# He Whakatūranga mo te Hauora Tamariki


# A Picture of Child Health


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# He Whakatūranga mo te Hauora Tamariki

# A Picture of Child Health

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# *He Poroporoāki*

Te pāpā e Te Rangahau takoto mai i tō moenga, haere atu rā.
Takoto tōu tinana kei roto i te rohe a Te Arawa (Kauae
Runga), e rere tōu wairua ki roto i ngā riu o Te Ūrewera, ki
Waikaremoana, ki te Waimana, ki te Rūātoki, ki te
Ruatāhuna, tau atu ki Maungapōhatu.

# *He Mihi*

Ka tangi te titi, ka tangi te kākā,
Tihei mauri ora!
Kā nui te mihi ki a koutou, nō reira,
tēnā koutou, tēnā koutou, tēnā koutou katoa.
E kui mā, e koro mā, rau rangatira mā,
tēnā koutou, tēnā koutou, tēnā koutou katoa.
Ko tēnei tōku whakapapa, i te taha o tōku whaea.

Ko Mataatua te waka.
Ko Toroa te rangatira.
Ko Maungapōhatu te maunga.
Ko Ohinemataroa te awa.
Ko Ngāi Tūhoe te iwi.
Ko Ngāti Koura te hapū.
Ko Papakāinga te marae.
Ko Koura Kino te wharenui.
Ko Ngā Tama Toa te whare kai.

Ko Te Ūatuku Te Ata ō Ngāti Kahungunu, tōku matua tane tipuna.
Ko Te Wairemana Koheke Moko ō Ngāti Koura, tōku matua wāhine tipuna.
Ko Kori Mōkeke tōku kuia.
Ko Wong Cheung tōku koroua.
Ko Eddie Waldon rāua ko Tinitia (Janie) Waldon ōku mātua,
Ko Fiona O'Connor tāku hoa rangatira.

Ko John Allan Waldon tāku ingoa, nō reira, tēnā koutou, tēnā koutou, tēnā
tātou katoa.  Tenei aku mihi ki a koutou katoa i whāngai i ahua ki te kai o te
mātauranga.  Ko tēnei pukapuka te koha mo te tamariki o te whenua e
tākoto nei, ko Te Waipounamu, Rakaiora, Rēkohu, me Te Ika-ā-Maui.

E ngā tamariki o te kopu me tou matau, kia kaha te whakawhanaungatanga.

# *A b s t r a c t*

This research investigated the use of a self administrated health assessment questionnaire by children, and the significance of the translation from the source instrument (in English) into te reo Māori. The translation of a child health questionnaire was undertaken to produce a health survey tool that could be completed by a child over the age of 8 years in English or in te reo Māori. The questionnaire was pre-tested then used in a survey to determine both reliability and validity. The parents and caregivers of the children surveyed were also interviewed. The parent's responses were compared with those of their children.

The research undertaken has provided a new opportunity for children to take a central role in research into their own health. Children contributed as key experts, focus group participants and translators of the child questionnaire, alongside adults in some cases. Children provided a new perspective of their health and well-being by translating the questionnaire. This child-centred process added depth to the research of questionnaire validation and testing. The questionnaire was shown to perform adequately as a survey tool.

New research is required in order to theorise beyond the questionnaire's original two-factor conceptual model and to develop clinical and public health applications using a child-centred research process. The translation provided by the children demonstrated they are informed participants, who have an interest in their own health, are reliable and understand their health in a different manner to adults.

This thesis argues that the direct and full involvement of participants in research that is designed to investigate their health is critical if new knowledge is to emerge. It also concludes the self administered questionnaire can be useful tools to understand the health of Māori speaking children.

**Figure 1** *Whakapiri Atu Te Whenua*, **Collection of Museum of New Zealand Te Papa Tongarewa. 1993-0020-1 (see facing page for explanation)**

*Whakapiri Atu Te Whenua* by Shane Cotton represents his reconnection to the ideas and media introduced by the painters of Te Whānau a Kai in 1887. The painted interior of the whare tipuna (ancestral meeting house) *Rongopai,* at Repongaere (near Patutahi), Gisborne was unique at the time. Cotton used the representation of vigorous growth of the plant in the central pot to illustrate post-colonial cultural regeneration, dwarfing the surrounding pots - the symbols of Pākehā occupation and sovereignty. The flag poles in the smaller pots were viewed at the time of the painting of Rongopai to be the equivalent of the Māori geographic markers, pou rāhui, used to distinguish domains of authority (H. Smith, 2007).

This image is used with the generous permission of Mr Shane Cotton and the Museum of New Zealand Te Papa Tongarewa (Appendix 7, p. 379).

# *Manokohanga - Acknowledgments*

This thesis is dedicated to the children of New Zealand and especially to those children who will ensure the survival of te reo Māori.

Kia ora tātau.

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## TE TIMATANGA - INTRODUCTION

**Ka Kotahi Tī**

Ka kotahi tī, ka rua tī, ka haramai te pati tore,

Ka rauna, ka rauna, ka noho te kiwikiwi,

He pō, he wai takitaki, nō pī, nō pā

Ka huia mai, kai ana te whetū, kai ana te marama

Ko te tio e rere rā runga rā pekapeka kōtare

Wiwi, wawa, hekeheke te manu ki ō tau, tihe mauri ora![1]

### *Ka Kotahi Tī*

This thesis describes the testing and validation of a New Zealand child health questionnaire (CHQNZ) for Māori speaking children in New Zealand. The CHQNZ was translated; pilot tested and validated in New Zealand English and te reo Māori. The CHQNZ is a questionnaire self completed by children over 7 years of age and by the parent or caregiver on behalf of a child who is 5 or more years in age.

In order to understand the wider context that will influence the lives of Māori, metaphors and proverbs can be used. They illustrate a view of the world that is founded in traditional, historical and contemporary Māori literature. While traditional Māori world views are now contained in written literature, they were essentially part of an oral tradition, informed by experiences gained over centuries and enriched by a close association with the land (personal communication, Metia Ata, Whakatane 14-15 June 2005). Such a wide lens may seem unnecessarily broad in a thesis about the validation of a child health questionnaire. But the contention is that world views or knowledge claims, shaped over time, provide a basis for interpreting reality –including health realities. Since the aim of the research is to

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[1]     Introduced to New Zealand, the Skylark (*Alauda arvensis sp.*) pattern of flight was observed by Maori to be a reliable weather forecast. This waiata is sung by Tuhoe and Ngāti Kahungunu to prevent frost.

assess a self evaluation tool, then the subjective understanding of health and sickness became even more important.

In *Songs of a Kaumātua* (McLean & Orbell, 2002) are the texts and meaning of many waiata, as told and sung by Kino Hughes, including the waiata (*Kotahi Tī*) that began this chapter. The waiata recalls the behaviour of an exotic bird interpreted in a contemporary (post colonization) context.

The Skylark (*Alauda arvensis sp.*) was introduced by European settlers to New Zealand between 1864 and 1875 (Heather & Robertson, 2000; Moon, 2000). According to Kino Hughes the descendents of Tūhoe and Kahungunu observed the bird's flight and listened to what the Skylark had to say, its message (McLean & Orbell, 2002). Interpretation of the bird's flight provided an indication of the weather for the following day and therefore predicted the likelihood of frost — the lower the Skylark hovered the more likely was cold weather. Advanced warning of an early spring frost is critical to the success of the harvest in the autumn. Crop failure affected the life of those who depend on the fruits of the land to sustain whānau and their guests through the following year, perhaps for many years to come. Food security was dependant on the skill of those who were guardians of the land —kaitiaki (guardians).

My tipuna (ancestors), who trace their origins to the Mataatua[2], are the kaitiaki of Orangiteepi, a part of Rūātoki and Te Urewera. They were skilled gardeners who, for many generations successfully farmed increasingly smaller plots of marginal land. The recourse to more marginal lands was one of the privations of the land wars of the 19th century – raupatu[3] (Binney, 1995). The tumultuous changes of the beginning of the 20th century affected Māori communities who were living on reduced land holdings that provided some resilience against modern disease epidemics of the nineteenth century but less resilience to the same diseases in the early 20th century (Dow, 1999; Lange, 1999). Combined with a rapidly growing population (Pool, 1991) Māori were now looking beyond their lands for future development and new tools. As they had done for generations, my tipuna began

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[2] Mataatua are the people who traveled to New Zealand many generations ago and settled in the Bay of Plenty and Northland. Mataatua is the name of the voyaging canoe that brought these people led by Toroa.

[3] Raupatu was the forfeiture of land as reporation for war

learning waiata as children in order to know their history and the environment in which they lived (Black, 2000). Waiata including *Ka Kotahi Tī* were tools with which to understand observations of the environment. In this manner waiata maintained the contemporary relevance of culture and provided a bulwark for a secure identity. The activity of learning, singing and sharing waiata, reinforced bonds among and between generations today and will have done the same in the past.

For the most part needs of children in the early 21st century continue to be met by their caregivers – those people with an interest in the child's safety and development. Usually the caregiver is the child's birth family or a closely related adult, sometimes a grandparent or sibling of the birth parent(s), rarely now an older sibling. In the main the caregiver and guardian is an adult. Thus the caregiver's role is an important aspect when a child's health needs are considered. The notion of whānau connects children with others across generations, between households and most importantly potentially more than one caregiver and a key characteristic for the child's social health (Selby, 1994).

Health professionals are relied upon to diagnose and treat illness. Rarely are children asked about their health directly. With few exceptions, child health information is collected by proxy – not from children. In order to test the implicit assumption that children are uninformed when it comes to matters of health, this thesis investigates how children respond to being asked about health.

In New Zealand, children identified as Māori, tamariki Māori are reported to have lower health status than many of their peers in national health surveys. National health surveys are important public health tools for monitoring and evaluating the impact of heath determinants on the health status of a child. Health related quality of life questionnaires (HQoL) have been used in New Zealand's national health surveys (now collectively termed the Health Monitor) since 1995 (Ministry of Health, 1999b) but only recently has New Zealand developed a child-informed health assessment tool (2006 Child Nutrition Study –see www.moh.nz), where the health and wellbeing of children and youth is investigated through direct interviewing (Kiro et al., 2004; Watson et al., 2003; Watson et al., 2001). The self assessed status of tamariki Māori who speak English as a second language however, was not reported. To date there have been no translations of child health questionnaires to enable population surveys to be conducted

in te reo Māori.  This may be due to limitations placed on investigators and their access to language resources.  However it is also a reflection of how researchers and policy makers observe the use tamariki Māori make of health, educational and other social services as well as understanding their response to environment in which they live.  Tamariki Māori continue to live in an environment that is relatively hazardous to their health in multiple domains including preventable illness and death.

