Ngā Āhuatanga Noho o te Hunga Pakeke Māori
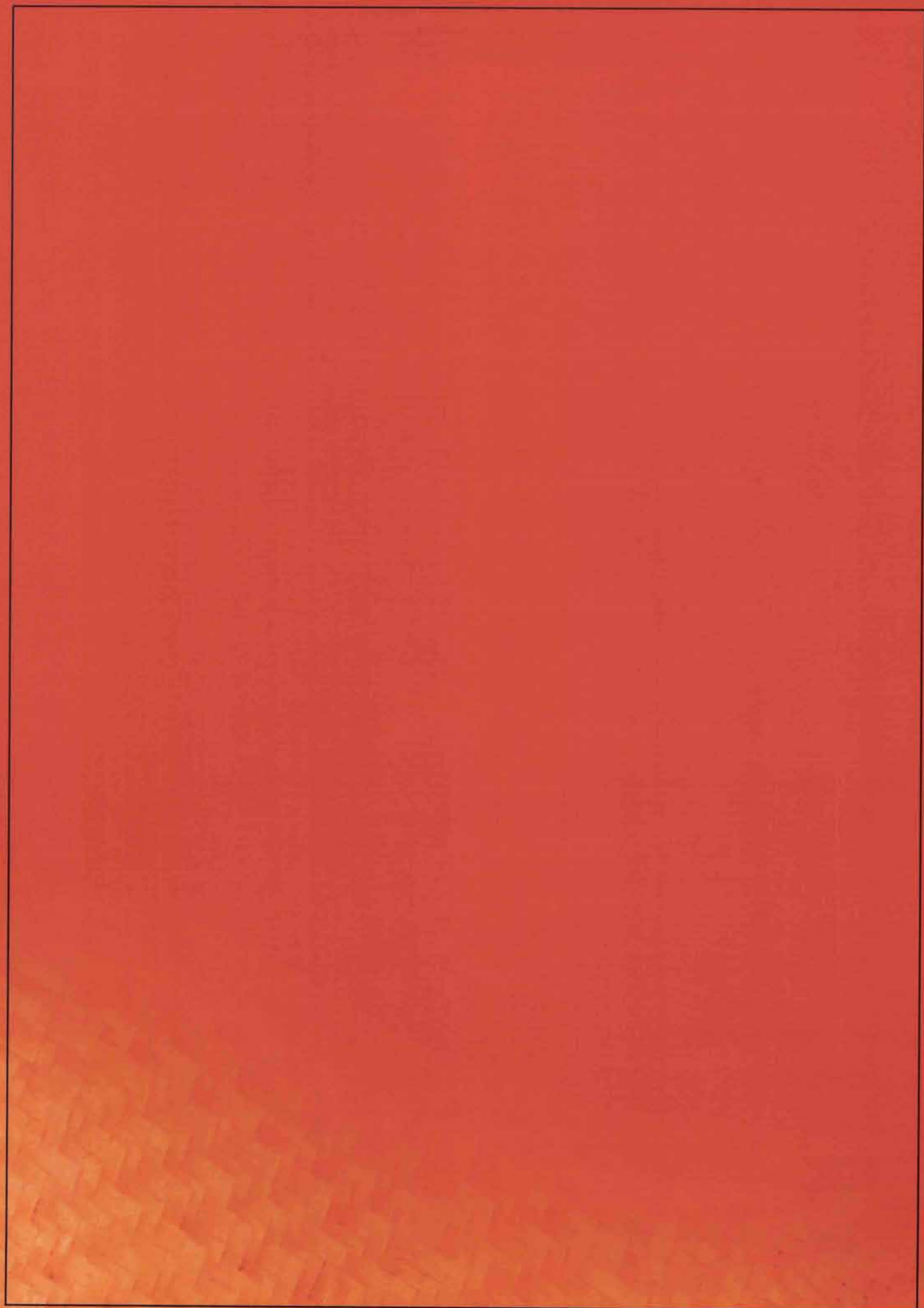
E tū te huru mā, haramai e noho

Living Standards of Older Māori

2002

Ngā Āhuatanga Noho o te Hunga Pakeke Māori

E tū te huru mā, haramai e noho

To the elderly who have reached the pinnacle,
remain as a guiding light for us all

Living Standards of Older Māori

2002

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Acknowledgements

Disclaimer

Foreword

Disparities between Māori and non-Māori are well known. What is especially valuable about the present work is that it provides a strong base for moving forward, for understanding why these exist and how resources can best be used both by government and communities to change the situation for the future.

This project is an excellent example of a coming together of shared perspectives and expertise in research. It extends work completed by the Ministry last year on the living standards of older New Zealanders using mainstream social survey methods and statistical analysis techniques. The current project has adapted this approach to focus on information from a sample of older Māori, with input and guidance from a Māori research group.

A key element in the project's success has been the collegial approach and joint spirit of endeavour of the members of the research team from the School of Māori Studies at Massey University, the Christchurch Health and Development Study of the Christchurch School of Medicine, and the Ministry of Social Development's Knowledge Group. The research has provided an opportunity to gain more understanding about the living standards of older Māori and the factors (including cultural) that contribute to different living standards. This work has has been of mutual benefit in advancing the Ministry's and the School of Māori Studies' research programmes.

In the previous research on living standards, a Material Well-being Scale was successfully developed to describe the living standards of older New Zealanders generally. The current study demonstrates the relevance of the Scale of Material Well-being for both older Māori and older non-Māori. This important finding means that this scale, which uses direct responses from people about what they can afford to own and do, provides a valuable tool for looking across Māori and non-Māori living standards in a robust and meaningful way.

I am pleased to see the continued success of the research programme on living standards and its focus on providing information that will assist in generating informed debate and evidence-based policy development and review.

Peter Hughes
Chief Executive, Ministry of Social Development

Preface

'Māku tenei, mā te rā e tō ana.   He aha kei a koe?
Kei te rā e huru ake ana.'

'Leave this for me, the setting sun.   And what is for you?   The glowing sun is the rising sun.'[1]

If children are the hope for the future, then kaumātua, older people, are the foundations upon which that hope can be built. Despite several generations of Western influence, Māori society generally retains a positive view towards ageing and older people, affording them status and at the same time expecting them to fulfill certain defined roles on behalf of the whānau (family) and hapū (tribe and community). In order to meet those obligations, however, kaumātua must contend with a range of issues that impact on their material well-being. In other words, the cultural role cannot be isolated from the circumstances in which older Māori live.

This report documents a survey of 542 older Māori and focuses on the economics of their day to day lives. It reveals that, although the great majority of older Māori are not in dire circumstances, there is nonetheless a relatively high rate of disadvantage, poverty and material hardship levels – around three or four times those of non-Māori.

The findings are important, not only because they reflect the status of the current generation of older Māori but also because the proportion of kaumātua is going to increase quite rapidly over the next two or three decades and as a consequence, the situation could be felt even more acutely. There is an obvious need to plan ahead, and it is hoped that this report will be useful in formulating responses and planning for the material well-being of older Māori at national, regional and iwi levels.

Age travels slowly, but with surety.[2]

He tira kaumātua, tēnā te haere nā

Mason Durie
School of Māori Studies
Massey University
Palmerston North

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1 'The old man has his experience, knowledge and memories but the young man has his life ahead of him'. Quoted in Mead, H. M., Grove N. (2001), Ngā Pēpeha a Ngā Tīpuna, Victoria University Press, Wellington, p. 280

2 Literally 'A travelling party of elders travels yonder.' quoted in Mead, H. M., Grove N. (2001), Ngā Pēpeha a Ngā Tīpuna, Victoria University Press, Wellington, p. 125

Overview

This report is the second in a series of studies being undertaken by Ministry of Social Development on the living standards of New Zealanders. The objective of the study was firstly to examine the use and relevance of the Material Well-being Scale to describe the living standards of older Māori, secondly to provide comprehensive information on the living standards of older Māori and the factors impacting on their material well-being and thirdly to relate these findings to the findings from the first study in the series, a study of the general population of older people.

■ The survey participants

The sample was of individuals who were aged 65 to 69 years and were of Māori ethnicity.

Of the 542 Māori participating, almost half were single (living alone or with others) and just over half (53%) were couples (living alone or with others). Over two-thirds of the single participants were women (69%). About three-quarters of the sample (77%) lived in urban centres and about a quarter lived in rural areas. Most (89%) of the respondents lived in the North Island. Just over half (57%) had no formal qualifications.

Across the sample there was great diversity in the levels of identification with, and participation in, te ao Māori (the Māori world).

A relatively large minority of the participants reported serious health problems (hypertension, coronary heart disease, diabetes and arthritis). Single older Māori tended to be at greater risk than couples.

Examination of the economic circumstances of older Māori suggested that in comparison to non-Māori, Māori had lower income levels, lower levels of savings and assets, and were less likely to own their own home. These differences were particularly evident for single older Māori.

■ Measuring living standards

The living standards of older Māori were measured using the Material Well-being Scale; this scale was first developed for the survey of the Living Standards of Older New Zealanders (Fergusson et al, 2001a) and was constructed by combining information from five areas or sub-scales:

- ownership restrictions
- social participation restrictions
- economising
- severe financial problems
- self-assessments (standard of living and adequacy of income).

Before applying this scale to the measurement of older Māori, a series of validation exercises were undertaken, all of which concluded that the Material Well-being Scale could validly be applied to older Māori.

☐ Key findings

Most importantly, the results clearly highlighted the marked material hardship many older Māori experienced, with about one in seven (15%) facing some financial difficulty, and a further one in five (20%) facing severe difficulties. In comparison, of the older population generally, 10% faced some financial difficulty and only a further 6% faced severe difficulties.

Also of importance was the fact that older single Māori tended to be in a worse financial situation than older Māori couples. This was primarily due to a history of reduced asset accumulation, high accommodation costs, and for the majority of single older Māori (of whom most were women) - the death of their spouse.

Factors found to predict variation in the living standards of older Māori were:

- net annual income
- savings and investments
- accommodation costs
- economic life events and stresses
- the number of children raised or supported.

The research shows that older Māori most at risk of poor living standards were characterised by a mix of relying solely on New Zealand Superannuation (NZS) for income, having no savings or assets, paying rent or mortgage, experiencing any financial stresses in the last year, experiencing any economic adversities when aged 50-59 years, and having raised eight or more children. Around one in 12 (8%) had experienced five or more of these factors. The results showed a trend for a more secure Māori identity to be associated with reduced material well-being. However, when adjustments were made for the association between cultural identity and the above risk factors, this association between cultural identity and material well-being was explained.

☐ Policy themes

The following key policy themes are suggested by the findings:

Sustaining the present scheme

In a previous analysis of all older New Zealanders, it was concluded that the current income support schemes were adequate to meet the economic needs of the majority of older people and for this reason it was important that existing levels of support via NZS and supplements to NZS were sustained (Fergusson et al, 2001a). Given the greater disadvantages experienced by Māori, not maintaining the existing level of income support for older people will exacerbate the already disadvantaged status of older Māori.

The need for additional targeted policies dealing with those in hardship

Targeted policies are needed to provide additional support and assistance to individuals facing financial hardship and difficulty. Key policy criteria for targeting assistance are likely to involve factors related to income, savings and assets, and accommodation costs. Using common criteria to identify hardship does not preclude Māori-specific policy responses to address needs of the Māori sub-group population. Government and community policies to address hardship amongst older Māori can be tailored to meet the specific needs of Māori (e.g. kaumātua housing).

Strengthening the economic base of Māori

Comprehensive and holistic policies are needed to resolve health, educational and economic disparities between Māori and non-Māori in New Zealand. Whilst targeted assistance to older Māori facing severe hardship may be justified, this approach provides only a band-aid solution to the wider issue of ensuring the material well-being of older Māori. It is quite clear from the factors associated with material well-being amongst Māori (and indeed non-Māori) that the older Māori population will remain at risk of relatively depressed living standards for as long as inequities exist between Māori and non-Māori in the areas of economic well-being and health.

Developing pre-retirement policies for older Māori

There is a general need for pre-retirement policies, and this is especially important for Māori. Key factors that appear to play an important role include: having sources of income additional to NZS; the development of savings and assets; reducing accommodation costs through home ownership; and avoiding redundancy and unemployment in one's fifties. As the economic base for Māori grows, it will become increasingly important for Māori to ensure that this is used to contribute to securing adequate incomes for Māori in retirement.

Te Whakarāpopoto

Koia nei te pūrongo tuarua o ngā rangahautanga e whakahaerehia ana e Te Manatū Whakahiato Ora e pā ana ki ngā āhuatanga noho o te iwi whānui o Aotearoa. Ko te whāinga tuatahi, he āta tirotiro i te hāngai me te whakamahinga o te Tauine Oranga Whai Rawa hei whakaatu i ngā āhuatanga noho o te hunga pakeke Māori. Tuarua, he whakaputa kōrero whānui mō ō rātou āhuatanga noho, me ngā take kei te pā ki tō rātou oranga whai rawa. Tuatoru, he tūhono i ēnei whakakitenga ki ērā o te rangahautanga tuatahi mō te hunga pakeke whānui o Aotearoa.

■ Ko te hunga i whai wāhi mai

He tangata Māori i waenganui i te 65 me te 69 tau te pakeke te hunga i whai wāhi mai ki tēnei rangahautanga.

E pātata ana ki te haurua o te 542 tāngata Māori i whai wāhi mai, he takakau (e noho kotahi ana, i te taha rānei o t/ētahi atu). Neke atu i te haurua (53%) e noho takirua ana (i tō rāua kotahi, i te taha rānei o t/ētahi atu). Neke atu i te rua hautoru o te hunga takakau, he wāhine (69%). Ko tōna toru hauwhā o te hunga i whai wāhi mai (77%) e noho tāone ana, e pātata ana ki te hauwhā kotahi i tuawhenua e noho ana. Ko te nuinga e noho ana ki Te Ika a Māui (89%). Neke atu i te haurua (57%), kāre kau ā rātou tohu mātauranga ā-kura nei.

He matatini te hunga i whai wāhi mai, he rerekē anō te āhua o tō rātou kuhu, whakapiri hoki ki te ao Māori.

Ahakoa i raro iho i te 50 ōrau, he tokomaha tonu e pāngia ana ki tētahi māuiui āhua taumaha nei (pērā i te maniore, te mate manawa, te mate huka, me te kaiponapona). He kaha kē atu te pāngia o te hunga pakeke Māori e noho takakau ana i te hunga noho takirua.

Ina whakatairitea ngā āhuatanga noho o te hunga pakeke Māori ki ō Tauiwi, he iti ake te whiwhinga moni, he iti ake anō te moni penapena me ngā rawa, he tokoiti ake te hunga nō rātou ake ō rātou kāinga. E tino pēnei ana te hunga pakeke Māori e noho takakau ana.

■ Te Ine i ngā āhuatanga noho

Ka whakamahia te Tauine Oranga Whai Rawa hei ine i ngā āhuatanga noho o te hunga pakeke Māori. He mea waihanga tēnei tauine mō te rangahautanga i ngā āhuatanga noho o te hunga pakeke whānui o Aotearoa (Fergusson mā, 2001a), ā, he kōtuitui i ngā kōrero mō ngā kaupapa e rima nei:

- Ngā whakatiki whai rawa
- Ngā whakatiki e aukati ana i te whai wāhi atu ki te hapori
- Ngā whakatiki ōhanga
- Ngā tino whakararu ōhanga
- Ngā aromatawai ā-kiri (mō ngā āhuatanga noho me te rawaka o te whiwhinga moni)

I mua i te whakamahinga o tēnei tauine, ka āta whakamātauria, ā, ko te whakatau i puta, āe, e tōtika ana mō te hunga pakeke Māori.

■ Ngā Whakakitenga Matua

He tokomaha ngā pakeke Māori e tino pāngia ana ki te pōharatanga. Kotahi o roto i te tokowhitu (15%) e pāngia ana ki ngā whakararu ōhanga. Tāpiri atu ki tēnā, kotahi o roto i te rima (20%) e tino pāngia ana. Ina whakatairitea ki te hunga pakeke whānui o Aotearoa, 10% te tokomaha e pāngia ana ki ngā whakararu ōhanga, ā, e 6% anake e tino pāngia ana.

He kaha kē atu te pāngia o te hunga pakeke Māori e noho takakau ana i te hunga e noho takirua ana. I pēnei ai, nā te mea kāore te hunga takakau i āta penapena i ā rātou rawa i roto i te takanga o te wā, he nui te utu mō ō rātou whare noho, ā, mō te tokomaha o te hunga pakeke Māori (ko te nuinga he wāhine), kua mate kē ō rātou hoa rangatira.

Koia nei ngā take e taurangi ai ngā āhuatanga noho o te hunga pakeke Māori:

- Te whiwhinga moni ā-tau
- Ngā moni penapena me ngā haumi
- Te utu mō te whare noho
- Ngā āhuatanga ōhanga i pā i roto i te roanga o ngā tau e ora ana me ngā taumahatanga
- Te tokomaha o ngā tamariki i whakapakeketia, i whāngaitia rānei

Koia nei ētahi āhuatanga o te hunga pakeke Māori e tino pōhara ana te noho: e whakawhirinaki ana ki te penihana koirā anake te whiwhinga moni; kāre kau ā rātou penapena moni, rawa rānei; e utu ana i te rīhi whare, te mōkete rānei; kua pāngia ki ngā taumahatanga ōhanga i te tau kua hori, i ā rātou i waenga i te 50 ki te 59 tau te pakeke rānei; tokowaru, neke atu rānei ngā tamariki i whakapakekehia. E pātata ana ki te kotahi o roto i te 12 (8%) i pāngia ki te rima neke atu rānei o ēnei āhuatanga.

E āhua hono ana te pōharatanga ki te hunga e piri ana ki tō rātou tuakiri Māori. I tua atu i te hunga e pakari ana i tō rātou ao Māori, kāore e tino rerekē ana ngā take e pōhara ai te hunga pakeke Māori me te hunga pakeke whānui o Aotearoa.

■ He Kaupapa Here

Koia nei ngā kaupapa here matua e puta ana i ngā whakakitenga:

Kia mau tonu ngā kaupapa penihana o nāianei

Ko tētahi o ngā whakatau i puta i te rangahautanga i te hunga pakeke whānui o Aotearoa, e mea ana, kei te rawaka ngā kaupapa penihana o nāianei hei whakatutuki i ngā hiahia o te nuinga o te hunga

pakeke. Nō reira, he mea nui kia mau tonu, kia rite tonu te penihana me ōna āpitihanga (Fergusson mā, 2001a). Ki te kore e pērā, ka kaha kē atu te pāngia o te hunga pakeke Māori ki te pōharatanga.

Kia waihangatia he kaupapa here e hāngai ana ki te hunga e tino pāngia ana ki te pōharatanga

E tika ana kia waihangatia he kaupapa here hei whakatutuki i ngā hiahia o te hunga e tino pāngia ana ki te pōharatanga me ngā uauatanga ōhanga. Ko ngā paearu matua e whiwhi ai te tangata i ngā painga o ēnei momo kaupapa, e hono ana ki tōna whiwhinga moni, āna penapena moni, rawa hoki, me te utu mō tōna whare noho. Ahakoa te hāngai o ēnei paearu ki te hunga pakeke whānui, kāore e aukatia ana ngā kaupapa here e hāngai pū ana ki te hunga pakeke Māori. Arā pea ko ngā kaupapa e takea mai ana i tā te Māori titiro (hei tauira - whare kaumātua).

Kia pakari ake te tuāpapa ōhanga o te iwi Māori

E tika ana kia whānui anō ngā momo kaupapa hei whakapiki i ngā āhuatanga whakatiki o te hauora, o te mātauranga, me te ōhanga kei te pā ki te iwi Māori, kia kore ai e rereke ki a tauiwi. Ahakoa te tika o ngā kaupapa āwhina i te hunga pakeke Māori e tino pangia ana ki te pōharatanga, he pāpaku ēnei momo kaupapa, kāore e tino aro ana ki te oranga whai rawa tauroa. Ki te kore e pakari te ōhanga whānui o te iwi Māori, kia rite ki tō tauiwi, ka mau tonu ngā whakatiki me te pōhara o te noho ki tētahi wāhanga nui o te hunga pakeke Māori.

