual

8 During the past 4 weeks, how much did pain interfere with your normal work

(including both work outside the home and housework)?

(Please tick one box)

Not at all / Slightly / Moderately / Quite a bit / Extremely

9 During the past 4 weeks, how much of the time has your physical health or
emotional problems interfered with your social activities (like visiting with friends, relatives etc.)

(Please tick one box)

All of the time / Most of the time / Some of the time / A little of the time / None of the time

10 These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that is closest to the way you have been feeling. How much of the time during the past 4 weeks...

(Please tick one box on each line)

All of the time / Most of the time / A good bit of the time / Some of the time / A little of the time / None of the time

(a) Did you feel full of life?

(b) Have you been very nervous?

(c) Have you felt so down in the dumps that nothing could cheer you up?

(d) Have you felt calm and peaceful?

(e) Did you have a lot of energy?

(f) Have you felt downhearted and blue?

(g) Did you feel worn out?

(h) Have you been happy?

(i) Did you feel tired?

11 How *TRUE* or *FALSE* is each of the following statements for you?

(Please tick one box on each line)

Definitely true / Mostly true / Don't know / Mostly false / Definitely false

(a) I seem to get sick a little easier than other people

(b) I am as healthy as anybody I know

(c) I expect my health to get worse

(d) My health is excellent

In the following sets of questions we are interested in what people think about retirement (whether they themselves are retired or not).

IMPORTANT NOTE: If you have never been in paid employment, please skip this section and go straight to the *Background Information* section on page 23.

49 At this time do you consider yourself partly retired, completely retired, or not retired at all?

(Please tick one box)

Not retired at all / Partly retired / Completely retired

61 Please answer the following questions whether you are retired or not.

(Please tick one box on each line)

A lot / Some / A little / Hardly at all / *Not applicable*

(a) While still in the paid workforce, how much have/had you thought about retirement?

(b) While still in the paid workforce, how much have/had you discussed retirement with your spouse/partner?

(c) While still in the paid workforce, how much have/had you discussed retirement with your friends or coworkers?

(d) While still in the paid workforce, have/had you attended any meetings on retirement or retirement planning?

Yes / No

(e) Thinking about your future retirement years compared to your working years, would you say the retirement years will be:

Better / About the same / Not as good

Lastly, we would like to ask you for some general background information. Please place a tick next to the answer that you believe gives an accurate indication of your CURRENT situation, or write details in the spaces provided.

64 Are you?

(Please tick one box)

Male

Female

65 Which one of these statements is true about your legal marital status?

(If you have been married more than once, answer for your most recent marriage)

I am legally married

I am in a civil union/de facto/partnered relationship

I am permanently separated from my legal husband or wife

I am divorced or my marriage has been dissolved

I am a widow or widower

I have never been legally married

70 Mark as many spaces as you need to show all the people who live in the same household as you.

My legal husband or wife

My partner or de facto, boyfriend or girlfriend

My son(s) and/or daughter(s)

My mother and/or father

My sister(s) and/or brother(s)

My flatmate(s)

Other (Please state: e.g. my grandmother, my mother-in-law, my partner's father, boarder etc).

None of the above – I live alone

If you indicated above that you live with some of your children, please indicatebelow how many children live in the same household as you and their ages:

72 What is your highest secondary school qualification?

(Please tick one box)

No school qualifications

N.Z. School Certificate in one or more subjects

N.Z. Sixth Form Certificate in one or more subjects

N.Z. Higher School Certificate, or Higher Leaving Certificate

N.Z. University entrance

N.Z. A or B Bursary or University Scholarship

Other N.Z. secondary school qualification (Please print the qualification below):

Overseas secondary school qualification

73 Apart from secondary school qualifications, do you have other qualifications?

(Please don't count incomplete qualifications or qualifications that take less than 3 months of fulltime study to get).

Yes (Please print your highest qualification below):

76 IF IN PAID EMPLOYMENT: What is your occupation in your main job?

(Try to be as specific as you can. For example: Primary School Teacher, Clothing Machinist,

Motel Manager, Word Processor Operator).

78 Tick as many boxes as you need to show all the ways you received income in the 12 months ending today.

NOTE: Please DON'T count loans because they are not income.