A positive approach to health and wellbeing would consider those things that influence child health and wellbeing in order to provide a whole picture rather than choosing deficits.  This is not a new approach and has been adopted in *The Social Report* since 2001 (Ministry of Social Policy, 2001).  Considering those things that influence health and wellbeing is not new and a recent analysis identified research that has its antecedents in Victorian England where rapid urbanization during the industrial revolution was associated with increasing spread of disease and increases in child mortality (Marmot, 2001, 2005a).  Two centuries after the typhoid epidemics of Victorian England child health now encompasses many domains including health service utilization alongside the characteristics of the child's environment and health related quality of life.  This information has been collected along the life course - from birth to death, from disease and infirmity to preventable injury and disease in very influential life course studies that have taken a prospective perspective (Dr David Ferguson for example in *The Christchurch Development Study),* or looking back on the relationship between risk factors in childhood and cause of death as pioneered by Sir John Boyd-Orr's studies of rickets (Martin, Gunnell, Pemberton, Frankel, & Davey Smith, 2005)

The relationship between health determinants and the present health status of children is reported prospectively in specialized studies in *The Dunedin Health and Development Study* (DMHDS) and *The Christchurch Development Study (*CMDHS*)* (Fergusson & Horwood, 1979; Fergusson & Horwood, 2000; The Dunedin Multidisciplinary Health and Development Study (DMHDS), 2005).  Alongside the research by Watson and Kiro, tamariki Māori have also been interviewed about their health in these studies.  In Australia, Prof Fiona Stanley AO, introduced the notion of social justice in setting a research agenda for children (Stanley (AC), 2002).  Prof Stanley, Director of the Australian Research Alliance for Children and Youth also Director of the Telethon Institute for Child Health Research (ICHR) championed the

*Western Australian Aboriginal Child Health Survey* (WAACHS), an investigation of the health and wellbeing of indigenous children built on the ICHR's experience with the Western Australian Child Health Survey (Zubrick et al., 2004, 2005; Zubrick et al., 1995). Child health surveys in New Zealand have been a rare event and a new study was established to investigate child health over multiple generations as announced by the Health Research Council recently (Gibb, 2008).

In this thesis I will describe the testing and validation a self completed child health assessment tool using *The Child Health Questionnaire* (CHQ) as source document.

**The purpose of this thesis is to demonstrate the validation and testing of a bilingual child health self-assessment tool, and theorize as to whether translation is a practical solution to comparing self assessed health status for children who speak English as a second language with those who speak English as their sole language.**

The CHQ was translated into New Zealand English and then translated into te reo Māori in order to offer children and their caregivers a choice of questionnaire. The CHQ was validated by comparing child (proximal) and adult (distal or proxy) assessment of health status. A new validation process is described.

The development of this new translation of the CHQ also has practical application elsewhere where tools have been translated and developed for children who do not speak English as their second or third language if they speak or read English at all. The CHQ has been translated and validated in languages and vernacular other than the English language version first developed by Dr Jean Landgraf (Landgraf et al., 1998). Other child health instrument developers have taken the CHQ and validated translations in many languages and countries to overcome language and cultural barriers to participation in health related quality of life assessment[4].

The CHQ New Zealand version (CHQNZ) is a population health survey tool that may be used in a number of settings as well as health including education and social

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[4]     Asmussen et al., 2000; Landgraf et al., 1998; Poucho et al., 2001; Raat, Bonsel, Essink-Bot, Landgraf, & Gemke, 2002; Raat, Botterweck, Landgraf, Hoogeveen, & Essink-Bot, 2005; Raat, Landgraf, Bonsel, Gemke, & Essink-Bot, 2002; Ruperto et al., 2001; Salmon, Waters, Wake, Hesketh, & Wright, 1999, 2000; Silburn et al., 1996; Speechley et al., 1999; Waters, Doyle, Wright, Wake, & Salmon, 2000; Waters, Salmon, & Wake, 2000; Waters, Salmon, Wake, Hesketh, & Wright, 2000; Waters, 2001; Waters, Salmon, Wake, Wright, & Hesketh, 2001; Waters, 1996; Zubrick, 2002; Zubrick, Silburn, & Eades, 2002; Zubrick et al., 1995; Zubrick et al., 1997.

policy, but the focus of this thesis is on the reliability of the CHQNZ in assessing the health and wellbeing of children.

New Zealand has a national child health policy called the *Child Health Strategy* (CHS) (Ministry of Health, 1998b), and this is a key component of the New Zealand Health Strategy (Minister of Health, 2000).

An important part of the CHS and a traditional child health measure is immunization which has an acknowledged role in improving child health. Studies of infectious diseases, as suggested by Marmot (Marmot, 2005a) are important when considering child health because children are susceptible to most infectious disease due to immature immune systems and social determinants that influence access to appropriate health services. The manner in which support structures with which health services meet ongoing needs of the sick and infirm were shaped by infectious disease on whole populations (Dow, 1999; Marmot, 2005a, 2005b). Polio and Tuberculosis are historical examples where the impact of disease had a profound effect on population health and affected young and old respectively.

Sub-optimal rates of full immunization are not infrequent in minority populations including Māori (Minister of Health, 2005). Immunization, an intervention developed to prevent disease, depends to a large degree on the population-wide coverage of an immunogenic vaccine. Effective coverage is deemed to be more than 90% or where the threshold of herd immunity is met (Ministry of Health, 2006a). While policy is developed and implemented to reduce the impact of vaccine preventable disease (using hepatitis B (HBV) as an exemplar) an analysis of the development of an immunisation programme, its reviews and outcome evaluations are used as an exemplar of child health policy development. Inequality of outcome should be the measure of success if the impact of vaccines is greatest where need is greatest, where the greatest proportion of children are afflicted with disease.

The outcome of good health policy is the reduction of the impact of health hazards such as infectious disease for high risk groups with policies and resources that encourage high participation rates by all groups in national immunization programs (NIPs).

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## Preventive Medicine

Validating a new tool which may inform planning for child health requires that the tool should have potential to inform preventative strategies. Waiting for disease to strike, or looking back on the recorded impact of disease are no longer acceptable choices. Planning preventative strategies for child health has the two advantages of reducing dependency load (caring for the sick) and reducing the burden of disability and morbidity later in life. Reducing premature mortality also provides an opportunity to reduce the inequity that arises from the combined effect of inequitable access to health services and poor health care. In the *Strategy of Preventive Medicine* Dr Geoffrey Rose observed that overall morbidity would reduce little as new and emerging diseases would fill the void created by successful penetrative strategies (G. Rose, 1992). What can be added to this prescient observation is that diseases of the past can return. In New Zealand and Australia despite the success of prevention programmes that have resulted in the closure of Tuberculosis Sanatoria and Polio Wards, tuberculosis continues as a sporadic phenomena in modern times and along with polio may burden the heath sector again, a challenge that is preventable. These challenges have been met before (Feely, 2006). Polio and Tuberculosis had a dramatic affect on the Māori population in the second and third decades of the 20th century and new strategies were developed to treat the ill (Dow, 1999; Lange, 1999). A priority for preventing infection included reducing the transmission of the disease using population immunization and isolation, but early efforts focused on improving living conditions (Dow, 1999). Prevention programmes and improving living conditions and diet have improved resilience to disease (Rose, 1992). The sequel of diseases such as hepatitis B, TB and polio is inequity expressed as the unfair burden of premature death or long term disability and dependency followed by a premature death. While lifestyle and living conditions are important health determinants, what remains are less than acceptable rates of immunization.

## The Life Course

The notion of a life course describes the pathway on which can be signposted by a person's life's events from birth to death (Hertzman, 2002). These events become milestones when associated with health determining outcomes from the very early stages of life soon after conception. The prevention of neural tube defects is now a

widely spread intervention, however its efficacy varies between populations (Bower, Eades, Payne, D'Antoine, & Stanley, 2004). Although harm such as inter-uterine malnutrition has formed a significant part of this research,  if harm were avoided early in life the benefit was a reduced risk such as heart disease later in life (Gillman, 2005).  The same can be observed with immunization – where disease can be prevented early in life there is reduced risk of infection, injury and death.  For this reason modern society invests substantial effort in delaying or preventing the accumulation of insult, injury and infection through applying the principles of preventative medicine alongside related social policies targeted at children and their carers.   Working with the Department and later Ministry of Health are a number of government ministries that include the Department of Social Welfare (now largely the domain of the Ministry of Social Policy) which had an explicit brief to be responsive to Māori.  Responsiveness to Māori was the issue that drove the *Ministerial Advisory Committee on a Māori Perspective of the Social Welfare Department* in New Zealand.  The authors of the report *Pūaō Te Ata Tū (Ministerial Advisory Committee on a Maori Perspective for the Department of Social Welfare, 1988)* made a series of recommendations that successive government's have found difficult to implement effectively (Brown, 2000).   Children are an integral part of Māori society and their care and protection is indivisible from the role of parents and grandparents who are also the kaitiaki of Māori society.  According to Moe Milne:

> Our tamariki are capable of commenting and participating in their environment.  Maybe the first part of reclaiming whānau ora is the re-establishment of the kawa of the whānau.  Service providers need to consider what they may look like. (M. Milne, 2004)

In this thesis I will retell the history of two reports to illustrate policy responses to the wellbeing of tamariki Māori.  I refer to Māori participation and concerns as described by John Rangihau (Ministerial Advisory Committee on a Māori Perspective for the Department of Social Welfare, 1988), Judge Michael Brown (Brown, 2000), and also the Ministerial Review of a community-based hepatitis B programme by Professor Eru Pōmare in relation to contemporary child health policy as outlined in the report to the Minister of Health (Pomare, 1985).