Kia whakahiatoria he kaupapa here mō te wā ka tata mutu te whai mahi a te hunga pakeke Māori

He whānui anō te hiahia kia whakatūria he kaupapa here tiro whakamua mō te wā ka tata mutu te whai mahi a te hunga pakeke, ā, e tino hāngai ana tēnei whakaaro ki te pakeke Māori. Koia nei ngā take matua: kia whiwhi pūtea hei āpiti anō i te penihana; ko te penapena moni, rawa hoki; kia whakaitia te utu mō te whare noho, arā, kia noho te Māori ki tōna ake whare; ko te ārai i te aukatinga mahi i roto i ngā rima tekautanga o te tangata. Arā anō ētahi take pēnei. Ina pakari haere te tuāpapa ōhanga o te iwi Māori, e tika ana kia āta whakaritea tētahi wāhanga hei rourou āwhina i te hunga pakeke Māori, kia eke ai tā rātou whiwhinga moni ki te taumata e tika ana.

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Background
Te Takenga Mai

This study forms part of a series of studies on the living standards of New Zealanders based on analysis of data from three surveys undertaken in 2000[1]. These living standards surveys were: a survey of 3060 people aged 65 years and over; a survey of 542 Māori aged 65 to 69 years; and a survey of 3682 people aged 18 to 64 years. A requirement of the living standards research was that the information could be used to make reasonably accurate statements about the situation of Māori (as tangata whenua of New Zealand) as well as non-Māori.

The first study was completed last year (Fergusson et al, 2001a) and involved successfully developing a scale of Material Well-being, using this scale to describe the living standards of older people, these being defined as people aged 65 years and over, and examining the potential determinants of variation in living standards for older people generally. Although there was some preliminary analysis of the situation of older Māori which indicated that older Māori were a relatively disadvantaged group compared with older non-Māori , a full analysis was not conducted at that time.

The present report extends the living standards programme of research by presenting findings on the situation of older Māori through detailed analysis of the information from the living standards survey of 542 Māori aged 65 to 69 years. This chapter presents three key areas of background information to this research: the characteristics of the NZS programme, the previous study on the living standards of older New Zealanders, and the aims of the current study.

❏ Characteristics of the New Zealand Superannuation Programme

NZS is the basis of New Zealand's retirement income system. This tax-funded programme provides universal, flat-rate payments to New Zealand residents aged 65 and over (see Box 1). The entitlement for these payments is not affected by income from other sources. In this respect, NZS differs from income-tested social assistance (such as unemployment benefit). In addition, a range of supplementary assistance and support services are available for people on low incomes, including older people. This retirement income system is quite different from those of many other countries where an earnings-related pension is combined with a social assistance pension to address hardship.

Box 1: Features of the New Zealand Superannuation Programme

Universal

New Zealand Superannuation (NZS) is payable to every individual over the age of 65 who meets the residency requirements. There is no income, asset or retirement test.

Flat-rate

The payment is a standard dollar amount, unrelated to previous earnings levels. The amount is dependent only on partnership status and living arrangements.

Tax-funded

Funding comes entirely from general government revenues. No direct contributions or pay-roll taxes are levied on employers or employees.

Pay-as-you-go

Funds are annually appropriated by Parliament to pay current superannuitants. Some provision has been made for future liabilities through partially pre-funding NZS by setting aside and investing a proportion of tax revenues to meet the cost of future NZS entitlements.

[1] This research was initiated by the Super 2000 Taskforce and transferred to the Ministry of Social Policy in March 2000. The Ministry of Social Policy subsequently merged with the Department of Work and Income to become the Ministry of Social Development in October 2001.

Retired people's incomes are a combination of NZS and income resulting from their own private arrangements to provide for their retirement. However, among the current population of older people (most, but not all, of whom are retirees), levels of private savings are generally low (excluding home ownership) and most older people rely heavily on NZS as their major source of income. This is particularly the case for older Māori.

■ Research on the living standards of older New Zealanders

The study on the living standards of older New Zealanders (Fergusson et al, 2001a) focused on two general questions about the living standards of older people:

- How can the relative living standards of older people be measured and described?

- What factors contribute to or influence the living standards of older people?

The measurement approach adopted for the study used a concept of living standards based on the material conditions and consumption of people living in private households. The material conditions and consumption referred to the goods that people have and consume, and their participation in common social activities.

Information was gathered about many items which related to both low and high living standards including: possessions people want but cannot afford; social activities they want to do but cannot afford; serious financial problems (such as inability to pay power bills); self-assessed adequacy of income for buying necessities; and self-assessed level of living standards. These items were then successfully combined into a robust Material Well-being Scale of the living standards of older people.

Statistical analysis techniques were then used to identify the economic, personal, social and related factors associated with variation in living standards for older people as measured by the scale.

These were the key findings of the research on the living standards of older New Zealanders:

- The system of income support (NZS and associated payments) for older people has been successful in protecting the great majority of older people from hardship. However, a small minority of around 6% reported quite marked hardship and a further 5 to 10% reported some hardships.

- Older people tended to report fewer material restrictions than younger people (aged 18 to 64 years) for both Māori and non-Māori populations.

- Three sets of factors operated cumulatively to influence the overall material well-being of older people in the survey. These factors were:
  - current economic circumstances: net annual income, value of savings and investments, and accommodation costs
  - exposure to past and current economic stresses
  - social background: household composition, age, ethnicity, socio-economic status.

- Older Māori respondents had material well-being scores that were markedly lower than those of older European-Pakeha/other respondents.

- Older Pacific respondents had mean scores that were lower than both older Māori and older European-Pakeha/other respondents.

The primary focus of the study was on information from the survey of 3060 older people generally and included only a preliminary investigation of the data from the survey of 542 older Māori . Even so, the results reiterated the findings of other studies regarding disparities (Te Puni Kōkiri , 2000) and set the context for further research on fully measuring the material well-being of older Māori , and gaining greater understanding of the factors (including cultural) that might influence variation in material well-being for older Māori .

■ Research on the living standards of older Māori

To undertake further research on living standards focusing on older Māori a collaborative research team was established.

* The primary role of contextual interpretation and writing of the research report aimed at improving understanding of the living standards of older Māori was commissioned to a research team at the Department of Māori Studies, Massey University. The research team included Professor Mason Durie, Dr Chris Cunningham, Eljon Fitzgerald, and Brendan Stevenson, whose input also drew heavily on the experience and findings of Te Hoe Nuku Roa.[2]

* Professor David Fergusson and John Horwood of the Christchurch School of Medicine were engaged to provide advice and assistance with the analysis and the reporting of the technical aspects of the research.

* Additional support and input to the project was provided by officials from the Ministry of Social Development, including Mike Rochford, John Jensen and Bev Hong.

The research derives from a model in which the research methodology employed has been adapted from existing research using a mainstream social survey methodology, with this process of adaptation being overseen and approved by a Māori research group. The key elements of the research approach are similar to those adopted for the previous study on the living standards of older New Zealanders (Fergusson et al, 2001a). The relationship between the previous and current living standards studies is depicted in Box 2. The first aspect of the current study focuses on developing a scale, describing living standards outcomes for older Māori , and if a common scale is appropriate, comparing the living standards of older Māori and older New Zealanders generally. The second aspect of the study is to examine the factors that contribute to variation in living standards for older Māori and consider how these factors may differ for older Māori and older New Zealanders generally.

Overall, the key aims of the study were to:

* examine the material well-being scale approach in relation to older Māori and if applicable, describe the living standards of Māori aged 65-69 years using this scale

Box 2: Key living standards study components

Previous study: living standards of older New Zealanders		Current study: living standards of older Māori
• Successful development of Material Well-being Scale measure • Scale used to describe living standards outcomes of older New Zealanders	If same scale measure suitable - compare living standards	• Development of Material Well-being Scale measure • Scale used to describe living standards outcomes of older Māori
Factors identified that contribute to differences in living standards including current income, savings/investments, household composition, recent economic stresses, previous economic history and social and ethnic background.	How are these factors similar and different?	Assess factors that contribute to differences in living standards including current income, savings/investments, household composition, recent economic stresses, previous economic history and cultural identification and social background.

- investigate the factors associated with variation in living standards for older Māori

- compare findings regarding older Māori with those from the previous study on older people (predominantly non-Māori) generally.

This study is one of the initial stages in an on-going programme of research on material living standards by the Ministry. Other projects to be completed in 2002 include:

- a descriptive study of the living standards of New Zealanders of all ages, including a separate analysis of the Māori population

- an examination of Māori perspectives on the measurement of living standards which is being undertaken by the Te Hoe Nuku Roa research team funded by a grant provided by the Ministry of Social Development.

The completion of these projects in 2002 will form the basis for further development work and consultation to be undertaken on the measurement of material living standards of Māori, in preparation for a further survey of living standards in 2003. The 2003 survey is planned to include a sample of at least 500 Māori participants.

Cultural Context
Ngā Āhuatanga Māori

■ Māori demography

The vast majority of older people in New Zealand are non-Māori . Older Māori comprise only 4% of the total population of people aged 65 years and over in New Zealand. The proportion of Māori in the older population decreases with increased age, with people of Māori ethnicity making up only 2% of people aged 80 years and over (see Table 1).

Table 1: Age breakdowns for Māori and non-Māori populations in New Zealand

	Non-Māori population		Māori population		Total population	
	No.	%	No.	%	No.	%
Under 65 yr	2,768,207	85	508,644	15	3,276,851	100
Persons 65-69 yr	119,976	94	7,938	6	127,914	100
Persons 70-79 yr	205,008	96	7,755	4	212,763	100
80 yr and over	107,805	98	1,944	2	109,749	100
Total population	3,210,996	86	526,281	14	3,737,277	100

Source: Statistics New Zealand, 2001 Census

A major contributor to the small proportion of Māori in the older age ranges is the historical pattern of higher mortality in earlier age groups resulting in lower life expectancy for Māori . Table 2 shows that for both men and women the life expectancy at birth for Māori is about eight years shorter than for non-Māori . Greater female longevity is apparent for both Māori and non-Māori populations.

Table 2: Life expectancy at birth, Māori and non-Māori, 1995-97

	Men	Women
Māori	67.2	71.6
Non-Māori	75.3	80.6

Source: Statistics New Zealand, 1998

The Māori population is ageing due to a combination of decreasing birth rate and increasing life expectancy. However, although the Māori population will age over the next 50 years, it will remain a relatively young population. By 2051, the median age for the Māori population is expected to be 32 years, compared with 45 years for the total New Zealand population.

An increasing number of Māori in the present population will reach retirement age in the next 50 years. By 2051, Māori in the 65-and-over age group are expected to make up 13% of the total Māori population, compared with only 3% in 2001 (Statistics New Zealand, 2001a).

■ Māori diversity

Comparing Māori and non- Māori on health, educational, social, and economic factors has been useful in ascertaining the comparative status of Māori in relationship to other New Zealanders. Such comparisons have drawn attention to the relative disadvantage of Māori and have subsequently been used as a rationale for policies and programmes.

However, such statistical comparisons, based on summary statistics such as population averages and proportions leads to Māori being viewed as a homogeneous group. Although there has been emphasis on iwi and hapū as a basis for considering social service delivery and social policies, since the commencement of the Decade of Māori Development in 1984[3], this approach similarly carries an assumption of homogeneity in viewing all Māori as relating to tribal structures.

It has become apparent, however, that far from being homogenous, Māori are as diverse and complex as other sections of the New Zealand population, even though they may have certain characteristics and features in common.

Durie has noted that:
"Māori live in diverse cultural worlds. There is no one reality nor is there any longer a single definition which will encompass the range of Māori lifestyles" (Durie et al, 1996).

A similar theme was debated at the hui Te Ara Ahu Whakamua (Ministry of Māori Development, 1994).
"In considering policies for Māori health, the diverse realities of Māori people must be taken into account. It can no longer be assumed that most Māori are linked to the conservative structures of hapū and iwi or that kohanga reo will be accessed by all Māori children or that the marae will continue to be the favoured meeting place for all Māori" (Durie, 1994a).

To examine the cultural heterogeneity amongst Māori further, Te Hoe Nuku Roa (1996) formulated a set of indicators of an individual's level of Māori cultural identification. These have more recently been statistically combined into a single scale measure that provides a quantitiative measure of an individual's Māori cultural identification (Te Hoe Nuku Roa, 2002).

3   For more information about the Decade of Māori Development 1984-1994, see Te Ara Ahu Whakamua (Te Puni Kōkiri, 1994)

The realities of older Māori range from those existing largely within mainstream society (often indistinguishable from non-Māori) to those living a more traditional or culturally conservative lifestyle (and including large numbers of kaumātua).

Roles of kaumātua

Although in many cultures older adulthood leads to a more leisurely lifestyle, the opposite can be said for many kaumātua (Maaka, 1993; Durie, 1999). An older person who participates in Māori society may experience reduced privacy, less time with family, longer working hours and a relative loss of independence (Durie, 1999).

The roles of kaumātua include: resolving disputes and conflicts between families and between iwi, carrying the culture, recognising and encouraging the potential of younger members, cultural guidance and advice, maintenance of protocol, reception and care of visitors, protection and nurturing of younger adults and children, performance of ceremonial duties, spiritual leadership, and attendance at tangihanga (Durie, 1999). Although some roles are usually gender defined, such as karanga or whaikōrero, the roles of older Māori men and women may vary in different areas or situations for a number of reasons.

However, it is important to remember that kaumātua are not a homogeneous group. For example, between individuals there is diversity in socio-economic levels and cultural characteristics. Some kaumātua will have experienced a lifetime of unemployment while others will be well qualified and will have been employed. The extent of participation in Māori society will vary between individuals, some may be active within the Māori community while the participation of others may be limited by knowledge, experience, confidence (Maaka, 1993) or perhaps motivation. Further, some kaumātua will be alienated not only from Māori society, but also from mainstream New Zealand society. Meeting the needs of the diverse population of kaumātua will be a challenge to planners, policy makers, health service purchasers and providers.

▣ An earlier research study of older Māori

A description of a study conducted in 1995-1996 focussing on the health of kaumātua has been included to provide context and to assist in the comprehension of the realities that certain groups of older Māori exist within. Oranga Kaumātua (Durie et al, 1996) was a study of 400 older Māori located in a "culturally conservative" reality, which involved iwi and Māori groups identifying and recruiting known kaumātua for inclusion in the study (i.e. kaumātua in this study were defined as such by their community). In addition, nine providers of health services to kaumātua were also interviewed. This had been the biggest such study of older Māori to date.

The sample in the Oranga Kaumātua study was non-random and distributed as follows:

	<60	60-64	65-69	70-74	75-79	80+	Total
Male	5	36	45	37	20	18	161 (41%)
Female	9	66	50	59	20	29	233 (59%)

(Source: Durie et al, 1996)

The sample included a mix of metropolitan (10%), urban (51%), and rural (39%). Home ownership was high in this group (75%), 10% rented accommodation, 5% lived with relatives and 5% in papakainga housing. In this group about 75% provided care for whānau, and in turn between one-third and one-half received care from whānau when necessary.

A finding of the study was that being considered a kaumātua was more about role and function than age.

Factors impacting on well-being (social, economic, cultural)

From the research (undertaken by the School of Māori Studies, Massey University), it was possible to form a picture of some of the key factors that appeared to impact on the well-being of older Māori (Durie et al, 1996).

Health and disability: In Oranga Kaumātua, high levels of disability were reported, with over half of the kaumātua describing major or minor disabilities and roughly one-third admitting to poor health. While less than a third smoked, nearly half had smoked at some time in the past and over a third were moderate or heavy drinkers. Access to health and disability support services was therefore important and, although not regarded as a serious problem by kaumātua, health providers were critical of mainstream provision for kaumātua and the unfriendly nature of services. Kaumātua themselves had definite views about the preferred type of provision as well as the barriers which existed. Generally there was confidence in mainstream medical care, with few opting for traditional healers, but many more respondents were keen that cultural appropriateness should be part of any health service. The suggested implication of the study is that Māori health providers and medical doctors must be aware of kaumātua health needs, and services should be planned jointly so that an integrated approach is possible.

The costs of medical care were a particular potential barrier for kaumātua. Private insurance was uncommon and although eligible, uptake of disability support services was relatively low. These findings suggested a need for re-examining information systems so that better use is made of the provisions which are already available. If this were to occur, it is likely that Māori health services would have a special role in this area.

Workforce development was identified by health agencies as a priority. While choice (for kaumātua) was recognised, purchasers of health and disability support services and providers were in agreement that Māori services had the potential to enhance health promotion and effect better liaison with primary and secondary health services. There was an additional recognition amongst the health agencies that the needs of older Māori cannot be addressed outside the social and cultural context of everyday life.

Socio-economic position: Kaumātua were not well off. Most were dependent on NZS or benefits for income, and most had a total annual income of less than $20,000 with little opportunity for supplementation. Surprisingly, less than a third of kaumātua received dividends from Māori resources such as land, fewer were able to rely on savings or investments, and even fewer had full or even part-time employment. On the other hand, an unexpected finding was the relatively high numbers (three-quarters of the study group) who lived in their own home, usually shared with other whānau members. For those who had higher incomes and lived in their own home, there was a greater likelihood of better health.

Provision for Māori retirement was considered a matter that iwi, hapū and the state should be concerned with. High home ownership may be less likely among the next generation of kaumātua since many will have known long periods of unemployment. Financial support from the state at current levels may be less certain and it is difficult to predict how much support whānau will be able to contribute. Long hours of voluntary work (on marae or among whānau) were not atypical, and there may be a case for recognising those efforts through a revised system of marae management. But provisions for kaumātua by trusts, incorporations and iwi also require further debate. In the past, education (for children and youth) has featured prominently in iwi planning. As dependency ratios change, with a larger proportion of older people, the study suggested policies should also be revised to ensure that potential at both ends of the life-cycle is fulfilled.

Whānau: whānau relationships were typically close, and older Māori reported a type of reciprocal involvement that was both rewarding and demanding. While most could count on the wider whānau for assistance, including financial aid, transport and help when unwell, by far the more common finding was the assistance offered to whānau by kaumātua. It included cultural assistance, accommodation, support during illness, encouragement with education, and strong leadership in learning and speaking te reo Māori. There was some suggestion that these high levels of reciprocity contributed to intergenerational understanding and provided a sense of satisfaction among kaumātua.

The study concluded that consideration must be given to strengthening whānau to avoid further fragmentation and alienation. Whānau circumstances are rapidly changing and if kaumātua in the future are to remain involved and continue to play essentially positive roles, then active policies for whānau development are needed. The study recommended that such policies should take into account cultural and social developments but also whānau economics, income derived from land, forests and fisheries and the ways in which iwi and hapū are interacting with whānau in the pursuit of the wider dimensions of Māori development.

It must be noted however, that the Oranga Kaumātua study took a snapshot of kaumātua who were a relatively culturally homogeneous group with a strong attachment to traditional values, and as has been acknowledged within that study and elsewhere, Māori exist within a very diverse range of realities. What the Oranga Kaumātua study did not capture were older Māori who did not exist so strongly within te ao Māori and were more likely to function within non-Māori realities.

The study suggested three important areas of focus in relation to older Māori:

- health and disability, and issues relating to health and disability services

- economic circumstances and material well-being

- whānau relationships, and issues relating to whānau development.

The present study on the living standards of older Māori complements the work undertaken in the Oranga Kaumātua study by addressing the second of these areas of focus (economic circumstances and material well-being) amongst a more culturally diverse and representative sample of older Māori.
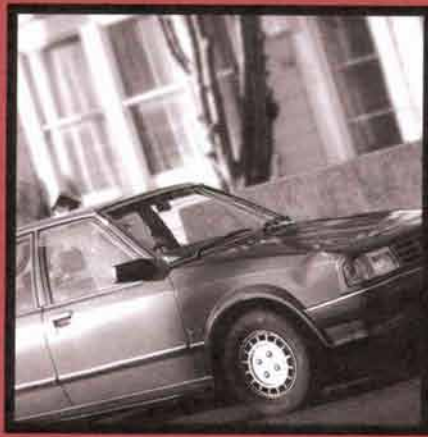
Data Collection
Te Whakaemi i Ngā Kōrero

☐ The living standards survey of Māori aged 65-69 years

Statistics New Zealand was commissioned to undertake two surveys of older people in 2000, one focusing specifically on older Māori and another of 3,000 people aged 65 years and over in the general population. The survey of 500 older Māori was commissioned to boost the number of older Māori in the living standards survey programme. This was because Māori make up only 4% of the population aged 65 and over, so a general survey of 3,000 persons was expected to include only approximately 120 Māori respondents which is insufficient to allow statistically reliable results to be produced for the Māori population.