Wages, salary, commissions, bonuses...etc, paid by my employer

Self-employment, or business I own and work in

Interest, dividends, rent, other investments

Regular payments from ACC or a private work accident insurer

New Zealand Superannuation or Veterans Pension

Other superannuation, pensions, annuities (other than N.Z. Superannuation, Veterans Pension or War Pension)

Unemployment Benefit

Domestic Purposes Benefit

Invalids Benefit

Student Allowance

Other government benefits, income support payments, or war pensions

Other sources of income, counting support payments from people who do not live in my household

No source of income during that time

79 From all the sources of income you marked in question 78, what would the total income be that you yourself received before tax in the last 12 months?

81(c) Do you own any of the following? IF YOU WANT TO, please provide the approximate value.

(Please tick one box on each line) Yes No **Value** *(In thousands)*

The property where you live?

A farm or farms?

A business or businesses?

A holiday house?

A rental property or properties?

Any shares?

Any managed funds?

Any banks deposits or savings?

A motor vehicle or vehicles?

Other major assets?

Appendix B. History of Employment

A Historical Perspective

In the early 1900's females employed in work could be paid a lower rate because of the clause that they be unmarried; a policy which kept tenure short and the workforce unskilled. The result was lower pay for women (Reskin & Roos, 1990). Women joined the workforce in large numbers during the first and second world wars and retired to their homes at the end of the wars. Again we see discontinuous work force participation, a policy that was strongly supported by the governments of the day.

By the early 1980's women were making inroads into traditional male occupations of executive, lawyer, pharmacist, physician, veterinarian, bartender, bus driver, and baker (Reskin & Roos, 1990). Women had become the majority gender in careers for insurance adjusters, investigators and examiners, bill collectors, real estate agents & brokers, photographic process workers, checkers, examiners and inspectors, and production line assemblers. However, with all these gains, more women were entering the workforce in traditional areas than into these male occupations.

Male work patterns changed with increased globalisation, decline in heavy industry, and increased unemployment in traditional "male" areas. This traditional gender differentiation of jobs was socialised. Women were valued below men due to the Victorian theory that spiritual or rational abilities were preferable to the emotional, and intuitive (England & Herbert, 1993). Women's work was defined by Victorian society based on a concept of female natural ability and weaker biology plus male technical superiority plus technical advances (Bradley, 1993). Traditional "Female" jobs became the male domain with technological advances such as milking machines, cotton machines, and large-scale brewing.

Understanding the markets

Labour queues rank workers in order of attractiveness to employers, which means that employers will employ from as high up the labour queue as they can. A change in the size of an occupation group or the availability of workers creates a change in employee composition in the occupation. Employees are ranked by potential productivity plus labour cost; so the most educated employee is preferred, then educated and cheaper (i.e. women) employees are considered. For example, if the market requires more lawyers, traditionally a white male occupation, then less qualified females or minority employees are hired into the profession. However, this trend may be balanced by perceived poorer female productivity due to marriage and dependents. The mix of these salient variables will fluctuate with the markets (bear or bull) and with worker availability (Reskin & Roos, 1990).

Job queue theory ranks jobs in order of attractiveness to workers; workers look for the best jobs available to them. Salient work factors include maximum income, status, autonomy, job security and job involvement. In the 1980's with the increase in financial, communications, telecommunications, and IT industries males moved out of some traditional careers for these new opportunities so women moved "up" into the positions vacated. In addition, gender specific employees were taken on to service gender specific markets. Flexible hours and part time work became a valid employee option in sectors having difficulty filling vacancies. Decreased public acceptance of gender discrimination also started to change to work place in favour of the female worker (Reskin & Roos, 1990).

Appendix C. Pension Schemes in Australia, USA, Canada, and New Zealand

Keys to retirement standard of living in Australia are income, access to health care, and home ownership (Saunders, Patulny, & Lee, 2005). Australia has a base pension option, which is effectively a safety net set at 25% of the male average earning, and a superannuation scheme introduced in the 1980s. In America, in the first half of the century, retirement income was based on an assumption of 15-25% social security, 0-60% pension plan, plus personal savings. However, the first two are becoming compromised due to high demand and government fiscal policy, leaving savings as the key factor of retirement income (Glass & Kilpatrick, 1998).

The Canadian story- where N.Z. is heading?