*A Picture of Child Health* is presented in eight chapters.  The next chapter, *Te Ora o Nga Tamariki* provides an analysis of several views of the health of children including the monitoring of health statistics and policy, health determinants and

health frameworks devised to better understand health and wellbeing from the perspective of Māori. The third chapter, *Momo Rangahau* investigates some of the methodological choices available for exploring the health and wellbeing of Māori and of children using tools and approaches developed in New Zealand and overseas. *Kaupapa Rangahau* brings together the notions research from the experiences of Māori. *Kaupapa Rangahau* includes a detailed analysis of the methods selected and their prospective use in the research of child health. The results of the research follow in the next two chapters, *Kōhinga Te Korero* – the analysis of the key person interviews and *Te Hua o Te Rangahau* – interpretation of child health and wellbeing. The penultimate chapter *He Huarahi Tāpiri* is an analysis and a discussion of the use of the Child Health Questionnaire as a measurement tool to describe the health of Māori who speak te reo Māori. The final chapter, *Te Tamaiti* concludes this thesis.

## Summary

In this thesis health of children is likened to the nurturing of tender plants and the environmental vicissitudes that can facilitate – or impede growth. The health of Māori children has been of much concern for policy makers (Ministry of Health, 1998b; Ministry of Social Policy, 2007). Relatively high rates of infant mortality influenced life expectancy prior to European settlement of New Zealand (Pool, 1991), and rose to unacceptable levels during the epidemics of the 19th and 20th century (Lange, 1999; Maclean, 1964). The voices of children disappeared from communities for many years and in proceeding decades left a gap in people power that was difficult to fill (Crampton, Salmond, & Sutton, 1997). Lacking in this picture of health are features that are informed by children –those things to which child contribute directly. Using new tools to provide the opportunities to live a good life is what education is all about, a lifelong experience in which society invests heavily for children. This thesis is about the testing and validation of a new tool the purpose of which is to seek a perspective of health and wellbeing from children directly. How well the tool performs and how the performance of this tool is judged is defined by method. But method is open to interpretation where the populations of interest have little or no role in the tools development or its interpretation. For child health, like Māori health, the state of health and how priorities are defined, set and met are influenced by the characteristics of the population.

To improve the health and wellbeing of children indicators can be used as points of reference from which to gauge the current state. The selection of features and indicators is dictated by the measures available, understanding of their reliability and whether they indicate valid relationships with the desired objective. Although death is the inevitable destination of a life course, its length and quality remain open to influence.

# *C h a p t e r   2*

## TE ORA O NGĀ TAMARIKI  - INDICATORS FOR CHILD HEALTH AND WELLBEING

In this chapter the use of indicators to describe the health and wellbeing of children is discussed.  These indicators may also inform understanding of child health from the perspective of the child.  Mortality is a key health indicator alongside the three broad domains of morbidity, a child's quality of life and assessment of the child's environment.  While mortality provides a standard assessment of the ultimate destination of the lives of all people, it often leads to better understanding the cause of death and the reduction of future child mortality.  Although the scope for prevention is limited to the living, mortality data are used as a health outcome measure or health indicator in its own right, or aggregated with other indicators to illuminate causal pathways or postulate inequity (Freemantle et al., 2006; Zubrick et al., 2004, 2005).

The utility of health related quality of life measures is premised on a number of assumptions that equivalence can be determined by comparing a range of indicators to establish priorities and inequalities and factors that contribute to causation or mitigation of observed measures in order to determine the efficacy of an intervention. Establishing frameworks for causation or mitigation of social, cultural and economic factors – the determinants of health, provide a way of understanding the relationship between health and its determinants (National Advisory Committee on Health and Disability, 1998).  Understanding the impact of health determinants may also contribute to an understanding children's health as it has done in public health for populations (Marmot, 2005a).

# Measuring Child Health

Collecting accurate data is especially important if child health research is to address the unmet needs of children. Durable areas of unmet need have been identified by comparing populations in public health surveys (Hodgson, 2007). Along side the items that make up population survey questionnaires are associated determinants and with these a history that can provide a context with which to understand how differing perspectives of child health may be understood in order to provide new meaning to child health, and with this new strategies to improve health and reduce inequalities.

The health of the tamariki Māori like that of most indigenous children is poor in comparison with in-country contemporaries as illustrated in New Zealand by survey data such as the Child Nutrition Study (2003) and routine administrative health data (Parnell, Scragg, Wilson, Schaaf, & Fitzgerald, 2003). The Ministry of Health's analysis of survey data and routine administrative data (Ministry of Health, 1999a) has supported the observations of researchers (Pomare, 1980; Pomare & de Boer, 1988; de Boer, Saxby, & Soljak, 1990; Pomare, Keefe-Ormsby, Ormsby ,Pearce, Reid, Robson, & Watene-Haydon, 1995) and District Health Boards (MidCentral District Health Board, 2005; Mitchell & Thompson, 2001) that durable health inequalities and disparities are experienced by Māori and Pacific children.

Influencing this health data are social, cultural and economic factors (Sen, 1998) or health determinants as described by the National Health Committee (NHC) in the first section of their 1998 report (National Advisory Committee on Health and Disability, 1998). The NHC observed there was "now good evidence that social, cultural and economic factors are the most important determinants of good health" (National Advisory Committee on Health and Disability, 1998) — a relationship exists between these determinants and health. Health determinants and their association with health have their genesis in the disciplines of economics and social sciences (Berkman & Kawachi, 2000). The use of social epidemiology and economic theory provides a number of perspectives and tools with which the researcher and policy maker can explore economic and social data, and where appropriate undertake an analysis of indicators relevant to the health of the population.

The health status of New Zealand children compares unfavourably with many other OECD countries (Hodgson, 2007). Within the child population (under 17 years) there are major health inequalities and disparities between Māori and Pacific children, and children from low-income families compared to other ethnic groups. The Child Health Strategy (CHS) was set in place in 1998 because New Zealand had relatively high infant death and youth suicide rates, child immunisation coverage statistics were static or decreasing, levels of hospitalisation for asthma and respiratory problems were unacceptably high, and unintentional injury and poisoning rates were high (Ministry of Health, 1998b). The criteria that set the CHS in place have remained durable and so have the inequalities (Ministry of Health, 2003a: p. 1).

## Child Health in Government and Non-government

The Government's influence on the needs of children is reflected in the structure of government, external pressures and changes made by government in the health sector. This section describes the relationship between selected parts of government that have an interest in child health and well being. The external pressures on government, taking a rights-based approach follow later (see p. 23). A discussion of the impact of the last two decades of health reform follows and leads into a description of Māori models of health (see p. 47) after a discussion of health determinants (see p. 32).

Many organisations take responsibility for maintaining the health of children in New Zealand and for promoting child health priorities. The health sector is complex though the body responsible for health policy and health funding for child health is the Ministry of Health (MoH). In addition the office of the *Children's Commissioner* and a number of other ministries have an explicit interest in the health and wellbeing of children, including the *Ministry of Social Development* (MSD), the *Ministry of Youth Affairs* (MYA) and *The Ministry of Māori Development Te Puni Kōkiri* (TPK). Outside government a number of non-Government organisations (NGO) have specific interests in children including *Save the Children*, *Banardoes*, *United Nations International Children's Emergency Fund* (UNICEF), and *CORSO*. All NGOs listed here are also members of an umbrella organisation, *Action for Children and Youth Aotearoa-New Zealand* (AYCA). AYCA is a coordinating body who provided a report to the United Nations

Committee on the Rights of The Child (UNCRC) in 2005.  It provides a critical perspective on the status of New Zealand children including their health and access to child-related services (Action for Children and Youth Aotearoa, 2005). AYCA is in the process of preparing a new report for the meeting of the UNCRC in 2010.

## Legislation and Monitoring Child Health

Guided by several acts and policies including the Public Health and Disability Act 2000 (Minister of Health, 2001b), the CHS (Ministry of Health, 1998b) and the New Zealand Public Health Strategy (Minister of Health, 2000), the Minister of Health is required to report annually on progress in implementing the New Zealand Health Strategy (NZHS). Implementing the New Zealand Health Strategy 2001 was the first progress report (Minister of Health, 2001b) and annual reports, in modified form, have followed (Minister of Health, 2002, 2003, 2004b, 2005, 2006).

For the past eight years the New Zealand Health Strategy (Minister of Health, 2000) has provided the framework within which the health sector is expected to develop short to medium term goals guided by milestones that inform the purchasing agreements with District Health Boards (DHB). The NZHS has also given rise to a number of supporting strategies and action plans have been updated regularly to ensure aims are achieved (Minister of Health, 2007). A comprehensive overview of the health sector, including health sector statistics, is presented annually in the Ministry's key accountability document by the Director-General of Health, the Director-General of Health's Annual Report on the State of Public Health (The Annual Report) (Minister of Health, 2001b, 2002, 2003, 2004a, 2004b, 2005, 2006). Prior to 2006, the Annual Report included detailed information on the Ministry's roles and functions and outlined progress towards the Ministry outcomes identified in its 2004/05 Statement of Intent (Hodgson, 2007). The Annual Reports produced after 2005 also included an analysis of the MoH's financial and non-financial performance for the year in *The Health and Independence Report*.  The purpose of the Annual Report is to draw together information from across the health and disability sector to map the ministry's progress towards outcomes.

The NZHS has been in place since 1999, but DHBs, the principle agents of the MoH which identify and fund many of the priorities of the NZHS were not enabled until 2001. Therefore implementing the NZHS has required the staged introduction of *The Child Health Information Strategy* (Ministry of Health, 2003a), as well as those

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ongoing initiatives that predate NZHS. The inclusion of established initiatives has influenced the direction set by the NZHS, *The Child Health Strategy* for example (Ministry of Health, 1998b).

The New Zealand Public Health and Disability Act (2000) outlines the responsibilities of DHBs and the health sector in relation to Māori. These responsibilities reflect the Government's overall goals for Māori under the Treaty of Waitangi. The Act has established a range of measures to further the Government's desire for greater participation by Māori in the health and disability sector, with a view to improving Māori health outcomes and reducing health disparities between Māori and other population groups (Hodgson, 2007). The Minister of Health expects the Ministry of Health and DHBs to act in accordance with these requirements. Central to Government policy on child health is the CHS that was formulated by the Ministry of Health in 1998 under the direction of a former Minister of Health, Bill English.