Survey design

Various options were investigated by Statistics NZ to achieve a sample that would enable reasonably accurate statements about the situation of older Māori to be made. These included using the electoral roll, and approaching Māori respondents who had previously participated in the Household Labour Force Survey. The approach eventually adopted was to use the NZS database administered by the Department of Work and Income[4] (the NZS database) as the sample frame for the survey.

Seventy was chosen as an upper age limit for the target population because of the incompleteness of ethnicity data for Māori aged 70 years and over who qualified for NZS in the years before ethnicity was fully recorded in the administrative records. Where ethnicity was not recorded for a person aged from 65 to 69 years on the NZS database, a matching exercise was undertaken with the roll of Māori electors[5] to identify those of Māori descent. A simple random sample of Māori aged from 65 to 69 was then selected from the NZS database. Only one eligible person per household was selected for the survey. Following selection, confirmation was sought from potential respondents that they identified as being of Māori ethnicity (with or without other ethnic identifications) before they participated in the survey.

The survey population

The survey population for the survey of older Māori was defined as the usually resident, non-institutionalised New Zealand Māori population aged 65 to 69 years, living in permanent private dwellings and in receipt of NZS. Māori aged 65-69 but not in receipt of NZS were not included in the survey population.

4 In October 2001, the Department of Work and Income merged with the Ministry of Social Policy to become the Ministry of Social Development.

5 The roll of Māori electors includes all adults who have Māori ancestry and who have the option to go onto a Māori electorate roll, regardless of whether they choose that option.

For practical reasons a small number of individuals, who were part of the defined survey population, were excluded from the survey because they:

- had agents responsible for their finances
- had their records held secure by WINZ for confidentiality reasons
- lived in very remote locations.

Recipients of NZS who have agents are excluded from the survey population, as they are likely to be frail and therefore unable to participate in the survey. The exclusions of these individuals, people living in remote places, and those with secure records will have negligible impact on the results.

Questionnaire content

The questionnaire design phase included consultation with Te Puni Kōkiri and Eljon Fitzgerald and Dr Chris Cunningham of Massey University's School of Māori Studies and the pre-testing of questions.

The same information was collected in both the survey of Māori aged 65 to 69 years and the general survey of older people for comparability purposes[6]. This common content included general and demographic data, information about disabilities and health, items for the living standards measure (including items on ownership, social participation, economising, serious financial problems and self-assessment), information to assess the validity of the living standards measure and information about potential factors underlying variation in living standards.

Specific to the survey of Māori were questions on cultural identity developed by Te Hoe Nuku Roa Research Unit, Māori Studies, Massey University. These cultural indicators assessed aspects of language, identity, whānau involvement, whakapapa, marae involvement, involvement with other Māori, and any financial interest in Māori land. A single factor has been derived from these cultural indicators to give a measure of the degree to which individuals participated and identified in te ao Māori (Stevenson, 2001; Te Hoe Nuku Roa, 2002). Eljon Fitzgerald of Massey University's Te Hoe Nuku Roa Research Unit provided cultural training to the survey interviewers. A non-monetary koha was offered to all persons interviewed. Based on interviewer de-briefing sessions following the survey, participants did not seem to have any major concerns with the interview process, and few problems were reported.

6 For a copy of the questionnaire used in the general survey of older people, see Appendix 1 of the published technical account (Fergusson et al, 2001b)

The achieved sample

The survey:

- was conducted between 10 April 2000 and 12 June 2000
- involved face to face interviews about 90 minutes in length
- achieved a sample of 542 Māori aged 65 to 69 years
- achieved a response rate of 63%.

The survey data was then weighted (adjusted - refer Technical Appendix) to take into account the sampling approach used for the survey. Analysis for the research has been undertaken using this weighted data.

An analysis of the distribution of characteristics of the survey respondents compared with 1996 Population Census data on Māori aged 65-69 was undertaken by Statistics NZ to assess potential response bias for the survey. Overall, the analysis found little evidence of any bias in the Māori sample with respect to sex, marital status, labour force status, total income, home ownership or secondary school qualifications. There was some evidence that households of larger size were under-represented in the survey sample. However, this suggestion of bias needs to be treated with caution, as the Census Night occupants count includes visitors. The analysis also found that Māori aged 65-69 act as a good proxy for all Māori aged 65 and over with respect to marital status, total income, home ownership, secondary school qualifications and household size. A copy of this analysis is available on request from the Ministry of Social Development.

▦ The Survey of Older People

The Survey of Older People was administered through the Household Labour Force Survey (HLFS) using the HLFS sampling frame. All people aged 65 and over who were eligible for and participated in the HLFS were eligible for selection into the Survey of Older People. One eligible person per household was selected. HLFS non-respondents were automatically considered to be Survey of Older People non-respondents.

The survey:

- was conducted between 7 February 2000 and 7 April 2000
- involved face to face interviews about 90 minutes in length
- obtained a sample of 3060 people 65 years and over
- achieved a response rate of 68%.

The survey data was then weighted (adjusted) to take into account the sampling approach used for the survey. Analysis for the research has been undertaken using the weighted data. For a full description of this survey, see Fergusson et al, 2001b.

Survey Participants
Te Hunga Whai Wāhi Mai

In this chapter a general description of the survey sample is presented, including information on social, cultural, health, economic and material variations amongst Māori aged 65 to 69 years. A comparison of this sample with the characteristics of the general older population is also provided based on information from the previous study on the living standards of older New Zealanders generally (Fergusson et al, 2001a). This description establishes a context for the analysis of living standards in the subsequent chapters.

⊡ Family composition

Of the 542 older Māori people sampled in the study, 47% (255) were single and 53% (287) were couples. There were relatively few older Māori people with dependent children[7] (4% of single people and 7% of couples). Over two-thirds of the single people were women (69%). The high proportion of single women probably reflects greater female longevity.

⊡ Whānau characteristics

Many respondents had extensive connections with whānau, as indicated by the following characteristics:

Single older Māori:

- 22% lived with relatives

- 4% lived with a dependent child

- 70% had raised or supported more than three children

- 14% had given money to whānau to help them out in the previous year

- two-thirds (66%) had help from their extended whānau in maintaining their car or house, or with simple household chores

- over a third (35%) had whānau provide transport.

Couples:

- 18% lived with relatives

- 7% lived with a dependent child

- 67% had raised or supported more than three children

7   Children under 18 years of age living at home.

- Almost a quarter (23%) had given money to whānau to help them out

- Nearly half (45%) had help from their extended whānau in maintaining their car or house, or with simple household chores

- 19% had whānau provide transport.

◼ Ethnicity

Although all respondents had reported their ethnicity as Māori in the NZS database, or were on the roll of Māori electors (see Chapter Two), there was a great deal of variability with the respondents degree of identification with, and participation in, te ao Māori (the Māori world). This variation is reported in Table 3, which shows the responses to a series of items relating to Māori cultural identity and participation. These responses are shown for single and couples.

Table 3: Responses to questions on Māori cultural indicators.		
Question	Single (N = 255)	Couples (N = 287)
% Identifying as Māori[8]	91	85
% Able to report whakapapa for more than 3 generations	64	71
% Attended marae (ever)	96	93
% Visited marae (last 12 months)	81	72
% Reporting whānau played a large or very large part in their life	78	68
% With financial interest in Māori land	70	70
% Reporting contact with some or mainly with Māori	29	27
% Reporting excellent, very good or good Māori language ability	51	44

Note: Values have been rounded to whole numbers.

The responses from the above table suggest that there was quite considerable variation in the cultural indicators. To represent this variation, seven of the items in Table 1 were combined to provide a measure of Māori cultural identity along a continuum as proposed by Te Hoe Nuku Roa (see Stevenson, 2001; Te Hoe Nuku Roa, 2002) .

8 The respondents affirmed that they were Māori before filling out the questionnaire. However, the questionnaire asked the participants whether they "identified as Māori", a subtly different question.

❑ Creation of a single factor cultural identity score

In an attempt to standardise the use of the seven key indicators of Māori cultural identity, a cultural identity scale incorporating these indicators was proposed by Te Hoe Nuku Roa, Māori Studies, Massey University. In this scale, the contribution or relevance of each question to an individual's cultural identity was weighted to reflect the degree of influence or relevance each indicator has to te ao Māori before being added together (below). This scale is intended to better reflect the diverse nature of Māori identity.

To ensure that the scores from the cultural identity scale are interpreted consistently, it was recommended that results from any analysis be summarised as below. These labels were first used by Te Hoe Nuku Roa in 1996 and were adapted for use with the cultural identity scale described here.

Māori Cultural Identity Score

%	0-5 (Notional)	6-12 (Positive)	13-18 (Secure)
Identify as Māori	31	97	100
Māori language ability rated as good, very good or excellent	0	16	59
Whānau plays a large or very large part in participant's life	15	81	85
Can name more than 3 generations	15	17	73
Been to a marae at least once in the last year	46	85	99
Has contact with some or mainly Māori	39	88	96
Has a financial interest in Māori land	15	39	81

1   Te Hoe Nuku Roa. (1996). In M. H. Durie, T. E. Black, I. Christensen, A. E. Durie, E. Fitzgerald, J. T. Taiapa, E. Tinirau, & J. Apatu (Eds.), Māori profiles: An integrated approach to policy and planning. Palmerston North, New Zealand: Massey University.

The distribution of the sample on this scale is shown in Figure 1. Using data from Te Hoe Nuku Roa[9] (2001) and a living standards survey of working age people[10], the cultural identity of the survey participants was compared to that of a general Māori population. Figure 1 shows that while older Māori tended to score higher on the cultural identity scale than the general Māori population sample, there was still great variability in expressed cultural identity, with some Māori showing little participation in, or identification with, te ao Māori.

9   The Te Hoe Nuku Roa sample used comprised 650 adults and was drawn from 655 Māori households in and around Auckland, Gisborne, Whanganui, Manawatū and Wellington, with the ages of the adult sample ranging from 15 to 74.

10   There were 457 Māori sampled in 2000 in a survey of the living standards of working age people for the Ministry of Social Policy (subsequently the Ministry of Social Development).

Figure 1: Mixed bar and line graph showing the distribution of Māori Cultural Identity scores for an adult baseline[11] sample and the present survey of older Māori
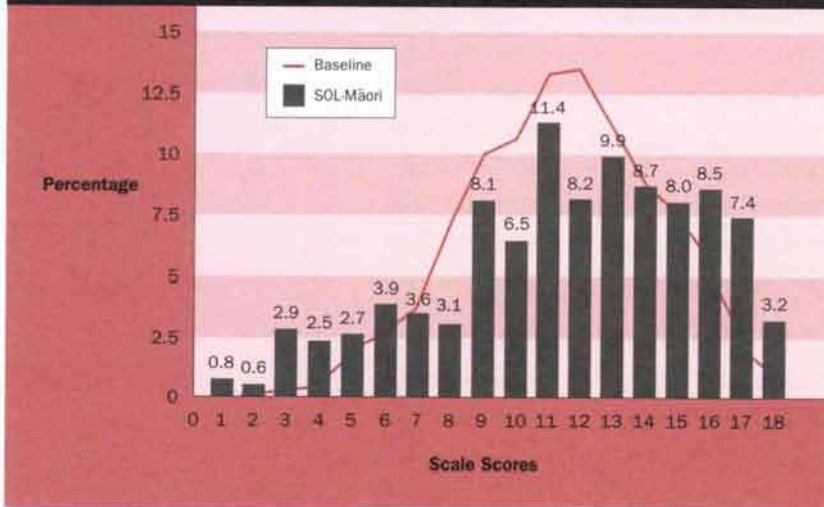
To assist in conceptualising how these cultural indicators varied with the older Māori sample, case histories were developed. Two profiles were created using the scores for the upper and lower 10% and the central 20% of the sample - one for single respondents and a second for couples (where it must be emphasised that the respondent answered any cultural identity questions, the cultural identity of their partner was not measured). The case histories were fashioned using the median responses within each score range and are not intended to resemble any particular person.

Respondents with cultural identity scores below 6

A single Māori: Tui was 68 years old. Although Tui said she was Māori or had a Māori ancestor, she did not identify as Māori. Tui's whānau had a very small part to play in her life; she socialised with few Māori, and although she has visited marae, had not visited one in the last year. Tui had poor Māori language skills and had no financial interest in Māori land. Tui could name her great-grandparents. Tui's family had helped very little in maintaining her house or her car in the last year.

A couple: Mary and Hari were 68 years old. Neither Mary nor her partner Hari identified themselves as Māori. Mary's whānau had a very small part to play in her life; she socialised with no Māori, and although

11 Age adjusted, Te Hoe Nuku Roa sample.

she has visited marae, had not visited one in the last year. Mary had poor Māori language skills and had no financial interest in Māori land. Mary could name her grandparents. Mary's family had not helped at all around the house or with the car in the last year

Respondents with cultural identity scores of 11 or 12

A single Māori: Anne identified as Māori, had poor Māori language skills, had contact with some Māori, and had a financial interest in Māori land. Whānau played a very large part in her life and she had been to a marae a few times in the last year. Anne knew the names of her grandparents. Whānau had helped around the house over the last year.

A couple: Both Hone and Aroha identified as Māori. Aroha was 65 and Hone was 67. Whānau played a very large part in Hone's life; he had contact with some Māori, had a fair ability in te reo Māori, and had visited a marae a few times in the last year. Hone had a financial interest in Māori land and could name his great-great-grandparents. Whānau had not helped with the house or the car in the last year.

Respondents with cultural identity scores greater than 16

A single Māori: Kuini identified as Māori, had excellent te reo skills, visited marae more than once a month, had contact with mainly Māori, had a financial interest in Māori land, and could name at least four generations of her tūpuna. Kuini's whānau had helped around the house and with her car.

A couple: Hakopa and Irihapeti both identified as Māori. Hakopa rated his te reo as excellent, had contact with mainly Māori, visited a marae at least once a month, had a financial interest in Māori land, and whānau played a large part in his life. Hakopa could name at least four generations of his tūpuna. Whānau had helped around the house and with the car in the last year.

The important implication of these results is that they confirm the presence of marked variation in the cultural identity of the sample. These findings extend and reinforce previous findings suggesting that those reporting Māori ethnicity are a diverse population that differs in its degree of Māori identity and cultural participation.

■ Whānau interactions

For Māori the concept of whānau is particularly broad in its definition of who is family: Whānau are all blood relatives and often extends to include those with no blood relationship whatsoever[12].

The degree to which older Māori were involved with their whānau is demonstrated by how often they had contact with friends and family (Table 4); 82% of single Māori and 90% of partnered Māori had contact with friends or family at least once a week. Much of their contact with whānau, quite apart from social aspects, involved help around the house (e.g. in mowing lawns, housework), groceries and food, and with transport. Single Māori consistently received more help than partnered Māori, although the greater contact of partnered Māori with family and friends shows that single Māori have less purely social contact than partnered Māori. Partnered Māori also provided slightly more financial assistance to their whānau, which is unsurprising given the better financial situation of partnered Māori.

Table 4: Whānau Support		
Contact with friends and family	**Single %**	**Partnered %**
Every day	45	50
Once a week	37	40
Help received from extended family	**Single %**	**Partnered %**
Transport	35	19
Mowed lawns	31	19
Meals	29	20
Groceries	23	14
House maintenance	21	15
Housework	21	12
Holiday	20	6
Gardening	18	11
Hair cut	14	9
Clothes	13	8
Fixed car	11	6
Major household item	10	5
Money	7	4
New car	3	3
Help given to extended family	**Single %**	**Partnered %**
Money	18	23

12 Durie, M. (1994). Whaiora. Oxford: Oxford University Press.

■ Marital status, living arrangements and educational achievement

Table 5 shows that single respondents tended to be widowed and that couples tended to be legally married. Over three-quarters were living in households with no other occupants. Around 60% had no formal educational qualifications, while just over 10% had received a tertiary education.

Table 5. Marital status, living arrangements and educational achievements.		
	Single (N = 255)	**Partnered (N = 287)**
Marital Status	57% widowed 25% separated or divorced 7% were never married	90% legally married 10% in de facto unions
Living Arrangements	76% lived alone 22% lived with relatives	82% lived alone 18% lived with relatives
Educational Achievement	58% had no formal qualifications 30% had secondary school and/or trade qualifications 12% had some tertiary education	56% had no formal qualifications 32% had secondary school and/or trade qualifications 12% had some tertiary education

■ The geographic distribution of the sample

Figure 2 shows the geographic distribution of the sample: over three-quarters (77%) lived in either major or minor urban centres with about a quarter living in rural areas. Most (89%) respondents lived in the North Island.

The geographic distribution of Māori respondents in 2000 (when the survey was conducted) differs markedly from that of the total older population described in the previous study (Fergusson et al, 2001a). About one in four older Māori tended to live in rural areas compared with less than one in ten for the older population generally. There was also a greater tendency for older Māori to live in the North Island (89%) compared with older people generally (72%).

Figure 2: Geographic Distribution of sample
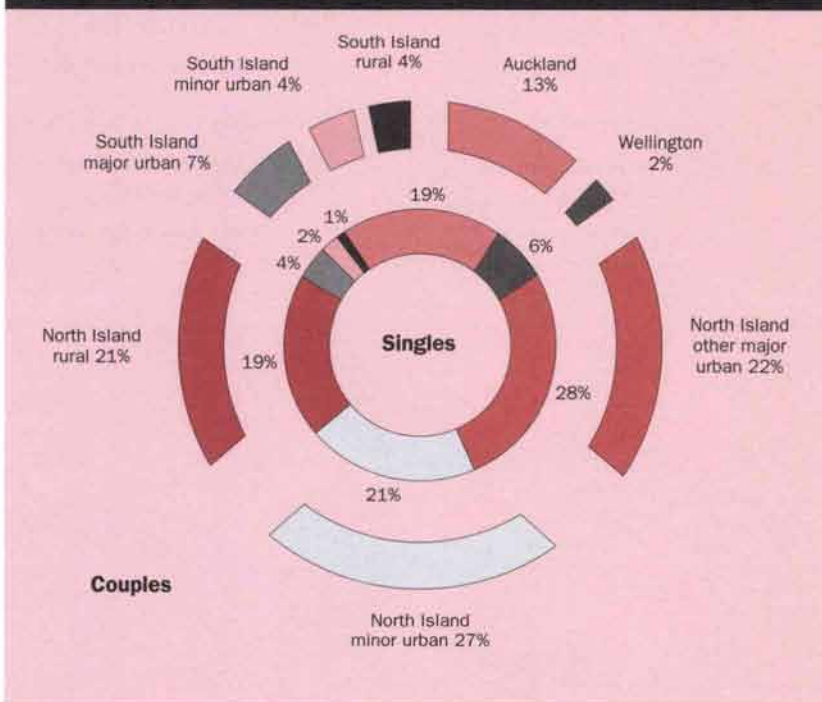
■ Health and disability

Health problems

Table 6 shows the proportions of the sample reporting that they had received medical treatment for various medical conditions in the last 12 months. Overall, there was a relatively high rate of such problems as hypertension, coronary heart disease, diabetes and arthritis, reflecting the age of the sample. These problems tended to be most prevalent amongst single individuals and least frequent amongst spouses of the couples. Single respondents on average had 2.4 health problems compared to 2.2 and 1.8 for partnered respondents and their spouses respectively.

Table 6: Health problems in past 12 months for 255 single respondents and 287 couples			
		Couple	
Measure	Single %	Respondent %	Spouse/Partner %
Hypertension	47	43	37
Coronary heart disease or stroke	18	17	18
Diabetes	18	20	13
Rheumatism or arthritis	30	24	18
Back pain or other back problem	23	26	21
Asthma, emphysema or bronchitis	22	19	13
Cancer	3	3	8
Kidney disease	3	4	2
Colds, flu	36	31	28
Mental health problems	4	3	4
Nervous system disorder e.g. Parkinson's disease	0	1	0.5
Injury or poisoning	7	4	4
Health problem associated with long-term disability	13	13	11
Other problem(s)	13	8	0

Note: Apart from values less than 1, values have been rounded to whole numbers.

Physical difficulties and disabilities

Table 7 shows the percentages of respondents reporting various physical difficulties and disabilities. The results appear to be similar to those shown in Table 6 such that a sizeable minority of respondents (more likely to be single respondents) reported various difficulties and disabilities. Overall, single respondents reported an average 1.8 difficulties/disabilities compared to means of 1.3 and 0.9 for respondents and partners in couples.