Due to inequalities in the Canadian retirement income system a large number of female retirees will live their lives in poverty (Gazso, 2005). The Canadian system has fostered defined contributions to the Canada Pension Plan (CPP) via the workplace, a system equivalent to the Kiwi Saver scheme. The old age security system is the equivalent of the N.Z. Universal pension, except that it is available as a safety net only. Some supplemental pensions are available in extreme poverty. This three tier retirement funding system could be assumed to be generous. However, women are disadvantaged in CPP due to lower wages, time not working, and time spent raising children. By retirement age, a significant number of women (17%) live below the poverty line.

In this position, they are also vulnerable to government policy and the current aging "Crisis" in which governments are looking for ways to reduce the costs of supporting elders through a longer retirement period. For example, the Canadian government recently increased the pension contribution of workers and uncoupled CPP from the inflation index (Gazso, 2005).

How does the Canadian system compare with the New Zealand system and could the Canadian experience become ours? The N.Z. pension has been described as one of the best in the world for women. It is generous for persons living alone, has adequate benefits, is linked to the average wage, and eligibility is not based on working career (St John & Gran, 2001).

The N.Z. Pension, paid equally to all over age 65, is approximately 32 - 36% of the net average wage. A couple will therefore receive approximately 65% of the net annual wage. Women, who are usually living alone as a single person, receive a slightly higher amount at 40% of net average wage (Gibson et al, 2004). A non-partnered male aged 45-55, would need to save 6.2% of pre-retirement income to cover post-retirement consumption of 2/3 of current income. His female counterpart, probably on a lower wage, does not need to save to obtain the same results.

Pension history

The basis of the current scheme, updated in 1977 was conceived as fair to women. In
1985 a 25% surcharge on private income above pension was added, making the pension "universal" no longer. In 1992 a multi-party accord was reached to take pension out of the political arena but by 1997 this was essentially abandoned. Since 1938, N.Z. males and females had the same retirement age of 60. In 2001 the retirement age was 65, and may rise again to moderate pressure on pension funds.
Supplementary benefits are also available: an unemployed 55 year old will be eligible for invalid or unemployment benefit.

However, in its current form, the universal pension is not without failings as financial adequacy is not maintained for beneficiaries due to increasing housing and healthcare costs and falling allowances for couples (St John & Gran, 2001). Mirroring the Canadian experience, few women can access employer subsidised schemes or supplementary private pensions and the N.Z. pension is still vulnerable to political whim. In addition, the recently increased age of eligibility

will disadvantage women in their 60's that do not have well paid full time jobs. The effects of the recently introduced Kiwi Saver scheme will align the N.Z. retirement savings model even more with the Canadian model, an alignment that is unlikely to benefit women unless there are government guarantees that the pension will never be asset tested.

It is feasible that, with the build up of retirement funds in Kiwi Saver, a future government will be able to dismantle the current universal super. With large numbers of pre-retirees comfortable with their Kiwi Saver nest egg, it is likely that a public outcry against such a move would be muted. The current universal pension may therefore be means tested and a safety net for the poorest of the population. Without the majority requirement for a universal pension, it is also feasible that the value of the pension will decrease leading to further poverty (McDaniel, 2000).

As this document was in its final revision, the three yearly Retirement Commission report was tabled in Parliament. This report suggested that the Kiwi Saver scheme, in its current format, may not be sustainable and that government needs to consider the age of pension eligibility and revising the Kiwi Saver incentives ("Increasing super age 'needs to be debated'," 2007). A failure to adjust these incentives may put pressure on the universal pension, and echo the Canadian predicament.

Appendix D. The Concept of Risk

Gender Differences

Is risk aversion due to biological reasons? Are women, as primary care givers, "hardwired" through hormones to avoid loss? Perhaps the answer is found in Nurture, where risky playground behaviour is encouraged for boys but not girls. Rozkowski et al (2004) note that gender risk differences increase with age and that the gender difference gap is closing with cohorts. For example, studies pre1980 showed a larger gender risk difference than did studies between 1981and 1997. We may infer from these trends that socialisation produces risk averse girls who carry that tendency through into womanhood, impacting on behavioural and financial spheres.

Grable and Lytton (2000) assert that Western culture expects men to take more risks that do women, i.e. risk tolerance is culturally defined. From a large study on age diverse faculty and staff from a Midwestern university; education, financial knowledge, income, and occupation explained 22% of individual risk tolerance. Other factors included being male, a professional, and having economic expectations. The results suggest that female risk trends are not gender based per se but a factor of education, SES, and experience. This research was conducted on a limited sample which may limit generalisation of some results. On the other hand, it does show risk aversion differences within a narrow employment group which could be expected to limit confounds of education and career choice.