## The Child Health Strategy

The CHS was developed by the *Child Health Advisory Committee* (CHAC) with information provided by the people who took part in the consultation process and from the *Child Health Programme Review* (Ministry of Health, 1998a).  The vision the CHAC had for the CHS was "our children/tamariki: seen, heard and getting what they need" (Ministry of Health, 1998a). At the time of its development the CHS represented the collective wisdom of the child health sector on what is required to improve child health services and ultimately the health status of New Zealand's children to 2010. CHAC indicated that during the development of the CHS it was important that each individual and organisation identify what the CHS's vision, principles, and future directions meant for their own work as planners, funders, providers and policy advisors.  To this end the CHS targeted four priority populations: tamariki Māori, Pacific children, children with high health and disability support needs, and children from families with multiple social and economic disadvantages.  They were framed by a set of principles to include:

- Children/tamariki should have their needs treated as paramount.
- Child health and disability support services should be focused on the child/tamariki and their family and whānau.
- Child health and disability support services should be available as close to home as possible, within the bounds of quality and safety.

- Child health and disability support services staff should work together with each other and with staff from other sectors to benefit the child.
- Child health and disability support services should be provided to achieve equity.
- Child health and disability support services should be based on international best practice, research and education.
- Child health and disability support services should be regularly monitored and evaluated.
- Child health and disability support services should be culturally safe, culturally acceptable and value diversity.
- Child health and disability support services should take into account the available resources. (Ministry of Health, 1998b)

The CHAC, in identifying the principle of the paramount nature of child needs, extended a needs-based approach to health (including equity) by adding notions of social justice to include a rights-based approach to child health when they identified children as a part of society.  This was reflected in their proactive stance on recognising the diversity and value of children to society (Ministry of Health, 1998a).  The CHAC specified that child health and disability support services be culturally safe, culturally acceptable and value diversity. Although this principle appears to be limited to valuing children with chronic illnesses and disability, or the medically fragile, health services were expected to be flexible enough to respond in a safe way for all children and their families and whānau. In order to do this the health sector (funders, providers and policy makers) are required to acknowledge and value New Zealand's cultural diversity, "It is about providing people – regardless of their cultural heritage – with options and information, including whānau support and qualified interpretation services" (Ministry of Health, 1998c).

**Tamariki Māori**
The CHAC recognised that Māori would use a wide range of health and disability support services including those provided for non-Māori and by generic providers – children should be able to exercise choices subject of course to available resources. Non-Māori and/or generic providers were required to be aware of the specific needs of tamariki and their whānau and meet these in a culturally competent manner that recognised, where appropriate, the needs of Māori.  In order to maintain culturally acceptable services, providers are required to recognise that different cultural groups may have different ways of dealing with issues. While mainstream and generic

service providers provide the bulk of health services the preservation of cultural safety in the delivery of all services is critical (Papps & Ramsden, 1996). In order that culturally safe, child health services value diversity, priorities and appropriate strategies may have to be determined at the local and regional level in accordance with article 30 of the *UN Convention on the Rights of the Child* (United Nations Children Fund (UNICEF), 2002) which prescribes support for the cultural and religious rights of minority communities and indigenous people. Valuing diversity includes addressing the different needs of boys and girls by ensuring that health services are provided to meet the needs of genders.

## Strengthening Families

While there will never be sufficient resources to meet every contingency, and decisions have to be made about what is most important, the unmet health needs of children will cost society lost opportunity and in some cases additional health related costs throughout the child's life and progression into adulthood. Short term savings may simply contribute to an intergeneration disadvantage for the descendents of children whose health was compromised. Innovations and medical developments create new demands for prioritisation and resource allocation that must be considered carefully, along with the implications for children through out the lifecourse.

The report *Our Children's Health* (Ministry of Health, 1998c) represented a significant milestone in a process that began in December 1996 with the announcement of *The Coalition Agreement* (Ministry of Health, 1998c). Many people contributed to the development of the CHS including more than 700 people who attended the child health summits between 1997 and early 1998, or made written submissions on the consultation document, *Towards a National Child Health Strategy* which resulted in the CHS (Ministry of Health, 1998b, 2003a). Alongside *Strengthening Families*, the Government has implemented or agreed to the development of many new initiatives to improve, promote and protect children's health, including:

- free doctors' visits and prescriptions for children under six
- a review of child health programmes with a view to building on those that deliver the best health gain and improved family function, thus reducing risk to children

- the appointment of a Chief Advisor Child Health (Dr P Tuohy) within the Ministry of Health to oversee, co-ordinate, motivate and lead in the area of child health
- pilot family health teams to improve services for children who are most at risk of poor health
- the implementation of a case management model for inter-sectoral co-ordination as part of the *Strengthening Families* strategy
- *Family Start*, an intensive home-based support programme for families who need extra help to improve their parenting and their own circumstances in order to make a difference for their children.

New initiatives were established after the CHS that provided new opportunities for promoting responsiveness to the needs of children. Leadership was now shared between the government agencies under the rubric of Strengthening Families.

In 2004, the Families Commission was commissioned part of the coalition agreement between the minority Labour Government and the United Future party. Their role, established under The Families Commission Act (2003) is identify issues by talking with families and organisations involved with them, to promote, commission and publish research on issues that matter to families, and to encourage debate, raise awareness and advocate for positive outcomes for families. The significance of the research commissioned by the Commission to date has been to refocus the debate on the dual focus on the individual and collective when considering the social issues. The Commission became part of the Strengthening Families rubric and

## Child Health Status: Population Views

In New Zealand children are well most of the time — most children are safe, fed and loved. When children are not well or in danger, society accepts some obligation to meet the needs of the child and in most cases provides care and medicine to resolve the threat and mitigate any further harm.

In the first chapter the broad scope of child health and wellbeing was linked to a number of domains that included the child's environment, the effect of disease and numbers of children who die as well as quality of life. The association between environment and health is well rehearsed. But the same association is not widely articulated about children, we approximate by substituting the caregiver's environment as a proxy for the environment that determines the health and wellbeing of children. When children are unwell efforts focus on optimising quality

of life.  Quality of life is difficult to measure and when health is threatened it is a poor quality progress or outcome indicator.  What use can be made of the quality of life measure?  In order to understand quality of life, it is important to know what determines the quality of life for children and test the assumption that quality of life and wellbeing for children are related.  To test this I will review understandings of child health and describe how it can be measured in the next chapter, *Te Momo Rangahau*.

Health service information is supplemented with population surveys that include the collection of data on child health. Most surveys have included the collection of data on ethnicity or race as a way of identifying tamariki Māori (Parnell et al., 2003; Watson et al., 2001). However, further insight has been obscured when the low numbers of tamariki Māori identified precluded sufficient evidence to change priorities.

In New Zealand the relatively poor health status of tamariki Māori is associated with the limited set of indicators and health outcomes measures that have sufficient statistical power to quantify a difference and establish a case for the reorientation of health priorities. While challenging the value of medical intervention, the health of a tamariki Māori, like any other child, is dependent on many factors outside the domain of medicine. Medicine's value lies in its power to resolve illness *after* preventative and early intervention strategies have failed.

## *Government Assistance*

Community and government concern about the state of child health has been a feature of policy for some time (Ministry of Health, 1998b). Widespread concern in social, health and education policy had extended in some cases to questioning the ability of the Government to respond to the needs of tamariki Māori (Dow, 1995). The non-responsiveness of the Department of Social Welfare (DSW) was termed "cultural racism" in the findings of *Puao Te Ata Tu.*  The findings were illustrative of the capacity of Government to assess and intervene in the best interests of tamariki Māori (Ministerial Advisory Committee on a Māori Perspective for the Department of Social Welfare, 1986).  During a series of radio interviews soon after the release of the report of the *Ministerial Advisory Committee*, John Rangihau predicted the likely life course of his whanau if the response of Government did not change,

I have thirty grandchildren, with ages from twenty; twenty years to twenty days.  If we're, if I am to expect what has been happening over the, over the last few years to my, to Māori children, then I can reasonably expect to have six of those children, somewhere along the line, being absorbed by the institutions of the Social Welfare Department and eventually into the penal institutions of the country.  That is the reality for us and that is what we are trying to address when we are talking about Māori people being responsible for looking after their own children which you must admit and people must admit have not been the case up to now and hence, our real need, to have the courts acknowledge the fact that we need to do things in a different way (Robinson & Rangihau, 1987).

If social services continued to plot the same course, Rangihau's forecast and the prospects for Māori youth were poor and lent support for better consultation with Māori.  Prior to the radio interview, a strong recommendation was made to undertake consultation with Māori.  The *Royal Commission on Social Policy* suggested that consultation be undertaken with Māori to further social policy objectives:

Debate need not dwell on whether Maori values or delivery systems are appropriate to a particular policy area; more [sic] fruitfully, objectives should examine the methods by which Maori participation can be maximised and effect given to the Treaty of Waitangi. (Royal Commission on Social Policy, 1988, vol 2, p. 70)

The process of consulting with Māori was not without criticism.  Criticism was heard and felt by the Ministerial Inquiry Team at many of the hui that were held as part of the inquiry.  In response to an interviewer's question about the experience of the five Māori members of the committee during the inquiry, John Rangihau replied:

…you get the venom, the rage and the frustration but what you don't get is the absolute hopelessness which such a situation should be creating but it isn't.  There is still that small sense of a belief that things may change (Burns, Hill, & Rangihau, 1986).

Rangihau's observation of the lack of 'absolute hopelessness' indicated that Māori resilience was high and this cynicism, detected during the inquiry, suggested Māori wanted Social Welfare to change and this gave the Inquiry team some cause for optimism.  Māori were making plans for their children in the face of few resources.  In earlier research in Ruatahuna, McCreary and Rangihau (1958) found a community who experienced limited educational opportunity for their children due to the absence of a secondary school.  The parents' aspiration for their children

extended beyond what the Government was willing to provide and the same parents saw a positive future for their children.

In the 1980s, the relative newness of the consultative role for Māori in informing social policy was illustrated by the consultation process that resulted in the recommendations of the report, *Puao-Te-Ata-Tu –The Report of the Ministerial Advisory Committee on a Māori Perspective For The Department of Social Welfare* (Puao-Te-Ata-Tu) (Burns et al., 1986; Ministerial Advisory Committee on a Maori Perspective for the Department of Social Welfare, 1986) and the April Report (Royal Commission on Social Policy, 1988). *Puao Te Ata Tu* was the report of an inquiry to inform the then Minister of Social Welfare, Hon Ann Hercus on her department's responsiveness to Māori. The report was presented in July 1986, published in 1988. Within two years Dr Mason Durie was appointed as one of the three commissioners on the Royal Commission into Social Policy and in turn as part of the commission inquiry heard much about the social circumstances of Māori (Royal Commission on Social Policy, 1988).