Table 7: Physical difficulties, disabilities or impairments for 255 single respondents and 287 couples			
		Couple	
Measure	Single %	Respondent %	Spouse/Partner %
Poor eyesight even when wearing glasses	24	19	13
Poor hearing even with a hearing aid	20	18	11
Poor balance or co-ordination	13	9	6
Difficulty maintaining concentration	9	8	7
Shortness of breath	33	23	14
Difficulty gripping or lifting	17	14	10
Difficulty walking short distances	19	12	8
Difficulty walking significant distances or up stairs	36	26	20
Confined to a wheelchair	1	0.7	0.4
Confined to bed	0.8	0.3	0.4
Other physical difficulty	4	4	2

Note: Apart from values less than 1, values have been rounded to whole numbers.

■ Current income

As part of the survey, respondents were asked about the sources from which they received their income.

Figure 3: Sources of income
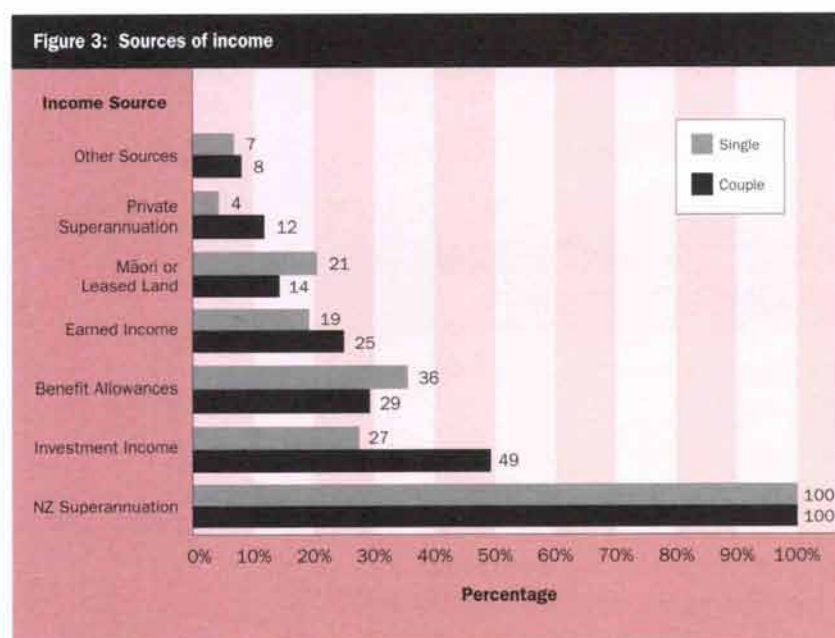
Figure 3 shows that all participants received income from NZS,[13] with this income being supplemented from other sources including investment income (27-49%), benefit allowances (29-36%), private superannuation (4-12%), and earned income (19-25%). Amongst single respondents 34% were solely dependent on NZS, whilst amongst couples 21% were solely dependent on NZS.

13 100% as the NZS database was used to select the sample (refer chapter 3).

Figure 4: Distribution of estimated total net income for single and coupled respondents
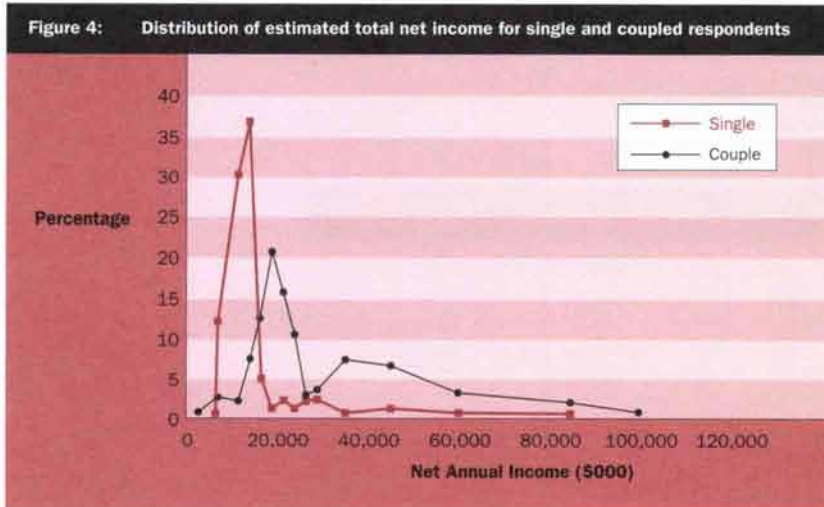
Note: 16% of single respondents and 7% of couples did not supply an income estimate.

Figure 4 shows estimates of net annual income for singles and couples. For single respondents, about three-quarters (74%) had net incomes in the range $10,000 to $17,500, the median income for single respondents being in the interval $12,500-$15,000. For couples, just over two-thirds (68%) had incomes in the range $12,500-$25,000 with the median income for couples being in the interval $20,000-$22,500. The two income distributions have broadly similar shapes, but have different modal incomes, with the couples' incomes clustering at a value approximately $6,000 higher than the value at which single people's incomes cluster.

This difference between the modal incomes of couples' and single people corresponds to the difference between core NSS rates for couples and single people. As most older Māori (whether single or partnered) have only modest amounts of income from sources other than NZS, the difference between the income distributions for couples and single people may be a reflection of the couple/single rate differential in NZS. On average, single respondents received approximately 65% of the income received by couples, which is also the ratio between the single (living alone) and couple net rates of NZS.

The income distribution of both single older Māori respondents and couples suggests a population with a relatively low and restricted level of income. Compared with findings from the previous study, Māori had significantly lower mean incomes than non-Māori older people (Fergusson et al, 2001a).

■ Savings and investments

About half of single respondents (49%) and a high proportion of couples (70%) reported having savings and investments (excluding own home). Figure 5 shows the types of savings and investments held by the single respondents and couples.

Figure 5: Types of savings and investments (excluding own home) held by single respondents and couples
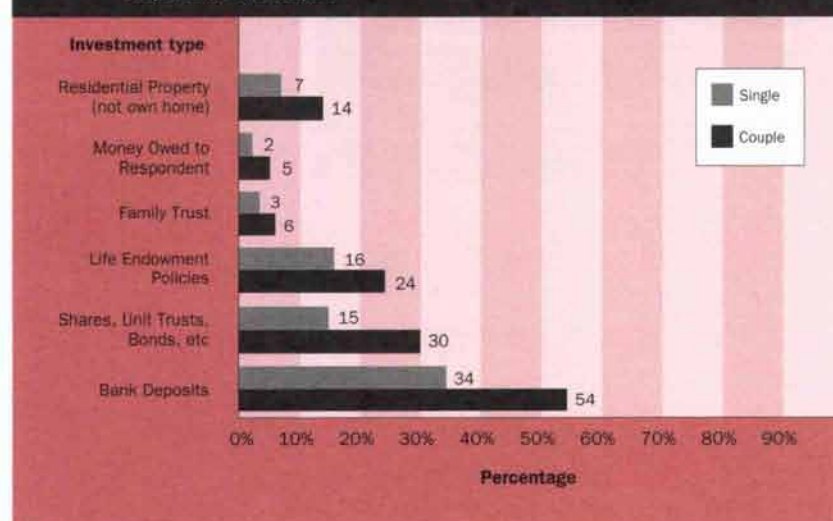
Note: Values have been rounded to whole numbers

Table 8 provides estimates of the total value of savings and assets held by singles and couples (excluding own home). A high proportion (71%) of single respondents had savings and assets of less than $1,000, with most (79%) having savings and assets less than $5,000. Only 4% of single respondents had savings and assets of value greater than $50,000 compared with 23% of couples. Couples tended to have more assets and savings than single respondents, with 44% having savings less that $1,000 and just over half (54%) having savings less than $5,000. Only 4% of single respondents had savings and assets of value greater than $50,000 compared with 23% of couples. These figures suggest a population of older people in which levels of savings and assets were generally low, this trend being particularly evident for single older Māori.

Table 8: Estimated total value of savings and investments for single respondents and couples

Value of savings and assets ($000)	% Single (N = 221)	% Couples[1] (N = 258)
<1	71	44
1-5	8	10
5-10	9	7
10-15	3	1
15-25	2	7
25-50	2	9
50-100	1	8
100-150	0.5	4
150-200	0.5	2
200+	2	9

Note: 13% of single respondents and 10% of couples did not supply an estimate of their assets.

■ Home ownership

As noted above, the estimated savings and investment values in Table 8 exclude the value of the respondent's home. However, clearly home ownership or equity in a home is one of the more important assets that older people may possess.

Figure 6 summarises the home ownership and the estimated weekly expenditure on accommodation of the sample. The figure shows that just under half (49%) of all single respondents owned their own home or a Family Trust owned the home. In contrast, home ownership was higher amongst couples, with most couples (77%) either owning their own home or having it owned by a Family Trust. Of those owning homes, 76% of homes were owned freehold. As can be seen from the graphs, couples tended to pay slightly more in accommodation than single Māori. This issue is looked at in more detail below.

Figure 6: Home ownership of sample and mean weekly accomodation costs

Single

Home owned by other 41% ($51pw)

Housing New Zealand 10% ($109pw)

Respondent owns home 46% ($20pw)

Family Trust owns home 3% ($47pw)

Couple

Home owned by other 17% ($78pw)

Housing New Zealand 6% ($139pw)

Respondent owns home 75% ($21pw)

Family Trust owns home 2% ($49pw)
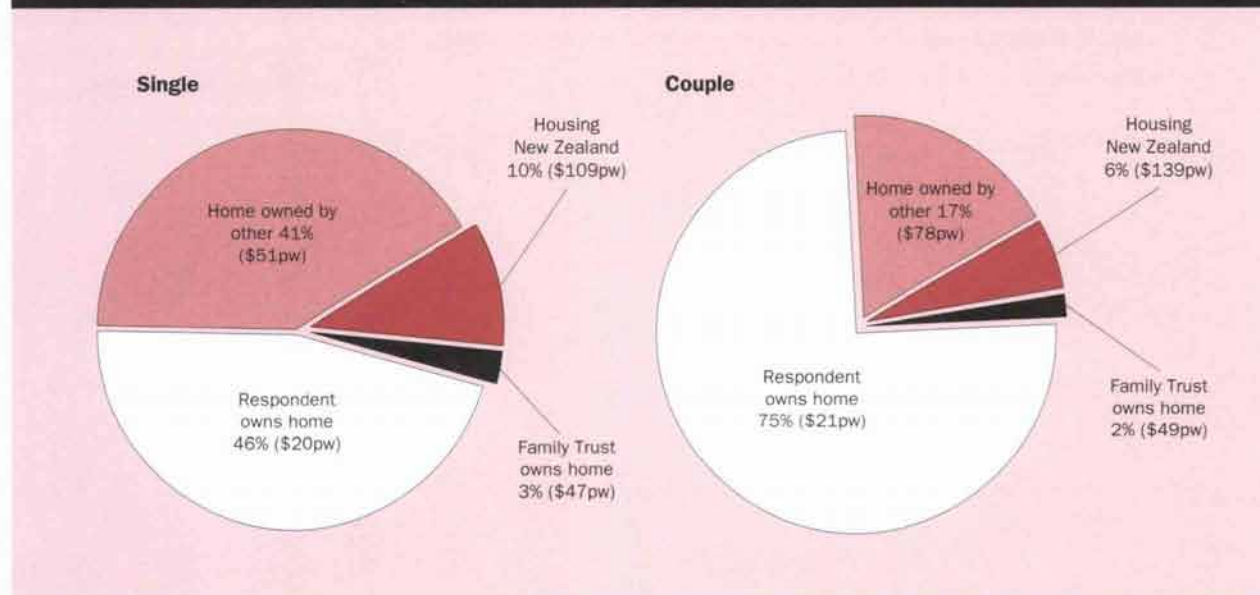
An important component of household expenditure is the direct cost of accommodation including, rent, mortgage repayments, rates, body corporate fees, etc. The following table displays estimates of the direct weekly expenditure on accommodation for singles and couples.

The table shows two general features. First, accommodation costs for older Māori were relatively high. The estimated mean cost per week was $56 for couples and $60 for singles. This contrasts sharply with the estimated mean accommodation cost of $16 found for Pakeha respondents (Fergusson et al, 2001a). Second, the table suggests that single Māori and Māori couples were paying very similar amounts for accommodation. This implies that single respondents were paying a relatively larger proportion of their income on accommodation as single respondents generally had lower incomes (see Figure 4). The relatively high accommodation costs for single older Māori are likely to reflect the greater proportion of this group who do not own their homes and are either renting or paying board.

More generally, the results in Table 9 suggest that direct costs of accommodation are likely to be a particular source of financial stress for older Māori especially for older single Māori.

Table 9: Estimated direct weekly accommodation costs (mortgage, rental, rates, body corporate fees, etc) for single respondents and couples		
$ per week	% Single (N = 219)	% Couples (N = 265)
0	11	6
1-24	32	47
25-49	11	14
50-99	21	11
100-149	16	11
150-199	7	6
200+	4	5

Note: 14% of single respondents and 8% of couples could not provide estimates of accommodation costs.

■ Economic history and current financial stress

It is likely that the living standards of older people will depend on their previous economic history as much as, if not more than, current economic circumstances. The best way of examining this possibility would be through a (longitudinal) study over time of the processes by which people make transitions into old age. In the absence of this information, the present study collected some information on previous economic history by asking respondents about their exposure to events and circumstances that may have disrupted their economic circumstances during the decade before age 60. These events and their reported frequency are shown in Table 10. The most common economic adverse events reported across the sample were being made redundant and health-related problems. In addition, for single respondents, separation/divorce or death of partner were also more commonly experienced events.

Table 10: Adverse economic life events (age 50-59 years)		
Event	% Single (N = 255)	% Couples (N = 287)
Mortgagee sale	2	1
Bankruptcy	1	0.3
Financial loss of $10,000 or more	4	6
Legal bill of $10,000 or more	2	2
Made redundant	15	20
Unemployed 12 months or longer	9	12
Separation or divorce	15	5
Death of partner	20	3
Major damage to home caused by natural disaster	7	5
Illness lasting 12 months or longer	15	12
Major injury/illness requiring hospital treatment	21	25
Imprisonment	0.4	0
Other major financial life event	6	6

Note: Apart from values less than 1, values have been rounded up to whole numbers.

To indicate the extent to which respondents had recently experienced economic stresses, the findings in Table 10 were supplemented by questions about the single person's or couple's exposure to economic stress in the preceding 12 months. The results are shown in Table 11. The most commonly reported stresses for singles were car repairs, replacement of household appliances and funeral costs. Couples' most common forms of financial stress also included replacement of household appliances and large car repair bills.

Table 11: Financial stresses experienced in the last 12 months		
Source of stress	% Single (N = 255)	% Couples (N = 287)
Legal costs	5	5
Business failure	0.8	1
Matrimonial property settlement	0.8	0.3
Death or a partner	7	0
Funeral costs	10	3
Unusually large car repair bill	13	9
Replacement of fridge or washing machine	21	16
Major item of house maintenance	9	8
Property damage	3	1
Natural disaster	2	0.3
Burglary	4	4
Fraud, embezzlement	0.4	0.7
Victim of other crime	1	0.3
Other stressor	2	5

Note: Apart from values less than 1, values have been rounded up to whole numbers.

Self-assessment

People were asked two general questions about their living standards. The first question asked whether they found their 'total income enough to meet their every day needs'. The results indicated that 32% of single respondents and 22% of couples thought their income was inadequate to meet their day-to-day costs. The second question asked them to assess their overall material standard of living on a five-point scale

ranging from high to low. The results suggested that 18% of single respondents and 13% of couples rated their overall living standards being fairly low or low. These findings suggest a population in which economic hardship was relatively common with up to a third of respondents reporting some form of economic difficulty. Table 12 also conveys the impression that economic difficulties and material hardship were more common amongst older single Māori than amongst older partnered Māori.

■ Conclusions

1. Although all sample members reported Māori ethnicity, there was wide variation in cultural identification and participation, varying from those who had little or no participation, to those with high levels of participation in te ao Māori. As a population, older Māori had somewhat greater identification and participation in te ao Māori than the general Māori population.

2. In comparison to older non-Māori, Māori were more likely to live in rural regions and the North Island.

3. Older Māori had relatively high rates of both serious health problems and disabilities. These problems were more common amongst single older Māori.

4. Examination of the economic circumstances of older Māori suggested that in comparison to non-Māori, Māori had lower income levels, lower levels of savings and assets, and were less likely to own their own home. These differences were particularly evident for single older Māori.

5. In terms of self-ratings of material well-being, in the region of a quarter to a third of older Māori described their income as being inadequate to meet day-to-day costs. Around one in seven older Māori described their overall standard of living as "low".

Table 12: Rating of income adequacy and overall living standards

Measure	Single (N = 255)	Couples (N = 287)
Adequacy of Income		
More than enough	4	8
Enough	22	25
Just enough	43	45
Not enough	32	22
TOTAL	100%	100%
Standard of Living		
High	2	4
Fairly high	10	14
Medium	68	70
Fairly low	13	9
Low	5	4
TOTAL	100%	100%

Note: All values have been rounded to whole numbers.

Material Well-being of Older Māori
Te Whai Rawa o te Hunga Pakeke Māori

A previous study of older people (Fergusson et al, 2001a) led to the construction of a scale of material well-being. The purpose of this scale was to rank older people in terms of their material well-being from those who were expressing material hardships and difficulties, to those who were experiencing relative affluence. The process by which this scale was constructed is presented in Figure 7 and described below.

The development of the scale involved four stages:

1. Collection of survey data: In the first stage of the scale construction, data were gathered on a large number of items describing the material conditions experienced by the respondent. This information was provided by a general population sample of 3,060 people aged 65 and over.

2. Creation of sub-scales: The collected measures were then combined to create a number of sub-scales. These sub-scales were:

- Ownership Restrictions: items the respondent reported wanting but failing to own because they could not afford it. Items ranged from those relating to basic necessities (e.g. warm bedding) to luxury items (e.g. dishwasher, waste disposal)

- Social Participation Restrictions: social activities the respondent reported they wanted to do but could not do because of a lack of money. Restrictions ranged from basic social activities (e.g. giving presents to family/friends) to luxury items (e.g. overseas holidays every three years)

- Economising: the extent to which the respondent reported making economies in key areas including food, clothing, medical care, and home heating

- Severe Financial Problems: the extent to which the respondent had faced severe financial problems in the last 12 months as measured by such things as use of food banks, being unable to pay bills for accommodation, utilities, etc.

- Self-assessments: The sub-scales above were supplemented by the self-ratings of living standards and adequacy of income presented previously (see Chapter Four).

3. Statistical analysis: The sub-scales (see Table 13b) and self-assessments described above were then analysed using statistical methods (confirmatory factor analysis) to identify whether they could

Figure 7: Constructing the scale

Survey responses

Sub-scales of:
- Ownership Restrictions
- Social Participation Restrictions
- Economising
- Serious Financial Problems
- Self-assessments

Statistical analysis of sub-scales to identify a common dimension

Construction of respondent scores
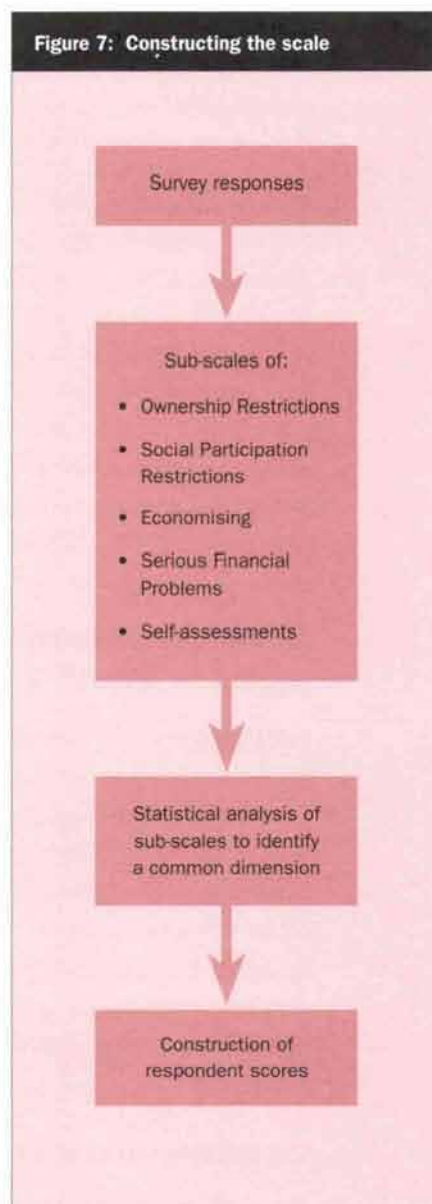
be grouped together to represent one common dimension or factor. This analysis showed that the sub-scales and self-assessments reflected a single common factor that could be used as a measure of a family's level of material well-being.