Risk taking may be measured through self employment status. Figures released by Statistics New Zealand in 2004 showed the following trends (Figure 23) in occupational status for all working New Zealand men and women.

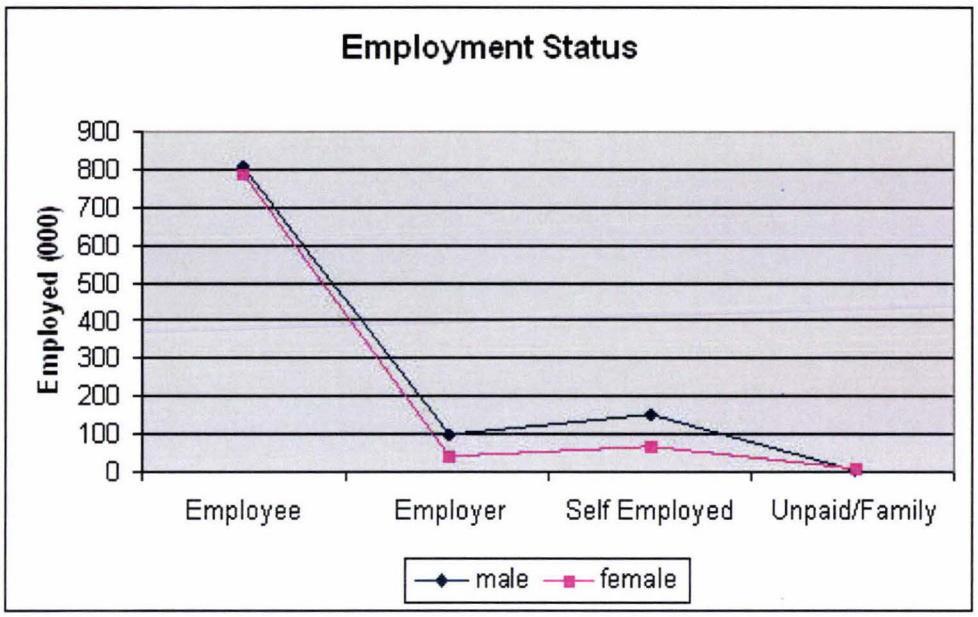

Figure 23 - Employment status of the N.Z. worker showing a similar trend between men and women, with women slightly less likely to be an employer or self employed (Statistics N.Z. – Employed Statistics 2004)

The HWR data, on the full set of employed participants, reveals that twenty four percent of HWR workers are self employed. Of this, 67.6% are males and 32.4% are females, a significant correlation between self employment and gender.

Of those who are self employed, approximately one third employ others, with males only slightly more likely than females to be employers. There are no significant statistical correlations between gender and employer status for these self employed.

For the analysis that follows (Table 20), those who are not employers have been removed from the statistics, to demonstrate that women are as likely as are men to be employers of larger number of employees.

Table 20. HWR population who are self employed and employing others.

	Employer Gender	
Employees	Male	Female
one – nine	76.29	75.93
10 – 19	10.78	9.26
20 – 30	6.90	3.70
over 30	4.31	6.48
Total	232	108

The percentage employed is calculated from reported company size, in each of the size brackets, as a percentage of the total respondents of that gender. I.e. 103 self employed women responded that they employed others. Nineteen of those employed one additional person, therefore 18.5% of the women employers employed an additional person. There is no significant gender trend in the number of personnel employed. It would appear that a woman willing to take the risk of being an employer is subsequently equal to men in risking growing her business.

Financial Investment

Financial investment is one area in which risk aversion is seen as detrimental. Factors determining investment attitude, in order of determinant, are age, income, and gender. Women tend to have less confidence in their decision making ability, due to insufficient information, education, or different information processing style (Graham, Stendari, Myers, & Graham, 2002).

The disadvantages of a lower risk tolerance and less confidence are lost opportunities and reliance on low return investment which correlate to less wealth in retirement. In turn, this means they are less likely to have a pension plan. The advantages to those women who do invest are that they tend to trade less frequently and reap higher returns (Graham et al, 2002). Lusardi (2000) concurs, finding that the risk averse and those with long planning horizons tend to accumulate more wealth. The Precautionary Savings theory predicts that those who consider they face a future income risk are more likely to save when they can. Therefore the risk averse profile of women, when combined with this theory, may predict they save more. This assumes however that they are financially able to.