The responsiveness of government to Māori has been poor at times, and the report by retired Family Court Judge Michael Brown (Brown, 2000) provided evidence of the inaction and policy-led neglect by Government through its Ministries. This inquiry was informed by interviews undertaken by Judge Brown.

There has been, and still is, a lack of detailed information to describe the health and wellbeing (including mental health) of tamariki Māori in terms that would inform the comprehensive delivery of health and related social services (Ministry of Health, 1995; Te Puni Kokiri Ministry of Māori Development, 1998). The scarcity of such information limits the effective planning, development, funding, delivery and evaluation of prevention and treatment services for Māori, but also the assessment of the determinants of health.

## Needs and Rights – Two Domains of Equity

Health is a right guaranteed by a number of international conventions. An important reason for asking children to describe their own health status arises from their rights described in the terms of the United Nations Convention on the Rights of the Child (The Convention) and the New Zealand Government's response to the Convention Committee's concerns (Action for Children and Youth Aotearoa, 2005). It is useful

to test the rights of tamariki Māori against the findings of the Committee for the Rights of The Child (the Committee).

## *The UNCRC and tamariki Māori*

> …focus not upon the precise meanings of the words in international covenants, at least initially, but on the purpose to be achieved – to respect "the inherent dignity…of all members of the human family" as a foundation for freedom, justice and peace.

> Looking then to the spirit of the covenants rather than the terms, we may each find ways whereby particular cultural or other group preferences may be accommodated within the national legal framework, or according to the circumstances, whereby particular areas of jurisdiction can be entrusted to specialist tribunals for a specified clientele (E. T. Durie, 2000). [5]

The Convention provides that tamariki Māori, in addition to all their other rights, have rights as indigenous children. The importance of this has been recognised by the Committee making the rights of indigenous children the focus of the Committee's Annual Day of Discussion in 2003 (Waldon, 2005). Prior to this discussion day, *Early Childhood Development (Nga Kaitaunaki Kohungahunga)*, part of the Ministry of Education's Early Childhood section, released the *Draft Charter on the Rights of a Māori Child* outlining the rights of tamariki Māori (Te Komako, 2002), opening the way for more opportunities to articulate Māori rights and the development of robust guidelines surrounding indigenous rights. Under the auspice of the Ministry of Education, Te Komako (Early Childhood) developed their view of the rights of tamariki Māori based on the Convention. Te Komako's view was that like all children, tamariki Māori have access to human rights that are the basis of freedom, justice and peace; that they require special care and attention; that they grow up best within a loving family; need legal and other protection, and will flourish in an environment that acknowledges and respects their cultural values.

In order for indigenous children to enjoy their rights under the Convention, the Committee noted:

> Measures must be taken by government to identify groups of children who are of indigenous origin.

> Indigenous children have the right to enjoy their own culture in community with members of their group.

> Indigenous children have the right to profess or practice their own religion in community with members of their own group.

> Indigenous children have the right to use their own language in community

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[5]      See p. 63

with members of their group and if for whatever reason they are not fluent in the language measures must be are made available for teaching them their language.

These rights must be translated into their language.

The Government must actively protect, sponsor and enforce in law these rights and must assist indigenous children to realise these rights (Newell & Hodgkin, 2002).

## A Legal View of a Child and Their Rights

The *Commissioner for Children Act (2004)* defines a child as a person aged below 18 years of age, in line with the UNCRC. However, the Act did not redefine several important age thresholds that provide protection to the young and vulnerable. The purpose of the age limit is to provide a clear jurisdiction as described by AYCA (2004). The *Age of Majority Act 1970* defines a 'minor' as a person under the age of 20 years, and from the age of ten years a person may be charged with murder or manslaughter, charged with any criminal offence from the age of 14 years, and tried as an adult for the purposes of the criminal justice system at the age of 17 years. Under the *Sentencing Act 2002*, children and young people aged from 15 years can be held on remand, and sentenced to, adult prisons.

Children aged up to 16 years come under the jurisdiction of the state care and protection and child welfare jurisdiction via the *Children, Young Persons and their Families Act 1989* (CYP&F Act). Seventeen year-olds are excluded from this act and denied the same free court-appointed legal counsel in Youth Justice and Family Court proceedings provided to 16 year olds.

Young people are afforded some autonomy, they can give informed consent to a medical procedure from the age of 16 years and no age restriction applies in relation to abortion. Flexibility exists in the common law and in the *Health and Disability Consumers Code of Rights* for those less than 16 years. However those under 16 years are excluded from protection by age discrimination. There is no minimum age for access to employment. Minimum wage protection is available only to those 16 years and over through the *Minimum Wage Act 1983*. The law concerning the minimum age of criminal liability has not changed since the UNCRC Committee made its recommendations. In the report *Children in New Zealand* the Ministry of Youth Affairs (2002) noted a public debate as to the possible lowering of the age of criminal liability. In 2002, following high profile murders and other criminal matters involving young people brought the age of criminal responsibility back into the

political arena. Any change to a younger criminal liability threshold would be of great concern as the current age thresholds are very low.

> An unmarried person under 20 may not change their name without parental consent or leave of the Court. Eighteen year-olds may vote, join the armed forces and be sold alcohol and tobacco (Ministry of Youth Affairs, 2002).

The lack of consistency and seemingly arbitrary nature of these limitations does not recognise the evolving capacities of children and young people. Instead this systematic set of inconsistencies continues to reinforce confusing messages for young people about their place in society.

The exclusion of 17 year olds from the principles and protections of the *Children, Young Persons and their Families Act* is a serious breach of the Convention and means, for example, that 17-year-old prisoners are not eligible for the Specialist Youth Units in prison unless they are assessed as vulnerable. *Children in New Zealand* (Ministry of Youth Affairs, 2002) states that the issue of extending the youth justice protections in the *Children, Young Persons and their Families Act* to 17 year olds was due for consideration in 2002. However youth over the age of sixteen years remain denied free legal representation more than five years after the review's 2002 deadline. From time to time young people are locked up in Police cells for periods up to six weeks because there is a lack of available accommodation in the facilities of the Child, Youth and Families Service. The provisions of the *Sentencing Act 2002* were subject to a sunset clause, and expired in 2004. Alternative facilities have been slow to come on stream due to planning difficulties and cost over-runs. In the meantime, the *Sentencing Act* which was supposedly to deal with a problem that governments had known about for a decade, will have the effect of more under 17 year olds being held in adult prisons.

The inconsistent nature of these limitations broadcasts a confusing message about the place of children in society. A disproportionate number of children imprisoned are Māori. Fair consideration in the law for all children in New Zealand appears to be a basic human right systematically denied to many children. Fair consideration in the law is measured by exceptions that limit access to the legal resources available to the rest of your peers is about avoiding the sanction of the law, fair consideration in the health sector is about improving life chances and defeating the challenges of disease and injury.

# Health Indicators and Child Health in New Zealand

Health for children is partially informed by the presence or absence of disease and cause related mortality. Associated with these indicators are factors associated with the prevention of disease such as vaccination status, health indicators.

> A health indicator is a characteristic of an individual, population, or environment which is subject to measurement (directly or indirectly) and can be used to describe or more aspects of the health of an individual or population (quality, quantity and time) (WHO 1989).

Health indicators are used to inform health needs by measuring one or more indicators for a single episode or change over time for a population or individual. Health indicators can therefore be used to define differences in the health of populations and assess the extent to which the objectives of a programme are being reached. Health indicators may include measurements of illness or disease which are more commonly used to measure *health outcomes*, or positive aspects of health (such as *quality of life*, *life skills,* or *health expectancy*), as well as behaviours and actions related to health.

Health indicators may also include indicators which measure the social and economic conditions and the physical environments that relate to health, measures of health literacy and healthy public policy. This latter group of indicators may be used to measure intermediate health outcomes, and health promotion outcomes.

The development of indicators relating to population health and wellbeing is recognised as essential for providing information about health status. However, the development and use of indicators is not straightforward in the case of indigenous health. Indicators in Australia and New Zealand, which have sometimes included a focus on land rights may have been based on inappropriate assumptions relating to the construction of health indicators (Durie, 1998b). Although political issues may impact on the health of indigenous people, these may be better described as indicators of power relationships than of health status. Studies of rates of suicide in indigenous of North America have identified a strong association between identity development and youth suicide were rates of youth suicide reach 8 times the national average for Canada. In the research published by Chandler and Lalonde the rates of youth suicide varied 10 fold between indigenous communities. Chandler and Lalonde observed lower rates in communities that maintained a degree of

control over their health and education system as well as over child protection and access to fair consideration in the law (Chandler, M.., Lalonde, C; 2006).

Reliable data sets are critical to the development of trustworthy indicators, and ensure that the indicators provide an accurate foundation for decision making. Indicators are used to describe the distribution of illness and health care services. Health indicators will be presented as clusters of data (for example about housing) or as an indicator group. These indicator groups measure the extent of health policy focus (macro level); social and economic status; the provision of health care; health status and quality of life.

The NHC's report on *The Social, Economic and Cultural Determinants of Health* suggested criteria to be considered when seeking to identify health indicators. It recognised the contribution of social and economic determinants of health to health inequalities (National Advisory Committee on Health and Disability, 1998):

> Ultimately, the ability of the healthcare sector to deliver effective and high quality services in an equitable way is highly dependent on addressing adequately the social, cultural and economic context in which ill health and disability arise. The National Health Committee considers reducing socio-economic inequalities in health to be a very high priority. (p. 89)

Addressing health inequalities is restricted by the limited scope of health policy to address health needs. The NHC was uncertain about the contribution of cultural determinants to health, but identified a strong association between ethnicity and underlying socio-economic status (National Advisory Committee on Health and Disability, 1998).