4. Constructing a scale score: From the results of the statistical analysis, it was possible to estimate a scale score for each respondent. The scale that was developed to describe living standards is called the Material Well-being Scale. The scale is used to describe how older people as a group are faring by placing them along a range from people who are doing poorly (cannot afford to have or do things they want to, economise a lot, have serious financial problems, perceive themselves as doing poorly), to those who are doing well (can afford to have or do things they want to, do not economise a lot, have no serious financial problems, perceive themselves as doing well).

■ Can the Material Well-being Scale be validly applied to Māori?

The function of the Material Well-being Scale was to address a series of issues relating to the overall material well-being of older people. However, this scale was based on a general population sample in which the majority of respondents (96%) were non-Māori. This raises the important issue of the extent to which a scale that was devised on a predominately non-Māori sample can be validly applied to Māori. The results of the analysis of the survey of older Māori tended to support the view that the scale could be applied to Māori. The analysis and evidence supporting this conclusion is presented in the following sections.

The importance of scale items to Māori and non-Māori:

As noted above, the scale measure was based on responses to items about ownership and social participation. To examine the relevance of these items to Māori, respondents in the present survey were asked how important each of the items was to them. These responses are shown in Table 13a. This table shows the proportion of Māori aged 65-69 reporting that the item was important or very important to them. For comparison, the responses of non-Māori aged 65-69 are shown. Examination of the table shows that Māori and non-Māori respondents showed a very similar pattern of responses, suggesting that Māori and

non-Māori placed similar importance on the items used in the material well-being scale. The largest difference between Māori and non-Māori is for dishwasher importance with 41% of non-Māori saying this was important and 22% of Māori.

Table 13a: Percentage of respondents reporting importance of each of the ownership and social participation items for Māori and non-Māori		
	% who say item 'important or very important'	
	Māori	Non-Māori
Ownership items		
Running water	99.0	99.5
Mains power	98.9	98.9
Hot water	98.8	99.0
Warm bedding	98.7	99.3
Inside toilet	98.5	99.1
Good bed	98.4	99.8
Phone	97.2	98.5
Good shoes	97.0	97.2
Washing machine	96.4	97.4
Television	92.3	92.2
Warm coat	90.1	78.1
Locks	89.0	94.2
Car	84.6	92.5
Best clothes	83.5	80.7
Contents insurance	82.6	93.1
Microwave	74.5	71.6
Heating in main rooms	70.8	79.8
Pet	58.4	49.2
Video	56.2	65.9
Stereo	47.0	61.3
Food processor	46.0	48.8
Dryer	44.9	55.5
Pay television	30.8	27.6
Personal computer	30.0	29.9
Dishwasher	22.2	40.5
Holiday home or bach	22.2	16.3
Internet access	20.5	23.7
Boat	18.2	10.9
Waste disposal unit	15.8	30.0

Table 13a (continued): Percentage of respondents reporting importance of each of the ownership and social participation items for Māori and non-Māori

	% who say item 'important or very important'	
	Māori	**Non-Māori**
Social Participation		
Space for family to stay the night	95.2	92.7
Participate in family/whanau activities	89.8	89.2
Give presents to family/friend on special occasions	87.3	95.6
Visitors for a meal once a month	79.3	79.3
Day out once a fortnight	78.2	77.5
Visit hairdresser once every 3 months	70.3	78.0
Special meal at home once a week	68.1	54.9
Holiday away from home every year	65.4	75.6
Night out once a fortnight	49.8	47.7
Overseas holidays once every 3 years	38.6	55.1

All values have been estimated from the observed sample weighted to take account of probability of selection and non-response.

Similarity of Māori and non-Māori scales

Whilst the results in Table 13a show that Māori and non-Māori shared similar views about the importance of various items, this result does not establish that the same scale of material well-being can be applied to both populations. For example, it may be that Māori use a different reference group than non-Māori for their self-assessed level of living standard. To address this issue further, the method of analysis used to construct the scale measure was extended to provide a comparison of the extent to which the scale items fitted a similar statistical model for both populations[14]. When the measurement model used to derive the scale was fitted specifically for the older Māori sample, the factor structure obtained was found to be very similar to that for the older non-Māori population[15]. The consequence of this is that the material well-being scale was able to be applied to both populations. As previously described, the material well-being scale combines responses on measures of ownership, social participation, economising and serious financial difficulties, together with self-ratings of living standard and adequacy of income.

14 Details of this analysis are contained in a technical report available from the Ministry of Social Development

15 An older person's material well-being scale score is calculated as the sum of the person's normalised scores on the sub-scales and self-ratings. (For details about the procedure, see p. 76 in Fergusson et al, 2001b). In calculating a score for an older Māori person, the sub-scales and self-ratings have been normalised using the means and standard deviations for the older Māori population.

Limitations of scale for Māori

Although the above analysis suggests that Māori and non-Māori may be assessed on the same scale of material well-being, it may also be observed that the items used to form this scale may be seen by some as mono-cultural and it could be suggested that the scale measures should be extended by including further questions that are specific to Māori visions of material well-being. This limitation is acknowledged. However, it would appear that there is sufficient communality in the material aspirations and views of Māori and non-Māori for the scale developed on the total population of older people, to be validly applied to Māori.

☐ Devising scale scores for older Māori

The subscale scores were combined with the respondent ratings of standards of living and adequacy of income in shown in Table 12 (Chapter Four) to construct an overall material well-being scale. The weights used in constructing the scale were those used for the general population sample reported in a previous analysis. The use of this weighting ensured that scores for the sample of older Māori were scaled in the same way as the general population so that these scores could be compared with the general population.

Figure 8 compares the scores of older Māori aged 65-69 with the scores of older non-Māori 65-69 on the material well-being scale. The figure shows that the distribution for Māori was skewed to the left with far more Māori than non-Māori having low scale scores. In the previous study of older people generally, scale scores of 80 or less were identified as indicative of marked material and financial hardships. The figure shows that 20% of older Māori had scores less than 80 compared to only 6% of non-Māori. Further, in the previous study it was suggested that scores in the interval between 80-90 also reflected those experiencing some financial difficulty: 15% of Māori and 10% of non-Māori fell into this interval. Overall, the figure suggests that nearly a third of older Māori were experiencing some material difficulty, with one in five facing relatively severe difficulties, that is, having material well-being scores below 80.

Figure 8: Distribution of Material Wellbeing scores for Māori and non-Māori
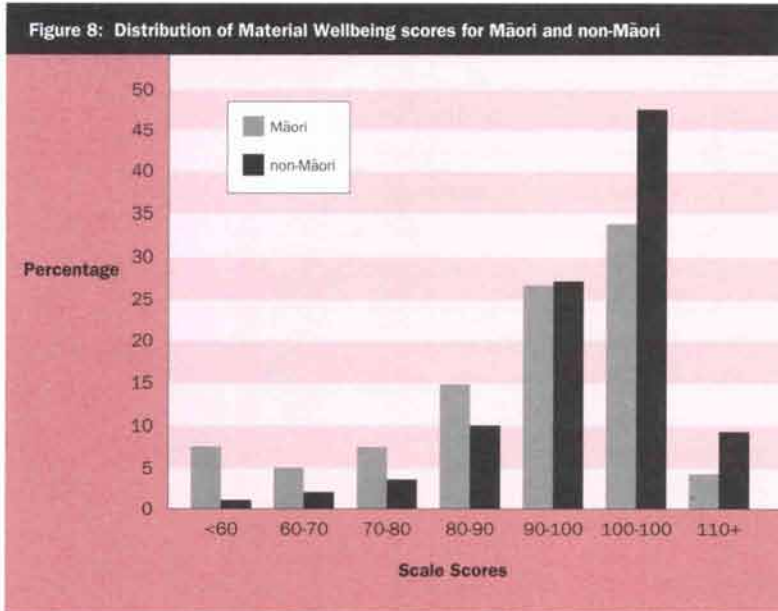
Although the results in Figure 8 show that Māori are disadvantaged relative to non-Māori, it is important to recognise that by no means all older Māori are facing hardship: 36 % of Māori had material well-being scores of 100 or over (where 100 indicates the average level of material well-being for all older people).

A limitation of the results in Figure 8 is that they do not describe the actual living standards of people but rather express living standards as a scale value scored relative to the population mean of 100. To give some human meaning to the scale values, we give below a series of case histories that describe the material circumstances of people at various points on the scale. These case histories are composites created by combining data from a number of respondents to produce an illustrative profile. Any resemblance between these case histories and actual respondents in the survey of older Māori is entirely coincidental.

Table 13b: Percentage of respondents reporting each of the ownership restrictions, social participation restrictions, economising behaviours and serious financial problems

Item	%
a) Ownership Restrictions (did not own because of cost)	
Heating in main rooms	18
Television	0.8
Secure locks	17
Stereo	8
Warm bedding	3
Video	11
Best clothes	8
Microwave	5
Warm coat	5
Waste disposal	8
Good shoes	4
Dishwasher	13
Washing machine	2
Food processor	12
Dryer	10
Car	6
b) Social Participation Restrictions (did not do because of cost)	
Participate in family/whānau activities	1
Give presents to family/friends on special occasions	12
Visit hairdresser once every 3 months	8
Holiday away from home every year	26
Overseas holidays once every 3 years	32
Night out once a fortnight	12
Day out once a fortnight	6
Visitors for a meal once a month	5
Special meal at home once a week	5
Space for family to stay the night	2

■ Respondents with scores below 60

Seven percent of older Māori had scores below 60. This group had extremely low living standards, and appeared to live in marked poverty.

Single Māori: Kiri lived by herself; she received around $13,000 a year (although Kiri was eligible for further allowances, she had not applied for them) and paid $85 a week rent to Housing New Zealand. She had no savings, rated her standard of living as "fairly low", and believed that her income was not sufficient to meet day-to-day living expenses. Questions about her material circumstances revealed that while she had basics such as an inside toilet, a washing machine, good bed and bedding, she often lacked warm clothes and had no contents insurance. She had not been able to go on holiday, to the hairdresser, have a night out or buy presents for her whānau in the last year. Kiri had frequently put up with the cold to save power, had not replaced her broken reading glasses, and had postponed visiting a doctor because she could not afford it. She also had problems with her dentures, but could not afford to go to a dentist. Kiri had to economise on meat, fruit and vegetables. She had not brought any new clothes and her shoes were worn out. Kiri had problems paying her utilities, had had to borrow money to meet daily living costs, and had help from a community organisation with her food and clothing. Kiri had a score of 43 on the Material Well-being Scale.

A couple: Kirimeti and Huia are a married couple. Huia was 67 and Kirimeti was 69. Both described themselves as Māori. They owned their own home and were paying $17 a week in rates. Their net combined income was between $17,500 and $20,000, and they had few financial assets or savings. They rated their standard of living as "low" and said that their income has not enough to meet their needs. Kirimeti and Huia had essentials such as an inside toilet, good bed and bedding, a washing machine, and a phone. However, they did not have contents insurance or heating in the main rooms. They had not been for a holiday or a night out, and neither Huia nor Kirimeti been to a hairdresser, in the last year. They had skimped on buying meat and had only old or second hand clothes to wear. Huia and Kirimeti regularly stayed in bed for warmth, had postponed visiting both the doctor and the dentist to save money, and to their great sadness had not been able to attend a funeral of a close friend because they could not afford it. Huia and Kirimeti had problems paying their power bill

Table 13b (continued)

Item	%
c) Economising	
Less/cheaper meat	62
Postponed dentist visits	19
Less fresh fruit/vegetables	20
Gone without glasses	24
Bought second hand clothes	47
Gone without adequate dentures	22
Worn old clothes	30
Not picked up prescription	10
Put off buying new clothes	49
Cut back/cancelled insurance	23
Relied on gifts of clothes	20
Cut back on visits to family/friends	27
Worn-out shoes	25
Cut back on shopping	26
Put up with cold	23
Less time on hobbies	23
Stayed in bed for warmth	23
Not gone to funeral	27
Postponed doctor's visits	21
d) Serious Financial Problems	
Couldn't keep up payments for electricity, gas, water	11
Couldn't keep up payments on mortgage, rent	4
Couldn't keep up payments for hire purchase, credit cards	5
Borrowed money from family/friends to meet living costs	7
Received help (food, clothes or money) from community organisation	6
Pawned/sold something to meet living costs	3

Note: Apart from values less than 1, values have been rounded up to whole numbers.

and credit card bill, had borrowed money to help meet daily living costs and had help from a community organisation for food and clothing. Kirimeti and Huia had a Material Well-being score of 50.

■ Respondents with scores between 60 and 79

As noted above, one in five older Māori had scores below 80, 13% of these had scores that fell between 60 and 79.

Single Māori: Hana was receiving between $12,000 and $15,000 a year, had no savings, although the mortgage was paid for on her house for which she paid just over $1000 a year in rates. Hana had been buying cheaper cuts of meat and had not bought fresh vegetables in the last month. She had not bought any new clothes since attending her husband's tangi two years ago. Hana had put up with the cold frequently over winter and had put off some major dental work until she had saved enough to visit the dentist. Hana had gone Christmas shopping last week but had barely enough money to buy food let alone presents. Hana had only a bar heater for the front room, but used it as little as possible as she had a problem paying the power bill sometimes. Hana had said that her income was "not enough" to meet her needs and described her standard of living as "medium". This gave her a score of 71 on the Material Well-being scale.

A couple: Moana and Hemi both said they were Māori. Moana was 61 and Hemi was 67 years old. They received around $17,000 a year in income and had no assets or savings. They tended to put an extra jersey on when it was cold rather than turn on the heater, bought cheaper cuts of meat and only occasionally bought fruit. Both Moana and Hemi had worn out their gardening shoes, but fortunately, their son who worked in a dairy factory had given them some old gumboots from his work. Hemi had not gone to the doctor to check his heart condition because he said it cost too much. Their video had "blown up" the other day and they were trying to save up enough money to buy another. They rated their income as "not enough" to meet their needs and said their standard of living was "medium". They had a Material Well-being score of 70.

■ Respondents with scores of 80-89

Around 15% of older Māori had scores in the region of 80 - 89. Those in this scale range were not facing the marked difficulties reported by those with scores below 80 but nonetheless were experiencing some difficulties. To illustrate this point, case histories of single Māori and Māori couples are reported.

Single Māori: Mereana's husband had died a number of years ago, after which she continued to live in her own home. Mereana's total income was between $10,000 and $12,500 and she paid around $1200 a year in rates. Despite having no savings, Mereana had no problems paying her bills, although she had bought cheaper cuts of meat, had not replaced her food processor when her old one had broken, and had chosen to buy second hand clothes instead of new quite a few times in the last year. Mereana had been on holiday once last year, but had not been overseas for a long time. She was hoping to have friends over for dinner within the next few months. Mereana said that her income was "just enough" to meet her living costs and rated her standard of living as "medium". Mereana had a Material Well-being score of 86.

A couple: Both Hamua and Ani described themselves as Māori. Ani was 65 and Hamua was 68. Hamua and Ani's total income was just over $20,000 a year. They had few savings but had no problems paying their bills. Unfortunately, they both had put off a trip to the optician for new glasses, and Hamua was replacing his shoes next week as his old ones had a hole in them. Because heating their house was costing so much, they frequently did not use the heater, choosing to sit under a blanket while they watched TV. They owned their own house and paid around $1100 a year in rates. Ani and Hamua had been for a holiday this year. They rated their income as being "just enough" and their standard of living as "medium". They had a Material Well-being score of 87.

☐ Respondents with scores of 100-109

The range of 100-109 represents the average range of material well being for older people. A third of Māori had scale scores in this range and we give typical cases below.

Single Māori: Puti lived alone after her partner died. She had between $17,000 and $20,000 a year coming in to help her. Puti owned her house and paid almost $1200 a year in rates. Although she had meagre savings, Puti had no problems paying the bills and had not had to skimp on groceries, although she had put off buying a new dress this year. Puti had not been on holiday and she described her income as "enough" and her standard of living as "medium". Puti had a score of 104 on the Material Well-being Scale.

A couple: Rawiri and Elisabeth were a married couple. Rawiri was 67 years old and described himself as Māori, while Elisabeth described herself as European and was 65 years old. Together they received between $22,000 and $25,000, had around $20,000 in savings, and owned their home for which they paid just over $1000 in rates per year. They believed their income was "enough" and described their standard of living as "medium". Rawiri and Elisabeth had a score of 104 on the Material Well-being Scale.

☐ Respondents with scores over 109

Those with scores over 109 represent the most materially advantaged 10% of the population of older people. Only 4 % of Māori achieved these scores. Illustrative case histories are provided.

Single Māori: Tai was 66 and was living alone in his own home after separating from his wife. Tai was getting between $12,500 and $15,000 a year. Although he had little savings, Tai had donated money to charity last time the Red Cross had collected. Tai often went out for dinner and recently had been down to the coast to visit family. Tai had just bought a new computer for his mokopuna to play on when they visited. He reckoned that he had "enough" money coming in to meet his needs and described his standard of living as "high". Tai had a Material Well-being score of 110.

A couple: Rangi was 67 and his wife Mary was 66. Mary described herself as European, while Rangi identified as Māori. Together they received around $35,000 a year and had almost $100,000 worth of assets and savings. They owned their own home and paid around $1300 a year in rates. Their whānau helped around the house often. Rangi was pretty happy about the waste disposal unit they had just had installed and they were thinking of buying a dishwasher next year. Mary and Rangi had been over to Australia last year for a holiday and were talking of going back in a few years time. They said that they had "more than enough" money to meet their needs at the moment and rated their standard of living as "fairly high". They had a Material Wellbeing score of 111.

☐ Conclusions

1. On average, older Māori had lower levels of material well-being than older non-Māori with one in five Māori having scores of less than 80 and one in three having scores less than 90.

2. Despite the higher rates of material disadvantage amongst Māori, over a third of older Māori had material well-being scores that were average or better.

3. In general, the results suggest that amongst older Māori there was a spectrum of material well-being ranging from those clearly facing difficulties (scores less than 80) to those with average or above average living standards (scores over 100). When compared with non-Māori, Māori were far more likely to face material hardship and far less likely to have above average material well-being.

Risk Factors
Ngā Āhuatanga Whakararu

▢ Introduction

We have already considered the development of the scale of material well-being (Chapter Five) and the social and economic features of the sample (Chapter Four). In this chapter we bring these ingredients together to examine the central issue of how variations in social, economic, cultural and other circumstances impact on the material well-being of older Māori:

- The first section describes a general statistical model that relates standards of living amongst Māori to a number of key factors that include income, savings and accommodation costs as well as a number of other factors. This model is then used to illustrate the ways in which these factors combine to determine levels of material well-being.

- The second section extends the first section to examine the issue of the relationship between cultural identification and material well-being. This section addresses two key questions. First, to what extent is cultural identification related to material well-being? Second, what factors and processes explain linkages between cultural identification and material well-being?

- The third section then examines the extent to which material well-being varies with household type. The section focuses on the extent of differences between single and partnered Māori and the factors that may explain these differences. This section also looks at the issue of gender differences in material well-being amongst the single respondents.

- The final section explores the issue of the relative material disadvantage of older Māori compared to older non-Māori.

▢ Factors influencing material well-being amongst Māori

The previous research into the material well-being of all older people has identified a series of factors that were predictors of material well-being (Fergusson et al, 2001a). This analysis involved the technique of multiple linear regression which identified a series of economic and social factors that predicted variation in the material well-being of older people. The same method was applied to the data gathered on the Māori sample (see Technical Appendix).

This method identified the following predictors of material well-being among older Māori:

1. *Income:* As would be expected, variations in annual income were related to variations in material well-being, with increasing income being associated with increasing material well-being. This relationship is depicted in Figure 9(a) which shows the relationships between net annual income[16] and mean material well-being scores. The figure shows that married couples with an income in excess of $50,000 p.a. had mean scale scores that were more than 10 points higher than those with incomes of less than $17,500 p.a.