The NHC went on to say that Māori experienced an excess burden of morbidity and premature mortality, attributing this to their poorer socio-economic circumstances, (National Advisory Committee on Health and Disability, 1998). The NHC also observed that Māori experienced a greater share of the burden of unemployment, crowded housing and low income. All of these are recognised indicators of socio-economic deprivation. Given an association between poor health status and lower social and economic status it is reasonable to expect Māori health would benefit from improvements associated social policy areas, such as housing, especially where such policy is directed at Māori with poor health.

Criteria for many social and cultural indicators are important, and not well understood when related to health (Marmot, 2005b). When considering the development of indicators related to health and wellbeing of children, criteria may include aspects of the child's environment that provide for sustenance and development  Based on these criteria, suitable indicators may have the following characteristics: be age appropriate; assess cumulative risk; and account for cultural and economic diversity over time.

## Health Determinants and Culture

According to Hertzman (2002), the factors which influence the health of children are related to the environment in which they live.  Given the rapid pace of change in modern society, its complexity when considering ethnic and cultural diversity and high mobility, the factors that influence the health and wellbeing of children are multiple and interactive. Some of these factors are potentially modifiable – not only those related to the actions of individuals, such as *health behaviours* and *lifestyles*, but also factors such as income and social status, education, employment and working conditions, access to appropriate health services, and the physical environments.

> The WHO defines health determinants as:
>
> > … a range of personal, social, economic and environmental factors, which determine the *health status* of individuals or populations (WHO 1989).

These, in combination, create different *living conditions* which impact on health. Achieving change in health determinants, such as lifestyles and living conditions which determine *health status*, are considered to be *intermediate health outcomes* and those that affect health would be *health determinants*.  There are also health indicators, such as immunisation status, birth weight, morbidity and mortality rates.

In New Zealand, Māori health is a health priority.  This priority is reflected in the NZHS (Minister of Health, 2000).  An important part of the consequent policies was the capacity of provider and policy makers to be responsive to the needs of Māori. This was framed in terms of the special relationship Māori have with the Government vis a vis the Treaty of Waitangi.  Premature mortality and excess morbidity were recognized as evidence that Māori carried an unfair burden as initially identified by Prof Pōmare in the four Hauora reports (Pomare, 1980;

Pomare & de Boer, 1988; Pomare, Keefe-Ormsby, Ormsby, Pearce, Reid, Robson, & Watene-Haydon, 1995; Robson & Harris, 2007) .

## *Social and Economic Indicators*

Professor Mason Durie (Durie, 1993a) wrote:

> Health policies are not the exclusive province of the health sector; indeed all policies have implications for health in so far as they are able to modify the health status of the population. For Māori the greatest gains are likely to come from healthy socio-economic policies and it will predictably fall to the health sector to make the connections (p. 11).

Publicly funded housing was being sold into private ownership in the early and mid 1990s. The stock of housing for low income families was decreasing and it was feared that the health of low-income families would be affected. Links between poor housing and health were discussed at the Socioeconomic Inequalities and Health Conference (Wellington, 1996). Discussion within the Māori Stream Workshop raised concerns about the high costs of adequate housing and the direct impact this has on the health status of Māori. Consequently, "research into issues related to housing was seen as vitally important to improving Māori health status" (Crampton et al., 1997). Similar links have been stressed with education. Walker (Walker, 1996) identified a strong association between economic status and education, saying "the educational oppression of Māori by the ruling class had a necrotic effect [on Māori] " (Walker, 1996. p. 164). Walker was sure education policies contributed to the social imbalance of Māori with far-reaching cultural and economic implications and health.

The impact of economic factors on Māori health had not been comprehensively considered in relation to government policy until a cluster of reports was published by two Government agencies. The Ministry of Māori Development, Te Puni Kōkiri, published the report *Progress Towards Closing Social and Economic Gaps Between Māori and non-Māori* (The Gaps Report) (Te Puni Kokiri Ministry of Māori Development, 1998) and the NHC released the report *The Social, Cultural And Economic Determinants Of Health* (SCEDH) (National Advisory Committee on Health and Disability, 1998). Both reports shed light on factors associated with health inequalities. SCEDH associated the relative health status of Māori with a number of factors including a genetic disposition, differences in the uptake or effectiveness of health services, and high rates of smoking, socioeconomic status

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and other behavioural health risks. The NHC indicated in SCEDH in order to reduce health inequalities, it was important to identify and understand the main factors that protect and promote good health. The NHC called these factors the determinants of health, and the factors shown to have the greatest influence on health were income and poverty, employment and occupation, education, housing, and culture and ethnicity. The NHC added there is increasing interest in the role of what has been termed social cohesion or social connectedness, that is, the degree to which individuals are integrated with, and participate in, a secure social environment (Kawachi & Kennedy, 1997).

The NHC (1998), concerned about health inequalities experienced by Māori quoted Pōmare & de Boer (1988):

> …there is general agreement that most of the excess morbidity and mortality is a result of the poorer social and economic status of Māori (p. 41).

According to Woodward "it is important to emphasis that the burden of ill health associated with social disadvantage is onerous" (Woodward, 1997, p. 6). Woodward described socioeconomic status as the hierarchy of social standing that can be demonstrated by individuals in a population (Woodward, 1997). Housing, income, unemployment, and social assistance were also used as social and economic indicators as described by Stephens & Waldergrave (1997). The NHC (1998) acknowledged the contribution they thought social and economic determinants of health made to health inequalities with their recommendations:

> Ultimately, the ability of the healthcare sector to deliver effective and high quality services in an equitable way is highly dependent on addressing adequately the social, cultural and economic context in which ill health and disability arise. The National Health Committee considers reducing socioeconomic inequalities in health to be a very high priority (p. 89).

The relationship between ethnicity and health inequalities was less certain until the report, *Decade of Disparity* (Ajwani et al., 2003) was published by the Ministry of Health:

> Most notably, there has been little (if any) decline in Māori and Pacific mortality rates over these two decades [1980-1999] despite a steady decline in non-Māori non-Pacific rates. As a consequence, the gaps in life expectancy between Māori and Pacific and non-Māori non- Pacific ethnic groups increased markedly over the 1980s and 1990s. (p. 45)

and,

> …there is some New Zealand evidence for ethnic differences in access to, and quality of, health care. While unlikely to account for all the inequality in survival chances between the ethnic groups demonstrated in this report, such health service explanations could make an important contribution to the observed disparities. (p. 52)

Being Māori was closely associated with poor health and over representation in negative social statistics. The NHC suggested that racism influenced health inequalities. When race and not need determined the response to health need, racism was evident. Recent studies of racism and health in New Zealand have described significant statistical relationships between quality of life, perceived barriers to health services and self reported racism (Harris, Tobias, Jeffreys, Waldegrave, Karlsen, & Nazroo, 2006). Racism appears to be an important barrier to health services and a contributor to poor health outcomes for Māori.

The NHC identified culture as a fourth category when considering health inequalities, emphasising a strong association between ethnicity and underlying socioeconomic status. The presence of these strong associations in the mind of policy makers may help explain why there was some confusion between being indigenous and poor health. Although being Māori appeared to be strongly associated with being poor or sick, the NHC appeared to be uncertain about the contribution cultural determinants made to health (NHC 1998). The NHC recommended that culture be considered separately from social and economic determinants because culture was not as well understood as social and economic factors (NHC, 1998). The NHC defined culture as "accepted patterns and norms of behaviour within identifiable groups in society" but they did not specify any cultural determinants (NHC, 1998, p. 33). Helman (1994) described the concept of culture as a set of explicit and implicit guidelines people become heir to as members of a particular society or group. The NHC went on to say that Māori experienced an excess burden of morbidity and premature mortality, attributing this to poorer socioeconomic circumstances (1998). The NHC indicated cultural determinants should be considered separately from social determinants because culture is 'central' to the health and wellbeing of ethnic groups (1998). Māori have a greater share of the burden of unemployment than their non-Māori peers. Crowded housing, low incomes, and the lowest access to a household telephone are also reflective of the socio-economic disparity experienced in Northland in a Health Funding Authority

(HFA) prepared by Dr Ratana Walker (HFA 1998). Given the association of poor health status and lower social and economic status (NHC 1998), Māori demonstrate consistently lower socioeconomic indicators when compared with non-Māori (NHC, 1998).

Economic development at a tribal level was the goal identified at Hui Taumata (1984). Māori wanted to regain equity and autonomy over their matters, especially iwi development and management, applying tikanga Māori and kawa to provide services for Māori by Māori (Durie, 1998). Māori saw a need to secure traditional assets including natural resources and cultural assets[6] under Article II of the Treaty of Waitangi (The Treaty). Maintenance of citizenship rights, including social justice, is guaranteed under Article III of The Treaty.

## *Health Determinants*

There is potential to confuse health determinants and health indicators because they serve similar purposes. To complicate this for children, health indicators and health determinants are moderated by the relationships children experience with their peers and adults as well as the environment in which they live - children could also be thought of as health indicators for the environment in which they live.

Clyde Hertzman (2002) suggested that:

> … the determinants of child development are found at all levels of social aggregation: family, neighbourhood, community and economy. This underlines the importance of an approach that is not only intersectoral, but also multi-level; honouring and supporting strong family and community leadership.

Ure Bronfenbrenner's social ecology of child development included the influence of political and like Hertzman included economic domains as part of the environment that influenced children. Bronfenbrenner's ecological approach was the synthesis of a number of models that included time –this he termed the chronosystem. The set of models arose from his observation of the interactions between the developing child and their environment while studying the functioning of families. His observations led him to develop a social ecology of human development. Bronfenbremmer observed that the social ecology of development took place within nested systems. The three systems he described were the micro system (such as the family or

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[6]    Assests included te reo Māori, the Māori language.

classroom), the mesosytem (which is two micro systems in interaction), the exosystem (which is a system influencing development, such as a parental workplace), and the macrosystem (the larger cultural context). Each system contains roles, norms, and rules that can powerfully shape child development (Bronfenbrenner, 1986). Bronfenbremmer's observation that the family is the most powerful, the most humane, and by far the most economical system for keeping human beings human was noted by Dr. Ragen Prasad in his first report on behalf of the Families Commission (Prasad, 2005).

## Demography

The 2006 census provides the most recent demographic information for New Zealand (see Fig 2.1 above, Table 2.1 next page). The largest proportion of the Māori population lives in the north island of New Zealand (Fig 2.1). While the Māori population has grown alongside growth in Asian and Pacific peoples relative to 'European only', Māori have fallen as a proportion of the overall population by 0.5% in ten years (Statistics New Zealand, 2007b; Williamson & DeSouza, 2002).