2. *Saving and investments:* A second important predictor of material well-being was the level of savings and investments held by the household, with increasing assets being associated with rising living standards (see Figure 9(b)). The figure shows that those with savings and investments of over $100,000 had mean scale scores that were nine points higher than those with savings and investments of less than $1,000.

3. *Accommodation costs:* Income and savings are components of the wealth of the household but, as might be expected, levels of material well-being were also influenced by the costs faced by the household. One important component of these costs is the amount paid by the household per week for accommodation. Figure 9(c) shows the ways in which mean living standards were related to weekly accommodation costs. The figure shows that those paying more than $150 per week for accommodation costs (rental, mortgage) had mean scale scores that were seven points lower than those who did not pay rent or mortgage.

4. *Recent financial stresses:* In addition to the influence of the economic factors of income, savings and accommodation costs, the material well-being of older Māori was also influenced by their recent exposure to

Figure 9: Associations between key predictors and levels of Material Well-being

Note: All associations have been adjusted for the effects of all predictors

(a) Equalised Net Annual Income

88.4, 89.6, 90.8, 92.2, 94.6, 98.8

Equalised Net Annual Income ($000): 17.5, 17.5-20, 20-25, 25-30, 30-50, 50+

(b) Savings and Investments

87.1, 93.1, 94.2, 94.8, 95.4, 96.3

Savings and Investments ($000): <1, 1-10, 10-25, 25-50, 50-100, 100+

(c) Accommodation Costs

92.7, 88.2, 87.0, 86.3, 85.7

Accommodation Costs ($ per week): 0, 1-49, 50-99, 100-149, 150+

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16 In this figure income has been "equivalised" by dividing by a factor of 0.65 to scale single income levels up to the married couple equivalent. The justification for this scaling factor has been described in the previous report (Fergusson et al, 2001b). The figure thus shows the ways in which mean material well-being scores change for a given change in the annual income of a married couple. To obtain the same graph for single people the income estimates should be multiplied by 0.65.
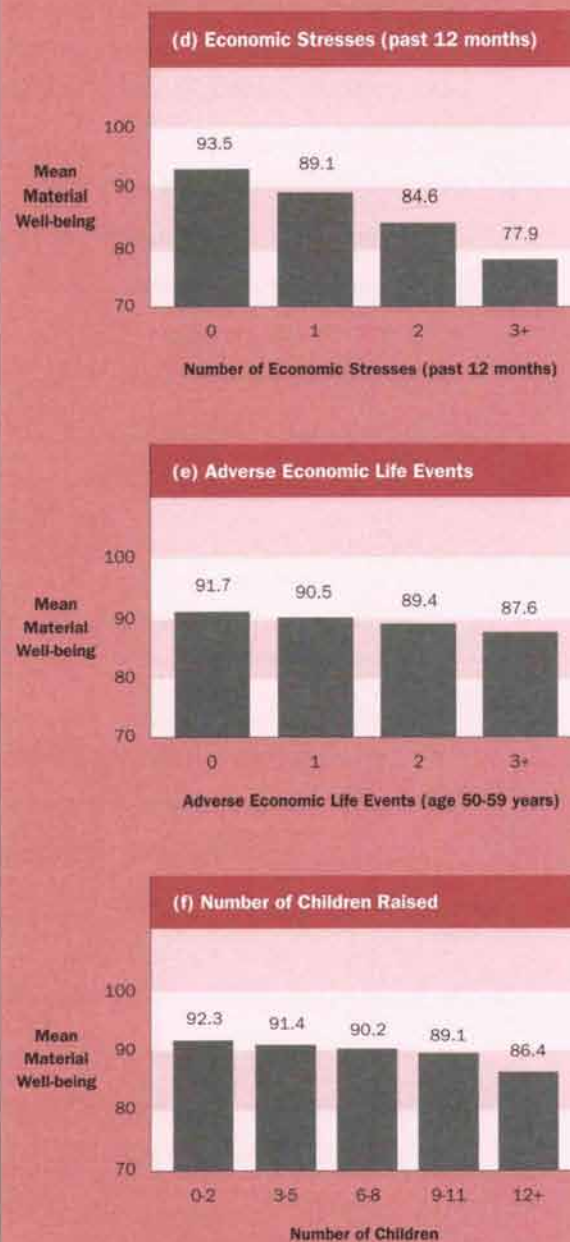
financial stresses, such things as: unexpected bills; replacement of household effects; and household maintenance (see Table 11, Chapter Four). This relationship is shown in Figure 9(d), which shows the ways in which mean material well-being scores declined as a result of exposure to recent economic stress. The figure shows that those reporting three or more financial stresses in the last year had mean scale scores that were over 10 points lower than those not experiencing financial stress.

5. *Economic adversity prior to the age of 60:* Another factor that was found to influence the material well-being of older Māori was the extent of their exposure to adverse economic life events during their fifties, including such things as: redundancy; separation/divorce; major illness; and death of a partner (see Table 10, Chapter Four). Figure 9(e) shows the ways in which exposure to economic life events prior to age 60 was related to the material well-being of older Māori. Those reporting multiple (3+) adverse economic life events prior to age 60 had mean material well-being scores that were three points lower than those who did not report such stresses.

6. *Number of children raised:* The final factor that contributed to the material well-being of older Māori was the number of children that they had raised throughout their life, with increasing numbers of children being associated with lower living standards. The association between number of children raised and mean material well-being is shown in Figure 9(f). Those who reared 12 or more children had mean material well-being scores that were six points lower than those who raised two or fewer children.

The relationships shown in Figure 9 are all adjusted for the effects of all of the factors shown in these graphs and thus show the likely net effects of each factor on the living standards of older Māori.

Figure 9 (continued)
Note: All associations have been adjusted for the effects of all predictors

(d) Economic Stresses (past 12 months)

Mean Material Well-being

93.5 — 89.1 — 84.6 — 77.9

Number of Economic Stresses (past 12 months): 0, 1, 2, 3+

(e) Adverse Economic Life Events

Mean Material Well-being

91.7 — 90.5 — 89.4 — 87.6

Adverse Economic Life Events (age 50-59 years): 0, 1, 2, 3+

(f) Number of Children Raised

Mean Material Well-being

92.3 — 91.4 — 90.2 — 89.1 — 86.4

Number of Children: 0-2, 3-5, 6-8, 9-11, 12+

As older Māori experienced progressively more of these various risk factors, there was a corresponding decrease in their material well-being. A simple way in which to assess the effect these risk factors had on the material well-being of the survey participants was to add the risk factors together. This made it possible to deduce the mix of circumstances leading to material deprivation amongst older Māori and the mix of circumstances leading to material advantage amongst older Māori.

The mix of circumstances that was most likely to lead to material deprivation amongst older Māori was:

- relying solely on NZS for income

- having no savings or assets

- paying rent or mortgage

- having faced financial stress in the last year

- having faced economic adversities when aged 50-59

- having brought up eight or more children.

In the region of one in 12 (8%) of older Māori had experienced five or more of these factors. It was estimated that respondents with this profile had a mean material well-being score of 67, compared with the mean material well-being score of 90.4 for the entire sample.

At the other extreme, the mix of factors that maximised material well-being and affluence for older Māori was:

- having an equivalent family income of over $50,000 per annum

- having savings or assets of over $100,000

- paying no mortgage or rent

- having no recent financial stress

- having no financial adversity during the period from age 50-59

- having reared fewer than four children.

It was estimated that less than 2% of older Māori had this favourable profile. This group had a mean material well-being score of 108.

More generally these results suggested that the key factors influencing the material well-being of older Māori were largely economic (income, savings, accommodation costs), but their living standards were also influenced by past and current financial stress and by their history of parenting and childrearing.

■ Cultural identification

A limitation of the analysis presented in the previous section is that it treats Māori as a culturally homogeneous group and fails to take account the variations in cultural identification within the sample. It will be recalled from Chapter Four that within this sample there was a spectrum of cultural identification that ranged from those with little or no identification with Māori culture and tradition (notional) to those with high involvement in Māori culture (secure).

Given this variation in cultural identification, two important questions arise. First, to what extent are variations in cultural identification related to variations in living standards? Second, if cultural identification and material well-being are related, what factors and processes explain this association? These questions are addressed below.

Cultural identification and material well-being

Table 14 shows the relationship between the extent of Māori cultural identification classified into three groups (notional, positive, secure) and mean material well-being scores. The table shows a clear trend for a more secure Māori cultural identity to be associated with declining material well-being. Those with a more secure cultural identification had mean material well-being scores that were over 10 points lower than those with a notional cultural identification. These results clearly support the conclusion that amongst older Māori, increasing Māori identification was associated with increasing material disadvantage.

Table 14: Mean material well-being by extent of Māori cultural identification

	Cultural Identification Score		
	0-5 (Notional) (N = 71)	6-12 (Positive) (N = 219)	13-18 (Secure) (N = 247)
Mean material well-being score	97.6	91.9	87.0

Explaining the linkages between cultural identification and material well-being

The findings above raise important issues about the factors that place those with a more secure Māori cultural identity at greater risk of material deprivation. From the results of the prediction model described in the first section of this chapter, it may be conjectured that the reason for this association may be that a more secure Māori cultural identity was associated with increased exposure to the various adverse economic, financial, and life history factors that encouraged material disadvantage. As we show below, this conjecture proves to be correct.

Table 15 shows the association between the extent of Māori cultural identification and measures of: household income; savings and assets; accommodation costs; recent financial stresses and numbers of dependent children. In common with Table 14, this Table shows evidence of a generally clear gradient in which a more secure Māori identity was associated with: declining mean income; declining mean savings and assets; increasing accommodation costs; increasing financial stress; and increasing numbers of children. In all cases these trends were statistically significant, but more importantly, all are in the expected direction of placing older Māori with a more secure cultural identity at greater risk of deprivation than older Māori with a notional cultural identity.

Table 15: Comparison of economic factors, financial stressors and number of children across levels of Māori cultural identification

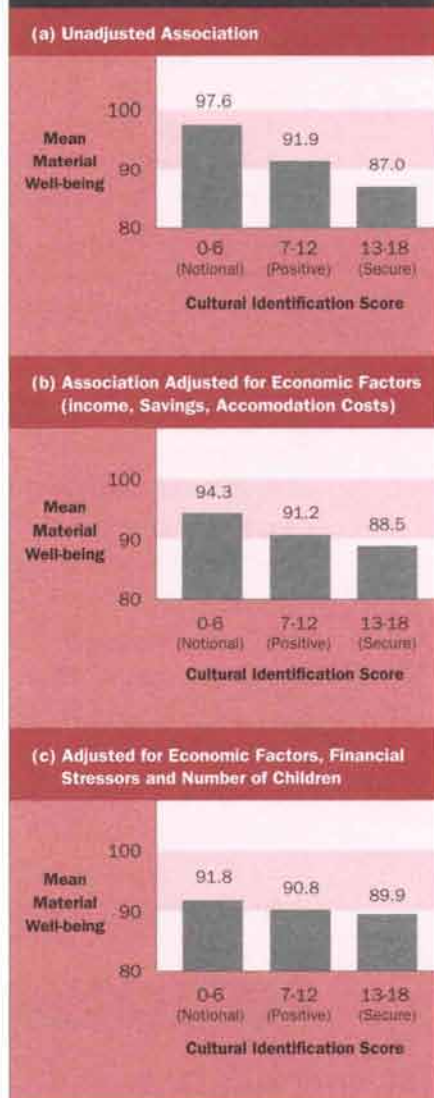| Measure 1	Cultural Identification Score		
	0-6 (Notional)	7-12 (Positive)	13-18 (Secure)
Mean equivalised net income ($ pa)	27,473	21,343	23,851
Mean savings/investments ($)	92,650	25,930	23,295
Mean accommodation costs ($ pw)	22.60	41.00	43.40
Mean financial stressors (past 12 months)	0.45	0.50	0.89
Mean number of children raised	3.5	5.3	7.5

It turns out that the differences in Table 15 do explain the association between cultural identification and material well-being reported in Table 14. This conclusion is depicted in Figure 10, which shows the association between cultural identification and material well-being before adjustment for other factors, and after adjustment for economic and other factors[17]. The figure shows that allowing for economic factors (income, savings and assets, accommodation costs) explains most of the relationship between cultural identification and material well-being (Figure 10(b)). This suggests that a major reason for older Māori with a more secure cultural identity having poorer material well-being was because they had lower income, smaller savings and paid higher accommodation costs. However, after allowing for financial stressors and number of children as well as economic factors (Figure 10(c)), virtually all of the relationship between cultural identity and material well-being is explained by these five risk factors.

The results clearly suggest that the relatively disadvantaged status of older Māori with a secure cultural identity arises because of an accumulative adversity model in which the lower income, assets, higher accommodation costs, greater financial stress and larger family sizes all contribute accumulatively to produce this disadvantage.

This study suggests the following conclusions about the linkages between cultural identification and material well-being.

- Stronger Māori cultural identification was associated with lower levels of material well-being amongst older Māori.

- This association was explained by the fact that increasing Māori cultural identification was associated with increased exposure to the factors leading to depressed living standards: low income; limited or no savings, high accommodation costs, exposure to recent financial stresses; and large family size. These factors acted accumulatively to place those with high Māori cultural identification at greater risk of depressed material standards.

- Thus, any direct effect of Māori cultural participation is mediated via the processes whereby those with a strong cultural identity experience cumulative financial disadvantages that limit their potential to prepare financially for retirement. This does not mean there is a causal link between strong cultural identity and financial disadvantages, since it is more likely that historical processes led to these associations.

Figure 10: Mean material well-being score by level of Māori cultural identification before and after adjustment for key risk factors

(a) Unadjusted Association

(b) Association Adjusted for Economic Factors (income, Savings, Accomodation Costs)

(c) Adjusted for Economic Factors, Financial Stressors and Number of Children

17 The adjusted association estimates the relationship between cultural identification and material well-being that would have been observed had all members of the sample had the same level of income, savings, etc irrespective of cultural identification

■ Household composition

Single or partnered

Another important dimension on which the sample varied was that of
household composition, with 53% of respondents being married or
partnered and 47% of respondents being single (see Chapter Four).
An important question that arises is the extent to which there are
differences in the material well-being of those in single and partnered
households. This issue is examined in Table 16, which compares the
mean well-being scores of single and partnered Māori and which shows
that there are marked differences in these scores with single Māori
having mean scores that were five points lower than partnered Māori.

The difference in material well-being between single Māori and partnered
Māori raises important questions about the processes that give rise to
this difference. Why is it that older single Māori are faring less well
than older partnered Māori? One explanation could be that older single
Māori may have greater exposure to the factors that are associated with
increased material deprivation. This issue is examined in Table 17,
which compares single Māori and Māori couples on measures of
economic factors and financial stress. The table shows that as a group
older single Māori had higher exposure to a range of factors that were
associated with material disadvantage. These factors included lower
(equivalised) income; lower levels of savings and assets; higher recent
financial stress; and more frequent adverse economic life events prior
to age 60. In addition, single Māori paid slightly more in accommodation
costs than partnered Māori.

Table 16: Mean well-being scores of single and partnered households

	Household Type	
	Single (N = 251)	Partnered (N = 286)
Mean material well-being	87.7	92.8

Table 17: Comparison of single and partnered households on economic factors and financial stressors

Measure	Single (N = 251)	Partnered (N = 286)
Mean equivalised net income ($ per annum) [1]	$21,280	$25,100
Mean savings/investments ($) [1]	$15,400	$49,925
Mean accommodation costs ($ per week)	$44.10	$35.85
Mean financial stressors (past 12 months) [1]	0.81	0.55
Mean adverse economic life events (age 50-59 years) [2]	1.15	0.96

[1] $p < 0.005$; [2] $p = 0.06$

The above results clearly suggest that as a group older single Māori were subject to far greater exposure to the risk factors that are associated with material disadvantage. As was the case for the association between cultural identity and material well-being, it turns out that the greater economic disadvantage of single Māori explains their relatively impoverished status. This state of affairs is depicted in Figure 11, which shows the association between household type and material well-being before and after adjustment for economic factors and financial stress. The figure shows that after adjustment for economic factors that were associated with both household type and material well-being, the differences between single Māori and Māori couples disappear. These findings clearly suggest that the lower material well-being of single older Māori was largely due to the greater economic disadvantage experienced by this group.

Gender

Of those who were single, 67% were female and 33% were male. This raises the issue of whether there were gender differences in the living standards of single female Māori and single male Māori. Comparison of the mean material well-being score of single males and females showed a small (but statistically non-significant) difference in mean material well-being: single females had a mean material well-being score of 86.3 compared to the mean 90.5 for males.

Table 18 compares single males and females on measures of income, savings and assets, accommodation costs and financial stress. This table shows that the two genders had very similar levels of economic circumstances and history. However, there were small differences between males and females - single females received less income and paid less in accommodation costs.

In general, these results suggest that there were few differences in the material well-being and economic situation of single Māori males and females. Females reported slightly more disadvantage but had similar levels of income, savings, accommodation costs and financial stress.

Figure 11: Comparison of Mean Material Well-being scores for single and partnered households. Before and after adjustment for income, savings and investments, accomodation costs and financial stress
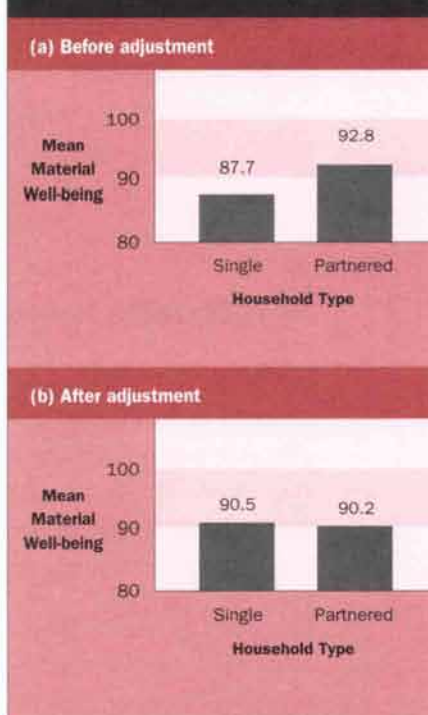
(a) Before adjustment

(b) After adjustment

Table 18: Comparison of single females and males on measures of economic situation and financial stress		
	Females (N = 171)	Males (N = 80)
Mean net income ($ per annum)	$13,430	$14,720
Mean savings/investments ($)	$15,370	$15,440
Mean accommodation costs ($ per week)	$42.20	$48.10
Mean financial stresses (past 12 months)	0.82	0.78
Mean adverse economic life events (age 50-59 years)	1.13	1.20

■ Differences between Māori and non-Māori

The focus of this research was upon variations in living standards amongst older Māori. However, to place these results in context, it is useful to compare the findings for Māori with comparable data from non-Māori. This approach makes it possible to benchmark the disparities between Māori and non-Māori and to explore the factors that may have contributed to these disparities.

Table 19 compares Māori aged 65-69 with a corresponding series of non-Māori aged 65-69 derived from Fergusson et al (2001b). The two groups are compared on material well-being, economic factors, exposure to financial stress and socio-demographic factors. These comparisons reveal the presence of relatively large and systematic differences between the two populations:

- Material well-being: There are clear differences between the mean material well-being of Māori and non-Māori, with Māori having mean material well-being scores that were 8.5 points lower then those of non-Māori (Fergusson et al, 2001a). As discussed earlier (Chapter Five) this difference leads to 20% of Māori having scores of less than 80 compared to only 6% of non-Māori. It is evident from these comparisons then, that material deprivation was more prevalent amongst Māori than it was amongst non-Māori.

- Economic circumstances: As might be expected, the relative material disadvantage of Māori was mirrored by relative economic disadvantage. Specifically, Māori had substantially lower annual equivalised income than non-Māori, had far lower savings and assets paid more than twice as much as non-Māori in rental or mortgage,

and had lower rates of home ownership. All of these factors were likely to have conspired to place Māori at significant economic disadvantage.

- Economic Stress: In addition to their economically disadvantaged status, Māori were also exposed to greater financial stress and adversity both before and after retirement.

- Social factors: In addition to the greater material and economic difficulties facing Māori, more older Māori were widowed (reflecting the higher mortality amongst Māori 65-69), and the number of dependent children who had been reared by Māori was substantially higher.