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**Figure 2.1        The Geographic Distribution of Māori Populations**
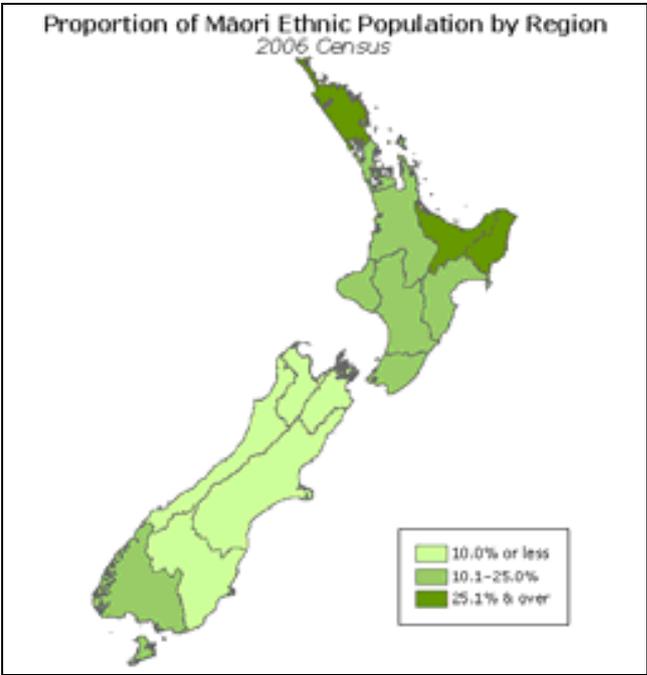


**Source**: Statistics New Zealand 2007a, p. 3

**Table 2.1      Census Ethnic Group**

| Ethnic Group[7] | 1996 [3] | 2001 | 2006 |
|---|---|---|---|
| European | 2,879,085 | 2,871,432 | 2,609,592 |
| Māori | 523,371 | 526,281 | 565,329 |
| Pacific Peoples | 202,233 | 231,801 | 265,974 |
| Asian | 173,502 | 238,176 | 354,552 |
| MELAA[8] | no data | no data | 34,743 |
| Other Ethnicity | | | |
|    New Zealander (new in 2006) | no data | no data | 429,429 |
|    Other 'Other' Ethnicity | | | 1,491 |
|    Total[9] | 16,422 | 24,993 | 430,881 |
| **Total People** | 3,466,587 | 3,586,731 | 3,860,163 |
| Māori percentage of population | 15.1% | 14.7% | 14.6% |

**Source**: Statistics New Zealand Census 2006, 2007a

Compared with data from the 1996 and 2001 censuses, replacement has slowed, the numbers of tamariki Māori in the 0-4 year age group falling by 1.68%. Nonetheless, Māori remain a relatively young population group contributing to 29% of the births in the 2006 calendar year (see Table 2.2).

**Table 2.2 Total Population and Births for 2006**

| TOTAL POPULATION | | BIRTHS Live births in the year ending September 2006. | |
|---|---|---|---|
| Percentage of New Zealanders who identify themselves as a particular ethnic group. | | **Number of births** 59,120 | |
| European | 67.6% | 70% | |
| Māori | 14% | **29%** | |
| New Zealander | 11.1% | | |
| Asian | 8.8% | 10% | |
| Pacific | 6.6% | 15% | |

**Source**: Human Rights Commission (2007)

Educational attainment for Māori over the age of 15 years has improved since the last census with an 5.77% increase in the number of Māori gaining a school or higher certificate or qualification (Williamson & DeSouza, 2002). This increase is

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[7] Includes all of the people who stated each ethnic group, whether as their only ethnic group or as one of several ethnic groups. Where a person reported more than one ethnic group, they have been counted in each applicable group.

[8] MELAA = Middle Eastern, Latin American and African. This is a new category introduced for the 2006 Census. Previously, 'MELAA' responses were counted to the 'Other ethnicity' category.

[9] In 1996 and 2001 'Total Other Ethnicity' included MELAA.

from a relatively low base because 25% of Māori left school with no qualification in 2004 (Ministry of Education, 2007a) and educational achievement remains relatively poor.

## Languages Spoken

English is predominant spoken in New Zealand (Human Rights Commission, 2007), followed by Māori, Samoan, French, Hindi, Yue [Cantonese], (see Table 2.3, next page). For Māori in the 2006 census, 29% indicated they could hold a conversation in Māori about everyday things.

**Table 2.3    Languages Spoken in New Zealand**

| Languages Spoken (total responses)[10] for the Māori Ethnic Group[11] (2001 & 2006 Census) | | |
|---|---|---|
| | Census year | |
| Languages spoken | 2001 | 2006 |
| English | 494,679 | 530,892 |
| Māori | 130,482 | 131,613 |
| Samoan | 4,074 | 3,693 |
| NZ Sign Language | 6,549 | 5,538 |
| Other | 9,063 | 9,264 |
| None (e.g. too young to talk)[12] | 17,376 | 15,576 |
| Total People Stated | 518,730 | 554,355 |
| Not Elsewhere Included[13] | 7,554 | 12,072 |
| **Total People** | 526,281 | 565,329 |
| **% speaking Māori** | 24.7% | **23.3%** |

**Note:** This data has been randomly rounded **Source**: Statistics New Zealand Census 2006

Alongside the capacity to speak their own language, there is the opportunity to participate in Māori medium education, 89% of Māori medium learners are Māori students. The Māori language is also taught outside Māori medium education to 8.3% of Māori students. In total approximately 39,852 students are being taught Māori, representing 24.5% of all Māori students (Ministry of Education, 2007b). Māori are the predominant beneficiaries of te reo Māori education and this is consistent with aspirations for the growth of Māori language and culture.

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[10] Includes all of the people who stated each language spoken, whether as their only language or as one of several languages. Where a person reported more than one language spoken, they have been counted in each applicable group.

[11] All figures are for the Māori ethnic group census usually resident population.

[12] Includes people who were too young to talk or unable to speak a language.

[13] Includes Don't Know, Refused to Answer, Response Unidentifiable, Response Outside Scope and Not Stated.

**Mortality**

Compared with non-Māori peers, shorter Māori life expectancy (even when adjusted for low income) (Hodgson, 2007), can be expected along with fewer disability free years, more preventable illness, a poorer prognosis for cancer when it is diagnosed and poorer access to health services.  This has been the case for some time (Pomare, 1980; Pomare & de Boer, 1988; Pomare, Keefe-Ormsby, Ormsby, Pearce, Reid, Robson, & Watene-Haydon, 1995).

Life expectancy for non-Māori, Māori, and Pacific boys born in 2000/02 was 77.2, 69.0 and 71.5 years respectively.  Life expectancy for girls was 81.9, 73.2, and 76.7 years respectively.  Length of life for non-Māori and Māori girls were 68.2 and 59 years respectively, and 65.2 and 58 years for Māori and non-Māori boys (Ministry of Social Policy, 2006).

**Morbidity**

Māori experience high levels of morbidity in terms of hospital admission for preventable disease (Mills, Tobias, & Baker, 2002) and injury in children (Langley, 1998).  A closer inspection of mortality and related morbidity for infectious disease show that Māori have relatively high rates of notification for infectious disease related to deprivation (Asher, 2005; Pomare, 1980; Pomare & de Boer, 1988; Pomare, Keefe-Ormsby,Ormsby, Pearce, Reid, Robson, & Watene-Haydon, 1995) (with the exception of hepatitis B) and lower rates for food borne disease notification, however overall mortality for Māori remains twice that of European and Asian New Zealanders and second to Pacific Peoples.

Table 2.4 (next page) illustrates the burden of infectious diseases that is shared by Māori and Pacific peoples.  While experiencing a much lower rate of food borne disease, Māori experience much high rates of the preventable 'old world' diseases with their Pacific peers, diseases that are either vaccine preventable or associated with poverty, over crowding and poor housing.  For example, the rate of hepatitis B notification is entirely reported acute cases that are vaccine preventable and most probably associated with contact with the hepatitis B carrier (whose status is not notifiable to the Ministry of Health).  The mortality associated with infectious disease demonstrates that Māori and Pacific people are exposed to greater levels of infection that subsequently proves fatal. Hepatitis B provides a useful case study of an infectious disease for Māori because it endemic in some Māori communities and

is vaccine preventable in most cases.  Māori have reviewed the handling of this health issue (Pomare, 1985) and Māori have also been the beneficiaries of early intervention projects focused on high risk areas in order to prevent chronic infection and therefore the hepatitis B carrier state (Blakely, Salmond and Tobais, 1998).