Table 19: Comparison of Māori and non-Māori aged 65-69 years on measures of material well-being, economic factors, exposure to financial stress and socio-demographic factors

Measure [1]	Māori (N = 537)	Non-Māori (N = 866)
Material Well-being		
Mean well-being score	90.4	98.9
Economic Factors		
Mean equivalised net income ($ per annum)	$23,300	$30,690
Mean savings/investments ($)	$33,920	$85,765
Mean accommodation costs ($ per week)	$39.60	$19.10
% Home ownership	66.1	78.4
Financial Stress		
Mean financial stressors (past 12 months)	0.67	0.40
Mean adverse economic life events (age 50-59 years)	1.05	0.80
Socio-demographic Factors		
% Widowed	29.6	17.9
Mean number of children raised	6.1	3.2

[1] All comparisons between Māori and non-Māori are statistically significant (p<0.001).

The above comparisons clearly suggest a marked and consistent demarcation between the Māori and non-Māori populations, with Māori being consistently at a disadvantage in terms of material and economic well-being. From the comparisons made, it is not difficult to see the ways in which economic deprivation, financial adversity and other factors conspire to place older Māori at a clear and significant material disadvantage when compared to older non-Māori.

In the previous analysis of the material living standards of older people, it was concluded that, relative to the rest of New Zealand, older people were faring relatively well and that there was no pressing need for major changes in the economic provisions to older people (Fergusson et al, 2001a). However, this somewhat reassuring conclusion clearly does not apply to older Māori people. As the results of this report suggest, older Māori are a population that have substantially poorer material conditions and greater economic deprivation than non-Māori. This suggests the need for policies that explicitly address the disadvantaged status of older Māori. Some policy directions and options are explored in the next chapter.

■ Conclusions

1. In common with the previous analysis of well-being amongst the older population in general (Fergusson et al, 2001a), the factors that emerged from this analysis as determinants of well-being were largely related to current economic circumstances and financial history.

2. These risk factors (income, asset value, accommodation costs, recent financial stresses, financial adversity at ages 50 to 59, and number of children raised or supported) combine accumulatively to influence the risk of material disadvantage, such that there is a profile of low material well-being for those with many of these risk factors compared to those with no risk factors.

3. Much of the association between cultural identity and material well-being is statistically explained by the association between cultural identity and economic risk factors, in particular, value of savings/investments, recent financial stresses and the number of children raised or supported. Thus any direct effect of Māori cultural participation is mediated via the processes whereby those with a strong cultural identity experience cumulative financial disadvantages that limit their potential to prepare financially for retirement. Some

of these processes are likely to be of specific cultural relevance (e.g. financial support of whānau, cost of maintaining a Māori identity), but many are likely to reflect the wider structural and economic processes that influence the well-being of all New Zealanders.

4. Having more children has been described as a risk factor for older Māori because of the association with lower material well-being. However, it must be noted that for many Māori, children are viewed as an asset. The relationship with their children (and grandchildren) typically continues throughout their lives, with the direction (and nature) of the flow of resources slowly changing with age. The flow shifts from parents directing all available resources to their children · when they are young, to receiving resources (e.g. money, food, help around the house) in their advancing age. It may be that this traditional pattern is changing, perhaps affected by factors such as migration. In some cases, where adult children are economically disadvantaged, the flow of resources may continue to be from older parents to children and grandchildren.

5. Older Māori women typically had a marginally lower income than males, although they paid less in accommodation costs. Overall, however, there was little or no difference between males and females for any of the risk factors identified.

6. While single older Māori appear to be at particular risk for material disadvantage in comparison to couples, it would appear that this differential can be explained by historical processes that appear to place single older Māori at particular risk for financial adversity. This is primarily because the majority of single Māori alive at age 65-69 are female and were once part of a couple. It is likely that this couple has had a poor history of asset accumulation and a higher risk of paying substantial accommodation costs. With the death of the spouse the widow was placed in a worse financial position then before, making preparation for retirement far more difficult.

7. Older Māori consistently demonstrated higher scores on the risk factor scale than those in the general population aged 65 or older. Across these risk factors, older Māori earned less, had fewer assets, paid far more in accommodation, had experienced more recent stressors and more stressors in their fifties than the general older population.

Conclusions and Policy Themes
Ngā Whakataunga me te Whakarāpopoto
i ngā Kaupapa Here

■ Introduction

In this study, we have used data on over 500 Māori aged 65-69 to examine the living standards and factors associated with living standards amongst older Māori. This research represents the largest single study into the material living standards of Māori that has been conducted to date. The major themes that emerged from the research and their implications are reviewed below.

■ Measuring material well-being amongst Māori

In recent years there has been increasing recognition of the need to study key issues relating to the health and well-being status of Māori in New Zealand. In turn, this increasing recognition has led to debates about the appropriate methodology by which such research might, or should, be conducted. A major theme in this debate has been the recurrent claim that research on Māori should be conducted by Māori, for Māori, and using methodologies founded in Māori culture. The present research does not meet such criteria. Rather, the research derives from a bicultural model in which the research methodology employed has been adapted from existing research using a mainstream social survey methodology, with this process of adaptation being overseen and approved by a Māori research group.

A central aim of the research was to examine the extent to which methods used to measure material well-being in older non-Māori could be applied to older Māori. The weight of the evidence from this study supports the view that those methods, which were used to investigate older non-Māori, were also applicable to Māori. The application of the same statistical methods (see Technical Appendix) to the data collected for older Māori sample showed that the material well-being of older Māori could be measured in much the same way as older New Zealanders.

Furthermore, comparing the importance that Māori and non-Māori assigned to various aspects of ownership and consumption, revealed that there was little difference between Māori and non-Māori in how they rated the importance of items on the ownership and consumption lists. These results suggested that, with some exceptions, older Māori and non-Māori held similar views about the mix of goods, services and opportunities that were important to them. This similarity provides a justification for creating a scale of Material Well-being for older Māori that was comparable with the scale applied to older non-Māori. The advantages of measuring both populations using a common methodology is that it become possible to devise objective measures of the extent of differences in the material well-being of Māori relative to that of non-Māori.

Whilst the methodology used in this research has the advantage of assessing both Māori and non-Māori using comparable methods, it may be seen as lacking cultural validity to the extent that it relies on research methods and assumptions that have been imported from Western quantitative social science. Some may find this a serious shortcoming of the present research. In response to such concerns we would make the point that although the methodology may be derived from a Western quantitative research tradition, the conclusions it reaches are strongly consistent with the concerns that Māori have raised about disparities between Māori and non-Māori in terms of living standards (see for example Te Puni Kōkiri, 2000). These considerations may suggest that in situations in which clear disparities exist between two populations, the choice of research methodology to illuminate these disparities may not be critical and that similar conclusions may be reached by a range of methodologies.

Two key findings of this study are the relatively high rate of material disadvantage amongst Māori and the clear disparities between the living standards of older Māori and non-Māori. In particular, a previous study suggested that a scale score of less than 80 implied quite marked material hardship and restrictions (Fergusson et al, 2001). The present analysis (Figure 8) shows that amongst older Māori aged 65-69, one in five (20%) had material well-being scores below this bench mark. In contrast only 6% of older non-Māori fell below this level. These results clearly suggest that the prevalence of poverty and material hardship amongst older Māori was three to four times higher than amongst non-Māori.

At the same time, although a greater proportion of Māori were in poverty and hardship it is also important to note that the great majority of Māori (80% approximately) did not have scores below 80 and the majority (60%) attained scores in the average range of 90-110. It was not the case that all Māori were disadvantaged in old age; rather, there was evidence of a disproportionate number of Māori who received low standard of living scores. All measures suggest that as a population, older Māori were substantially disadvantaged when compared with older non-Māori.

☐ Factors associated with the material well-being of older Māori

An important feature of the present research was that it collected data on a range of factors that may have contributed to the material well-being of older Māori. The analysis of this information identified six factors that were associated with variations in living standards:

- Economic factors including current income, current savings and investment, and current accommodation costs. These results showed, predictably, that the mix of circumstances that combined to increase material disadvantage amongst Māori were low income; the absence of savings and investments, and high accommodation costs. It seems likely that these economic factors represent the major policy levers by which issues relating to the disadvantage of older Māori may be addressed.

- Exposure to economic stresses: A second set of factors that was related to disadvantage amongst Māori was exposure to recent economic stresses to meet unexpected bills or to economic problems such as redundancy, marriage breakdown etc in the decade prior to retirement. These results highlight the fact that while current economic circumstances play an important role in determining the material well-being of older Māori, the patterns of material well-being can also be disrupted by unexpected shocks occurring both in the past and more recently.

- Number of children raised: The findings on the role of economic factors and economic stresses for Māori were very similar to the findings for non-Māori suggesting that in both populations a similar set of factors determined levels of affluence and material well-being.

However, for the Māori population a further factor was identified in terms of the number of children the respondent(s) had raised. Many older Māori reported raising many children and the study clearly suggests that raising many children over their lifetime led to an economic disadvantage that carried over into older age. This factor did not appear to apply to older non-Māori as non-Māori tended to raise fewer children. These results suggest that culturally determined differences in family structures and sizes acted in a way that placed older Māori at a material disadvantage.

☐ Cultural identification and material well-being

Although policy debates often treat Māori as an homogeneous population sharing common views, attitudes and values, there has been increasing recognition that within the Māori population there is considerable diversity in cultural identification and participation (Durie, 1997). For these reasons, it becomes important to explore the variability within the Māori population in terms of cultural identification. In the present study, there were clear differences in cultural identification amongst those surveyed ranging from a minority who had little or no identification with, or participation in, Māori culture, to those reporting a more secure level of identity.

The results showed a clear trend for a more secure Māori identity to be associated with reduced material well-being. In turn, the results raise the important issue of the factors that explained the greater disadvantage of older Māori with a more secure cultural identity.

The present analysis showed that the immediate cause of these differences were that older Māori with a more secure cultural identity had greater exposure to a mix of adverse factors including: low income; limited savings and investments; high accommodation costs; greater exposure to past and present economic stress and larger number of children raised that combined to place them at risk of material disadvantage. However, this account does not explain the historical and other processes by which individuals with a more secure Māori cultural identity came to be placed in a position of material disadvantage within New Zealand society. These processes are likely to have included: a poor history of asset accumulation, poor health - leading to the early death of their partner, and the expense of a bereavement or a divorce. The present

findings suggest that the impacts of these historical processes on Māori varied with cultural identity, with those older Māori who have retained a more secure cultural identity experiencing the greatest disadvantage[18]. Further research is being undertaken by the Ministry of Social Development that includes an examination of the relationship between cultural identity and material well-being amongst Māori adults generally.

☐ Household composition and material well-being

Although a similar set of factors affected the living standards of Māori and non-Māori, there was an important difference between the two populations in terms of the linkages between material living standards and household composition. In the non-Māori population, the living standards of single non-Māori and non-Māori couples proved to be similar, whereas amongst Māori, single respondents were significantly more disadvantaged than Māori couples. The immediate causes of this difference between single Māori and Māori couples were that single respondents had lower equivalised (refer technical appendix) incomes, smaller savings and assets, paid more for accommodation and had been exposed to other adverse factors. These differences in the background of single Māori and Māori couples proved to be sufficient to explain the relative material hardship and poverty of single older Māori. In turn, these differences may prove to be the consequence of other adversity that afflicts Māori. In particular, it has been well documented that Māori have higher rates of mortality in their fifties and sixties than non-Māori. This produces a situation in which the Māori population aged 60-65 contains a disproportionate number of single people (as a result of bereavement) than the non-Māori population.

In addition, it is likely that those Māori dying prematurely are male and from relatively impoverished backgrounds. The net result of this is to produce a predominantly female single Māori population that is impoverished relative to the population of partnered Māori. This process reflects the way in which one disadvantage (premature mortality amongst Māori males from impoverished backgrounds) may lead to another disadvantage (relative poverty amongst widowed Māori females). These considerations suggest the importance of reducing Māori mortality rates at all ages, including those in their fifties and sixties.

18 From a longer term historical perspective, the relatively disadvantaged position of Māori has been traced back to processes of colonisation and land alienation. See Belich, 1996 for a general account of these processes and Walker, 1990 for a Māori perspective.

☐ Policy themes

The findings of this study have a number of implications for social policies directed at sustaining and improving the material well-being of older Māori:

Sustaining the present scheme

In a previous analysis of all older New Zealanders, it was concluded that the current income support schemes were adequate to meet the economic needs of the majority of older people and for this reason it was important that existing levels of support via NZS and supplements to NZS were sustained (Fergusson et al, 2001a). As the New Zealand population ages, and the proportion of older people continues to increase, there may be pressure in the future to reduce the level of NZS. Given the greater disadvantages experienced by Māori, not maintaining the existing level of income support for older people will exacerbate the already disadvantaged status of older Māori.

The need for additional targeted policies dealing with those in hardship

In a previous study of all older people, it was concluded that the fraction of older people facing material hardship was relatively small and that as a consequence there was no pressing need for major revisions to the current benefit structures (Fergusson et al, 2001a). The present in-depth look at older Māori suggests a need for some revision of this conclusion. While it is correct that only a minority of all older people are facing hardship, it is clear that there are subgroups of the population that are highly vulnerable to such hardship. Māori prove to be one such group with one-in-five older Māori people facing significant material hardship and difficulty. This finding suggests the need for targeted policies to provide additional support and assistance to individuals facing financial hardship and difficulties. It also suggests the need to ensure that older Māori are receiving their correct entitlements to existing supplementary assistance.

Whilst this study has focussed on Māori as a group at risk, it is likely that there will also be a group of non-Māori who face a similar plight. Whilst this group may be proportionately far smaller than those Māori facing hardship, it is likely that because of the larger size of the non-

Māori population that more older non-Māori may face hardship than older Māori. This suggests the necessity for any policy directed at addressing hardship amongst older people to directly address need rather than being based on criteria such as ethnicity. Key policy criteria for targeting assistance are likely to involve such factors as income, savings and assets and accommodation costs. Nevertheless, government and community policies to address hardship amongst older Māori can be tailored to meet the specific needs of Māori (e.g. kaumātua housing). Using common criteria to identify hardship does not preclude Māori-specific policy responses.

Strengthening the economic base of Māori

Whilst targeted assistance to older Māori facing severe hardship may be justified, this approach provides only a band-aid solution to the wider issue of ensuring the material well-being of older Māori. It is quite clear from the factors associated with material well-being amongst Māori (and indeed non-Māori) that the older Māori population will remain at risk of relatively depressed living standards for as long as inequities exist between Māori and non-Māori in the areas of economic well-being and health. It would be going beyond the scope of the present study to describe the current economic base of the Māori population and explore specific ways in which it could be strengthened. However, the findings of the study suggest that disadvantage amongst older Māori is to some extent a consequence and continuation of disadvantage at a younger age. This interconnectedness of the well-being of older Māori with the general well-being of the Māori population highlights the need for comprehensive and holistic policies to resolve health educational and economic disparities between Māori and non-Māori in New Zealand.

Developing pre-retirement policies for older Māori

Although strengthening the economic base of Māori in general provides an essential prerequisite for removing the disparities between older Māori and non-Māori, such change may not be sufficient to ensure equity between the populations. In particular, it is evident from research into both Māori and non-Māori populations that events and circumstances prior to retirement play a critical role in ensuring levels of material well-being during retirement. Key factors that appear to

play an important role include: having sources of income additional to NZS; the development of savings and assets; reducing accommodation costs through home ownership; and avoiding redundancy and unemployment in one's fifties. In the previous report, it was advocated that steps were taken to encourage New Zealanders to take an active role in planning for their retirement. As the economic base for Māori grows, this advice will become increasing relevant to Māori as a pathway for securing sustained material well-being in retirement.

☐ Māori research perspectives on material well-being

The present research provides a clear case study of the ways in which survey research methodologies can be used to illuminate issues relating to the material well-being of older Māori. However, despite the utility of such research it is important that the research findings are supplemented by research using culturally relevant research methodologies. The present research provides a starting point for further research into the material well-being of older Māori using Māori research methodologies. Some research possibilities include:

- assessing the nature of the living standards of more culturally conservative (secure) Māori to ensure that the material well-being scale is appropriate for this group

- incorporating the measure into longitudinal surveys to find how material well-being and the risk factors affecting material well-being change over time

- studying the relationship between health, aspects of cultural identity, and material well-being.

Technical Appendix

■ Measurement model

The model

The model fitted to the data on older Māori is shown in Figure A.1. This model is based on the model used for all older New Zealanders (see Fergusson et al, 2001b, pages 65-69). This model assumes that variations in the living standards of older Māori is a latent variable whose properties are reflected in the observed measures of: ownership restrictions; social participation restrictions; economising; financial hardship; self-rated living standards; self-rated adequacy of income. The coefficients (i represent the factor loadings linking the observed indicators to the non-observed factor. The terms Ui represent the errors or disturbances of the model. The model permits the disturbance terms of: a) ownership restrictions and social participation restrictions; and b) the ratings of standard of living and income adequacy, to be correlated (as was the case for the analysis of all other New Zealanders; see Fergusson et al, 2001b, pages 73-75).

Figure A.1: Model of Material Well-being for Older Māori
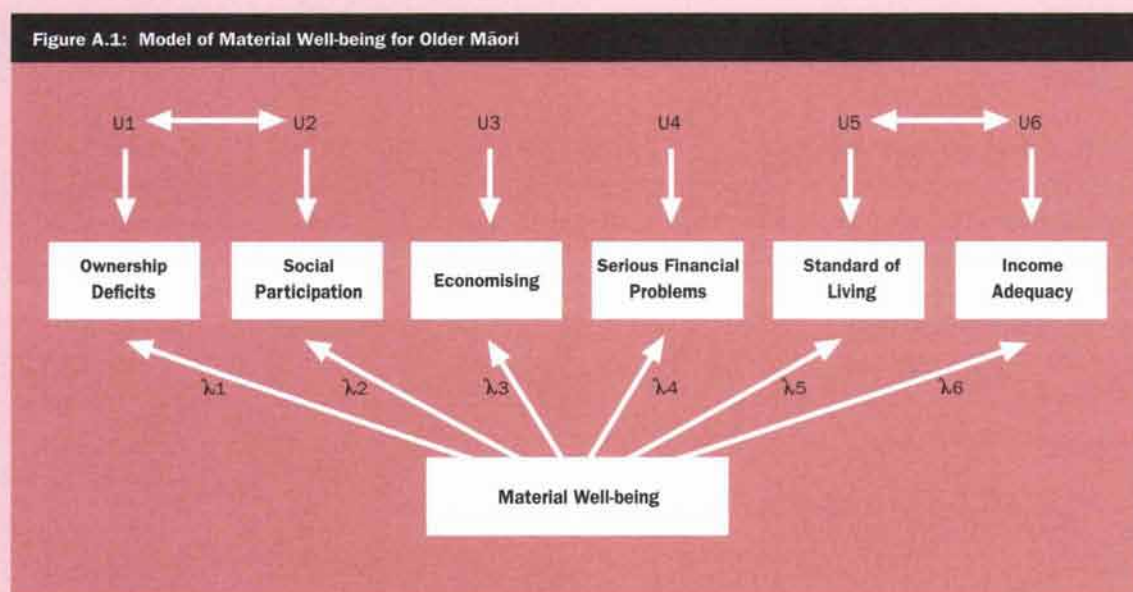
Model fitting

The model in Figure A.1 was fitted to the matrix of correlations of the indicator measures. These correlations are shown in Table A.1. Since the indicator variables were non-normally distributed, model fitting conducted using Asymptotic Distribution Free (ADF) estimates. All analyses were conducted using LISREL 8 (Joreskog and Sorbom, 1993).

Table A.1: Matrix of correlations, means and standard deviations of six indicator measures

Variable	Ownership Restrictions	Social Participation Restrictions	Economising	Serious Financial Problems	Standard of Living	Income Adequacy
Ownership restrictions	1.00					
Social participation restrictions	0.53	1.00				
Economising	0.61	0.53	1.00			
Serious financial problems	0.40	0.33	0.49	1.00		
Standard of living	0.39	0.32	0.46	0.34	1.00	
Income adequacy	0.43	0.40	0.53	0.27	0.38	1.00
Mean	1.21	1.07	26.74	0.37	2.02	1.92
Standard deviation	1.94	1.48	8.62	0.93	0.72	0.86

All correlations are statistically significant ($p<0.001$)

Model fit

The model in Figure A.1 was found to have adequate fit to the data in Table A.1 on the basis of a series of goodness of fit measures including the log likelihood ratio chi square goodness of fit; the root mean squared error of approximation (RMSEA); the adjusted goodness of fit index (AGFI); and the root mean squared standardised residual (RMSR). These goodness of fit measures are shown in Table A.2.

Table A2: Goodness of fit indices

Measure	Result
Log likelihood chi square	9.94; df = 7; p>0.15
RMSEA	0.028 (p>0.80)
AGFI	0.98
RMSR	0.018

Model estimates

The estimated standardised model parameters and standard errors are shown in Figure A.2. The standardised factor loadings have the interpretation of being the correlations between the non-observed latent factor and the observed test measures.

Figure A.2: Fitted Confirmatory Factor Model of Material Well-being for Older Māori. (All parameters are standardised; standard errors are in parentheses)
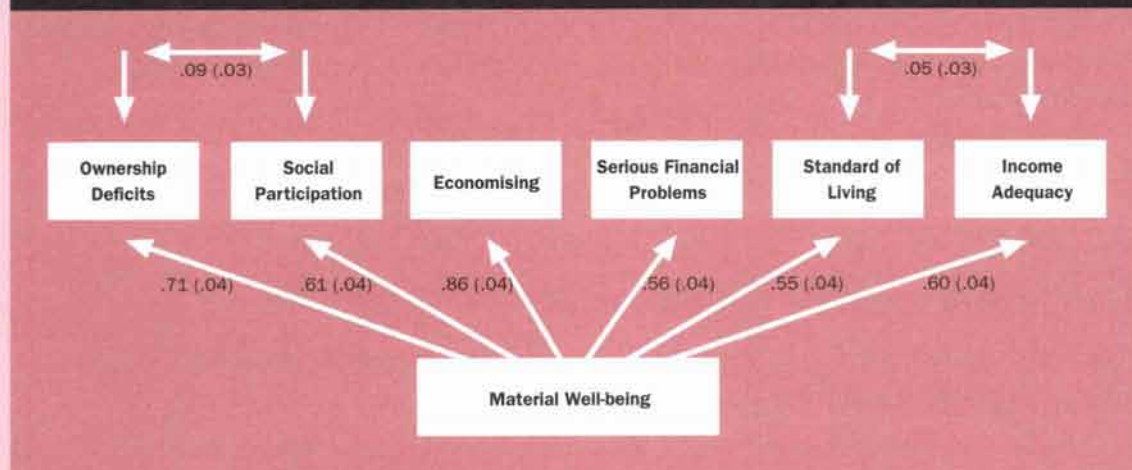
Equivalence of Māori and non-Māori scales

An important issue raised by the analysis above concerns the extent to which the model for older Māori in Figure A.2 was the same as the model for all older New Zealanders. This issue was tested using a multiple group modelling method to test model equivalence across populations. This model suggested that the same general factor structure fitted both Māori and non-Māori populations but that there were some (relatively minor) differences in factor loadings between populations. These differences are shown in Table A.3 which compares the factor loadings for the Māori sample with those for the corresponding non-Māori sample aged 65-69 years.

The table shows the presence of relatively small differences in factor loadings between the two populations. The largest difference is for the measure of severe financial problems, which proves to be more discriminating for Māori than for non-Māori.

Table A.3: Comparison of factor loadings for Māori and non-Māori aged 65-69 years

	Loading	
Indicator	Māori	Non-Māori
Ownership restrictions	0.71	0.60
Social participation restrictions	0.61	0.68
Economising	0.86	0.86
Severe financial problems	0.56	0.36
Standard of living (rating)	0.55	0.51
Adequacy of income (rating)	0.60	0.61
Test of equality of loadings	Log likelihood chi squared = 199.5; df = 6; p<0.0001	

However, the test of equality of factor loadings shows that the differences between the two populations were statistically significant. Despite this test of significance, differences between the two populations proved to be inconsequential in terms of the scale scores derived for the two populations. This was tested by devising a series of alternative scale scores for the Māori and non-Māori populations. These scale scores were:

1. scale scores for Māori using weights derived from the Māori sample

2. scale scores for Māori using the weights for the non-Māori sample

3. scale scores for non-Māori using weights derived from the Māori sample

4. scale scores for non-Māori using weights derived from the non-Māori sample.

To examine differences in scaling methods, the different scale estimates for each ethnic group were correlated. This showed that:

1. for Māori, the correlations between the scale using Māori weights and the scale using non-Māori weights was in excess of 0.99.

2. for non-Māori the correlation between the scale using Māori weights and the scale using non-Māori weights was in excess of 0.99.

The above results lead to the general conclusion that although there were minor differences in the factor structure for Māori and non-Māori, for all practical interests and purposes the same scale could be applied to both populations.

Estimation of scale scores

To ensure that the scale scores for older Māori were scored on the same metric as for the total population aged 65+, the following method was used:

1. Scores for Māori were first represented as an unweighted sum of indicators (X_j) standardised relative to the total population:

$$\hat{S}_i = \sum X_{ij}$$

where X_{ij} was the standardised score of subject i on variable X_j - ie,

$$X_{ij} = \frac{X_{ij} - \bar{X}_{jg}}{Sd\ (X_{jg})}$$

where $\bar{X}_{jg}$ was the mean of X_j for the general population and $Sd\ (X_{jg})$ was the corresponding standard deviation. The values of $\bar{X}_g$ and $Sd\ (X_{jg})$ were obtained from the previous study of living standards of older people (Fergusson et al, 2001b).

2. This score was then weighted to produce scale values (Ti) that had a mean of 100 and a standard deviation of 10 for the total population:

$$\hat{T}i = 100 - \hat{S}i * [10/Sd \ (Sg)]$$

where Sd (Sg) was the standard deviation of $\hat{S}$ for the total population.

In effect, what this series of transformations achieves is to place Māori and non-Māori on a common scale of material well-being, with this scale having an overall mean of 100 and a standard deviation of 10 in the total population aged 65 and over. The final scale was scored so that higher scores implied increasing material well-being.

Scale reliability and validity

The reliability of the scale was assessed using internal consistency methods and Cronbach's alpha (Cronbach, 1951). The value of alpha was 0.82, suggesting moderate scale reliability.

To examine test validity, the scale was correlated with a series of concurrent validation measures that were also collected as part of the survey. These measures included:

- whether the respondent reported being unable to save on most months

- whether the respondent reported being unable to find $5,000 in an emergency

- whether the respondent reported health-related financial stress in the past 12 months

- whether the respondent reported having a Community Services Card

- whether the respondent reported feeling worse off than other New Zealanders

- whether the respondent reported being dissatisfied with their standard of living.

These correlations are shown in the top half of Table A.4. The table shows that, in all cases, there were statistically significant correlations ($p<0.0001$) between the scale score and concurrent measures of living standards with these correlations ranging from -0.27 to -0.43.

In addition, to examine the construct validity of the scale, the scale score was correlated with a series of economic factors that one might expect to predict variations in material well-being including measures of: net equivalised income; financial assets; and weekly accommodation. These correlations are shown in the lower half of Table A.4. In all cases these associations were statistically significant ($p<0.0001$), with the correlations (in absolute value) ranging from 0.24 to 0.40.

Collectively, the above results provide considerable reassurance as to the validity and reliability of the scale measure as a description of variations in material well-being amongst older Māori.

Table A.4: Product moment correlations between material well-being score [1] and concurrent, predictive validation measures

Measure	Product Moment Correlation [2]
Concurrent Validation Measures	
Unable to save most months	-0.32
Unable to find $5,000 in an emergency	-0.43
Health-related financial stress	-0.36
Has Community Services Card	-0.27
Feels worse off than other New Zealanders	-0.37
Dissatisfied with standard of living	-0.35
Predictive Validation Measures	
Net annual income (Log$_{10}$$)	0.26
Financial assets (Log$_{10}$$)	0.40
Accommodation costs ($ per week)	-0.24

[1]   Material well-being scale scored so that an increasing score implies increasing material well-being.

[2]   All correlations statistically significant ($p<0.0001$).

☐ Variable transformations

Income

Equivalised income is used because it provides a convenient mechanism to place both single and partnered households on a common metric. The equivalised income measure treats all households as if they were partnered; thus, for single respondents income is scaled to an equivalent couple income by an appropriate equivalising factor: Incomes for single respondents have been transformed to an equivalent couple income by the transformation: equivalised income = (net income)/0.65. The transformation factor was chosen on the basis that it was shown in a previous report (Fergusson et al, 2001b) that for single elderly to achieve the same level of material well-being as couples they required an income that was 65% that of couples. In addition the value of 0.65 is that currently used to set the relativity between the levels of New Zealand Superannuation for singles and couples.

Regression fit

The log10 was taken of income, accommodation costs, and asset value in order to improve the fit of the regression model.

Missing values

Missing value imputation (using a regression model) was undertaken where there were around 10% of the cases missing. These were value of assets, accommodation costs, whether either respondent was working at age 50-59, and NZSEI. Overall, however, the imputation of the missing data made little difference to the final model.

☐ Weighting

The survey responses were weighted to ensure that the sample is as near as possible to a random sample of the total population of Māori aged 65-69 years. The original weights were designed by Statistics NZ to ensure that the weighted sample of individuals' tallies to their estimated total number of Māori aged 65-69 in New Zealand at the time of the survey (over 8000). However, such a number makes no sense in a sample survey design as only around 540 individuals were actually sampled. Two things were done to rescale the sample for use in a sample survey design: (a) reweight the sample back to a sensible sample size for analysis (we choose to weight to the original number sampled - 542); (b) reweight to the population of households rather than individuals.

There are four possible scenarios to be considered:

(a) The core economic unit (CEU) comprises a single Māori aged 65-69. In this case a random sample of individuals will also provide a random sample of households.

(b) The CEU comprises a partnership in which one partner is Māori aged 65-69 and the other is non-Māori. In this case, again a random sample of individuals will also lead to a random sample of households of this type.

(c) The CEU comprises a partnership in which both respondents are Māori, but only one is aged 65-69. Again, sampling individuals will lead to a random sample of households of this type.

(d) The CEU comprises a partnership in which both partners are Māori and aged 65-69. Unlike (a)-(c) above, in this instance, if we are randomly sampling individuals, we have two chances of sampling the household because there are two potential respondents. Thus for households of this type, we need to divide the individual weight by 2.

This effectively means that for (a) to (c), the original weighting was left unchanged, for (d) though, the original weight was divided by two. The weights for the entire sample were then adjusted (using an appropriate multiplier) to reflect the sample size of 542.

☐ Multivariate analyses

Multiple linear regression is an advanced statistical technique for uncovering the relationships between a set of independent variables (e.g. income, asset value, etc.) and a dependent variable (Material Well-being Score). In order to find the significant predictors of material well-being for older Māori, a large number of variables collected in the survey of older Māori were analysed. This analysis realised six factors: net annual income; savings and investments; accommodation costs; financial stresses between the ages of 50 and 59; recent financial stresses; and the number of children raised or supported in their lives.

Following a list of those variables considered possible predictors of Material Well-being is a summary of the final model. Also presented are models involving the six significant risk factors and factors found to be related to material well-being but which were not found to be significant predictors of well-being. These models illustrate the finding that these additional variables (gender, single/partnered, cultural identity) did not contribute any further explanation of the relationship between the six risk factors and material well-being.

☐ Possible predictors of material well-being

Economic factors

- net annual income
- savings and investments
- home ownership
- accommodation costs

Financial stressors

- adverse economic events when participant was in their fifties
- recent financial stresses

Socio-demographic factors

- single/partnered
- gender
- number of dependent children
- lives with relatives
- number of children raised or supported
- education
- region (urban/rural)

Cultural factors

- whānau support (financial, around the house, garden or car)
- given money to whānau
- whānau helped with transport
- cultural identity (identified as Māori, knowledge of whakapapa, marae involvement, whānau involvement, Māori land interest, Māori contact, te reo Māori)

☐ Regression models

The first model presented is the final model, which summarises the regression parameters of those predictors found to be significantly related to material well-being. Following this are models with the six significant predictors included, but with variables found to be significantly related to material well-being at the bivariate level added (gender, single/couple, cultural identity). In the hierarchical multiple regressions that follow, the six significant predictor variables are entered as a block, and the addition of each one of the above three correlated variables is demonstrated to be non-significant in each case. As can be seen from these tables, no further explanation of the variation of the Material Well-being Scale is achieved by the inclusion of the three factors.

Final model

Table A.5 summarises the results of the linear regression of the six risk factors on material well-being. The regression model itself was significant ($F(6, 458) = 34.283$, $p<0.001$), all six standardised regression coefficients were significant and the regression model explained 30% of the variance in the Material Well-being Scale.

Table A.5: Hierarchical multiple regressions of asset value, accommodation costs, equivalised income, recent financial stressors, past financial stressors, and number of children on Material Well-being showing standardised regression coefficients, R, R^2, and adjusted R^2 for subjects (N = 464)

Predictors	Standardised Coefficients
Equivalised income (log10)	0.193***
Accommodation costs (log10)	-0.186***
Asset value (log10)	0.153***
Recent financial stressors	-0.276***
Adverse events in fifties	-0.096*
Number of children (had ever)	-0.118**
R	0.557
Total R^2	0.310
Adjusted R^2	0.301
F	34.283***

*p<0.05, **p<0.01, ***p<0.001

Gender

Table A.6 summarises the results of the linear regression of the six risk factors and gender on material well-being. The regression model itself was significant (F(7, 457) = 29.631, p<0.001), all six standardised regression coefficients were significant, and the regression model explained 30% of the variance in the Material Well-being Scale. Given that gender did not explain any additional variance (nor was the standardised coefficient for gender significant), gender was not considered a predictor of material well-being.

Table A.6: Hierarchical multiple regressions of asset value, accommodation costs, equivalised income, recent financial stressors, past financial stressors, number of children, and gender on Material Well-being showing standardised regression coefficients, R, R², and adjusted R² for subjects (N = 464)

Predictors	Standardised Coefficients
Equivalised income (log10)	0.188***
Accommodation costs (log10)	-0.189***
Asset value (log10)	0.150***
Recent financial stressors	-0.273***
Adverse events in fifties	-0.099*
Number of children (had ever)	-0.119**
Gender	-0.048
R	0.559
Total R²	0.312
Adjusted R²	0.301
F	29.631***

*p<0.05, **p<0.01, ***p<0.001

Single/Partnered

Table A.7 summarises the results of the linear regression of the six risk factors and single/partnered on material well-being. The regression model itself was significant ($F(7, 457) = 29.341$, $p<0.001$), all six standardised regression coefficients were significant, and the regression model explained 30% of the variance in the Material Well-being Scale. Given that being single or partnered did not explain any additional variance (nor was the standardised coefficient for single/partnered significant), being single or partnered was not considered a predictor of material well-being.

Table A.7: Hierarchical multiple regressions of asset value, accommodation costs, equivalised income, recent financial stressors, past financial stressors, number of children, and single/partnered on Material Well-being showing standardised regression coefficients, R, R^2, and adjusted R^2 for subjects (N = 464)

Predictors	Standardised Coefficients
Equivalised income (log10)	0.192***
Accommodation costs (log10)	-0.186***
Asset Value (log10)	0.149***
Recent financial stressors	-0.275***
Adverse events in fifties	-0.096*
Number of Children (had ever)	-0.119**
Single/Partnered	0.013
R	0.557
Total R^2	0.310
Adjusted R^2	0.299
F	29.341***

*p<0.05, **p<0.01, ***p<0.001

Cultural Identity

Table A.8 summarises the results of the linear regression of the six risk factors and cultural identity on material well-being. The regression model itself was significant ($F_{(7, 457)} = 29.634$, $p<0.001$), all six standardised regression coefficients were significant, and the regression model explained 30% of the variance in the Material Well-being Scale. Given that cultural identity did not explain any additional variance (nor was the standardised coefficient for cultural identity), cultural identity was not considered a predictor of material well-being.

Table A.8: Hierarchical multiple regressions of asset value, accommodation costs, equivalised income, recent financial stressors, past financial stressors, number of children, and cultural identity on Material Well-being showing standardised regression coefficients, R, R^2, and adjusted R^2 for subjects (N = 464)

Predictors	Standardised Coefficients
Equivalised income (log10)	0.195***
Accommodation costs (log10)	-0.186***
Asset value (log10)	0.141***
Recent financial stressors	-0.271***
Adverse events in fifties	-0.096*
Number of children (had ever)	-0.104**
Cultural identity	-0.052
R	0.559
Total R^2	0.312
Adjusted R^2	0.301
F	29.634***

*p<0.05, **p<0.01, ***p<0.001

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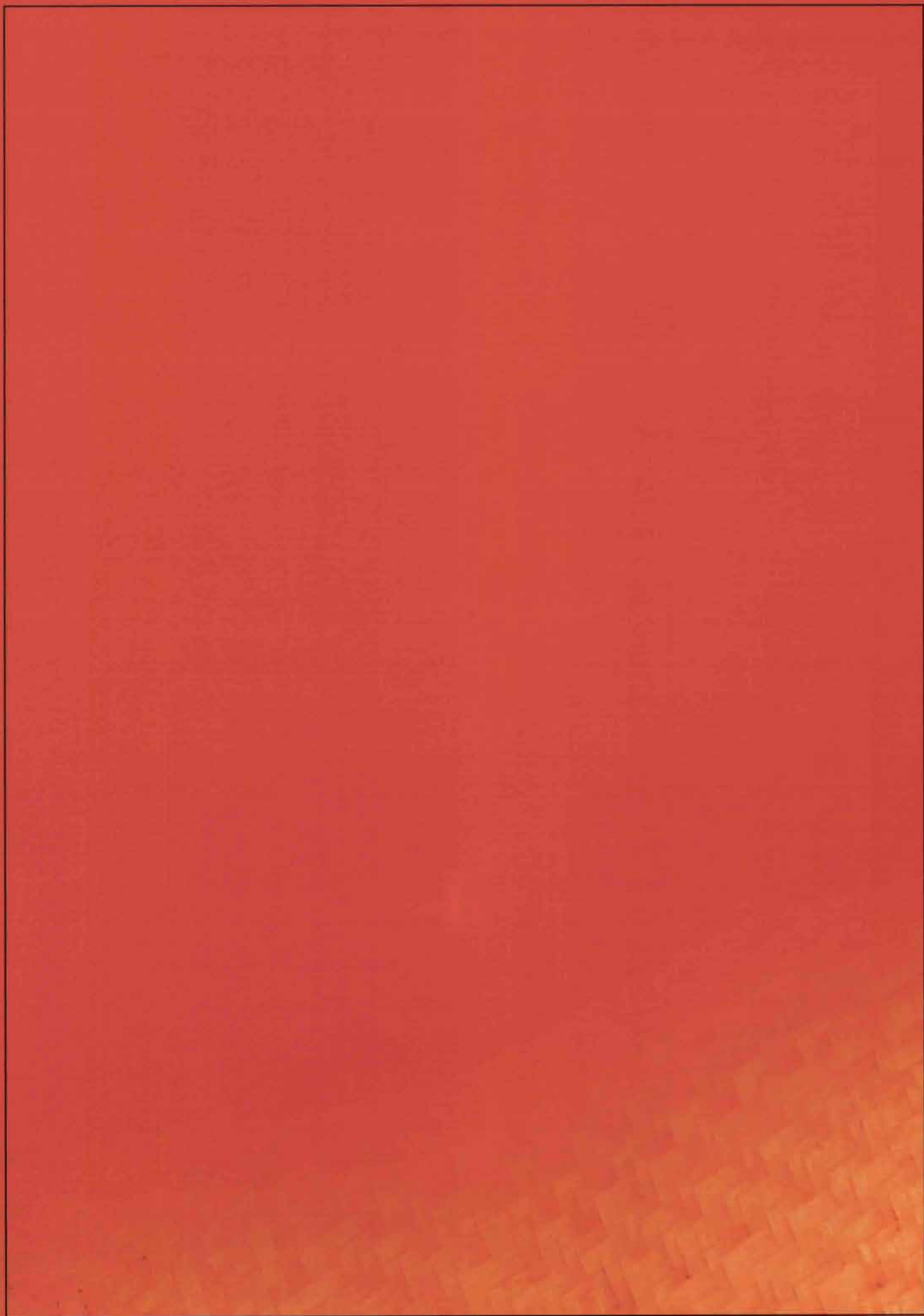
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