**Table 2.4    Selected Infectious disease morbidity and mortality, New Zealand**

| Indicator (rate per 100,000) | Males | Females | Total | Ethnic group (rate per 100,000, with standard error) | | | |
|---|---|---|---|---|---|---|---|
| | | | | Māori | Pacific | Asian | European /Other |
| Infectious disease-related mortality, 2001–02 | 14.4 (13.3, 15.5) | 12.0 (11.2, 12.7) | 13.1 (12.4, 13.7) | **22.8** (19.1, 26.9) | **33.3** (26.3, 41.7) | 12.3 (8.5, 17.2) | 11.4 (10.8, 12.0) |
| Tuberculosis notifications, 2002–03 | 11.3 (10.2, 12.4) | 10.4 (9.4, 11.5) | 10.8 (10.0, 11.6) | 17.1 (14.3, 20.3) | **45.5** (39.0, 52.7) | 9.1 (8.3, 9.9) | |
| Meningococcal disease notifications, 2002–03 | 18.4 (17.0, 20.0) | 15.1 (13.8, 16.5) | 16.8 (15.8, 17.8) | **24.4** (21.8, 27.2) | **37.4** (32.4, 42.9) | 13.1 (12.1, 14.2) | |
| Hepatitis B notifications, 2002–03 | 2.1 (1.7, 2.7) | 1.4 (1.1, 1.9) | 1.8 (1.5, 2.1) | **3.7** (2.6, 5.1) | **4.6** (2.7, 7.2) | 1.4 (1.1, 1.7) | |
| Rheumatic fever (initial attack) notifications, 2002–03 | 3.1 (2.6, 3.8) | 2.3 (1.8, 2.8) | 2.7 (2.3, 3.1) | **7.1** (5.8, 8.7) | **11.2** (8.5, 14.5) | 0.6 (0.4, 0.8 ) | |
| Campylobacteriosis notifications, 2002–03 | 404.3 (397.8, 411.0) | 330.7 (324.9, 336.6) | 367.0 (362.6, 371.4) | 108.7 (102.4, 115.4) | 63.7 (56.4, 71.7) | **496.6** (490.5, 502.8) | |
| Cryptosporidiosis notifications, 2002–03 | 27.7 (26.0, 29.6) | 26.6 (24.8, 28.4) | 27.2 (26.0, 28.5) | 7.7 (6.3, 9.4) | 2.8 (1.6, 4.6) | **40.1** (38.2, 42.0) | |
| Giardiasis notifications, 2002–03 | 46.8 (44.6, 49.1) | 38.3 (36.4, 40.4) | 42.6 (41.1, 44.1) | 10.9 (9.1, 13.0) | 4.1 (2.4, 6.5) | **59.1** (57.0, 61.3) | |
| Salmonellosis notifications, 2002–03 | 49.1 (46.8, 51.5) | 42.8 (40.7, 45.0) | 46.0 (44.4, 47.6) | 25.4 (22.5, 28.6) | 14.0 (10.6, 18.2) | **61.3** (59.1, 63.6 ) | |

**Source**: Ministry of Health and Public Health Intelligence (Ministry of Health, 2007)

However looking at what is reported may not illustrate the whole picture.  As already indicated Māori concepts of health and wellbeing extend beyond the presence and absence of disease and include the mutual interaction of family-based relationship, spirituality and mental wellbeing (Durie, 1985; Henare, 1988; Murchie, 1984; Pere, 1997; Ratima, Edwards, Crengle, Smylie, & Anderson, 2006).  How these factors are related remain especially germane to Māori understandings and it is this understanding of determinants and the inter-relationship, that can provide an explanation as to how health needs may be assessed and what health needs may present as priorities.  Bronfenbrenner's social ecology of child development was developed from his own observations and an analysis of many studies of the influence of external environments on the functioning of families as contexts of

child development.  His contribution to understanding health determinants was to align social aggregation: family, neighbourhood, community and economy with the political environment and provide a structural approach to understanding child health.

### *The Interaction of Health Determinants*

In the first of three reports on ethnic mortality trends in New Zealand (Ajwani, Blakely, Robson, Tobias, & Bonne, 2003) described the disparity in life expectancy that grew between Māori and non-Māori throughout the 1980s and early 1990s. The disparity became more apparent after correcting for under-recording of Māori ethnicity. In their second report Dr. Tony Blakely and his team (Blakely, Fawcett, Atkinson, Tobias, & Cheung, 2005) investigated trends in mortality by socioeconomic position. Focusing on income they found that although all groups experienced declines in mortality, the ratio of mortality rates in low - to high-income groups had increased. The second report used age and ethnicity standardisation to examine socioeconomic inequalities in mortality (removing confounding by ethnicity).  Standardizing for ethnicity precluded the analysis of interactions between ethnicity and socioeconomic position in shaping inequalities in mortality and whether they were mediated by socioeconomic inequalities. In the third report in the series, the investigators described the effect of ethnicity and socio-economic position on mortality (Ministry of Health, 2007b). Māori were over represented in lower socioeconomic groups on many measures and that social inequalities had increased as life expectancy fell due to greater improvements in health for non-Māori. Māori carried a disproportionate health burden as consequence of lower socioeconomic status (Ministry of Health, 2007b). High dependency load was the sum of relatively high rates of premature morbidity and higher rates of fertility, a youthful population. The final report in the series showed that that 'ethnicity' was not equivalent to 'socioeconomic position' in terms of health (Blakely et al, 2005). The authors indicated that it was clear that both socioeconomic position and ethnicity acted together because of differential experience and exposures related to health. Socioeconomic status acted with ethnicity to influence mortality through multiple pathways.  They recommended in order to address health inequalities across society, different health experiences between ethnic groups and social classes have be reduced and ultimately eliminated (Ministry of Health & University of Otago,

2006).  Māori not only carried an high fertility-related burden of dependency load, this young fertile population also was burdened with preventable morbidity and premature mortality.  In concert with a high dependency load, high rates of preventable morbidity and premature mortality limited the human capacity of Māori to respond to and participate in, those actions which would improve their health and well being.

The response of the Ministry of Health was to maintain Māori health as a health priority by developing *He Korowai Oranga, the Māori Health Strategy* (Minister of Health, 2001) through a series of action plans called He Whakatataka (Ministry of Health, 2002) to reduce inequalities, improve health work force development and the impact of premature mortality and preventable morbidity.

While health inequalities remain between socio-economic classes and across ethnic groups, the compelling interaction of health burden with high dependency load will constrain effort to address unmet health needs.  A focus on disease helps address medical issues but may leave little or few resources to address underlying barriers and processes that deflect effort or mitigate medical gains in knowledge and practices.

## Structural Determinants of Health

*In 1867, Māori men over the age of 21 got the vote 12 years before their non-Māori peers who had to own land in order to vote.* (Elections New Zealand, 2005)

While many factors influence health, living in safe and secure housing with safe and secure food remain powerful health determinants and subsequently benefit directly child health.  The access to the resources that influence health determinants is influenced by the political process which makes the laws that regulate society.  Effective political representation is a direct method for influencing the flow of public resources to where need is greatest.  While access to culture, land and economic resources are important individual determinants for Māori, a voice in the political process emerged with the right to vote.  Regulating determinants that have an indirect effect of health, such as the laws and policies enacted by Government form a very powerful set of intermediate determinants.  Laws and policies that act in a differential manner on health determinants to the detriment of a population are intermediate health determinants.  Intermediate health determinants may result in

limited access to the cultural resources that bind cultural groups in order to sustain and protect the vulnerable.  Having a 'voice' and being able to participate in policy and planning are keys to improved social and economic outcomes.  Māori are now more likely to be represented in Parliament[14] and on District Health Boards[15] occupying 17.3% and 24.8% of the available seats respectively.  Māori are however under represented in elections to territorial authorities (including DHBs) (Human Rights Commission, 2007).  The net effect is to have a minority voice in the making national policy and little or no voice where the policy must be applied unless provided a mandate by Government.

Education therefore assumes greater importance.  Education is an important health determinant and because its provision is largely funded by the Government in New Zealand and therefore sensitive to Government policy, it has potential to contribute to structural inequalities in health for children. This view is supported by the United Nations International Children's Emergency Fund (UNICEF) in the report they commissioned to review the impact of poverty on children (UNICEF Innocenti Research Centre, 2007).

**Education**

Prior to 1847, Māori were taught in the Māori language at church funded Mission Schools that brought about a very high degree of literacy.   The indigenous mode of communication in New Zealand was oral and literacy was becoming more important as European migrants arrived in ever increasing numbers.  Oral communication was still a very important determinant and it cemented Māori society. However, the *Native Schools Act* (1852) provided a subsidy for Māori schools that taught in English and undermined Māori advances in literacy.[16]  The education enjoyed by many Māori prior to the Native Schools Act paid dividends

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[14]	Designated Māori seats were established in 1867 and a year later the first Māori representatives were elected.  Māori men who owned land were granted the franchise to vote in 1853 alongside all other male land owners; however few Māori men had title to their land, so could not register to vote until the franchise was extended to all Māori men over the age of 21 in 1867.  The same right was not granted to all other non-land owning men over 21 years old until 1879.  In 1892, New Zealand again led the world in the application of social justice when women won the right to vote (Elections New Zealand, 2005).
[15]	11 of the 121 DHB members elected were Māori, the Minister of Health nominated a further 39 Māori of 78 people appointed to the District Health Boards.
[16]	Interrupted by the New Zealand Wars that forced the closing of schools in 1865 and the abandonment of the mission schools, the Native Schools Act was extended in 1867 with the offer to communities of a school teacher, building and resources if land was provided to site the school.

with a rapid acceleration of the economy of New Zealand in the first two decades of the 18th century (Gardiner, 1994). Following the Native Schools Act the first indigenous practitioners graduated within 50 years of the introduction of a totally new education system. In 1899, the first Māori - Maui Pōmare, graduated in medicine from the American Medical Missionary College, Chicago (G. Butterworth, 2006), and became Minister of Health in 1923. The first Māori to graduate in medicine in New Zealand was Peter Buck (known as Te Rangi Hiroa) who graduated from Otago Medical School in 1904 (Sorrenson, 2006). Both men were from the same area of New Zealand and both were knighted in recognition of their services to Māori (Butterworth, 2006; Sorrenson, 2006).

As early as 1852, the Government offered incentives to use the English language in the education system provided for all of New Zealand. But the English-only practice was flawed. After being found wanting by the Waitangi Tribunal in 1985, the Government, with constant prompting from Māori, had to redress the situation. Although slow there has been progress; 25% of tamariki Māori learning their own language at school, the highest it has been for much of the 20th century.

**Table 2.5 Māori Language Proficiency in Adults 2006**

| Age (n=3,858) years | Taught at Kohanga Reo (p. 55, n=404) % | Taught at Primary - Secondary school (p. 55, n=656) % | Self perceived proficiency (p. 84, n=3,858) % | | | | Speaking Proficiency with Children's Teacher at Māori medium school, (p. 49, n=869) % | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Overall | Very satisfied-satisfied | Neither | Dissatisfied-very- | Overall | Very well and Well | Fairly well | Not very well/ Few words |
| 15-24 | 53 | 51 | 33 | 33 | 39 | 31 | 26 | **28** | **21** | 23 |
| 25-34 | 15 | 25 | 19 | 14 | 17 | 21 | 21 | **20** | **22** | 21 |
| 35-44 | 14 | 11 | 18 | 12 | 19 | 19 | 21 | **18** | **20** | 25 |
| 45 plus | 15 | 11 | 27 | 34 | 23 | 26 | 26 | **25** | **33** | 19 |
| Total | 10.5 | 17.0 | | 20.9 | 17.1 | 61.3 | 22.5 | **14.1** | **13.2** | 73.9 |

Source: (Kalafatelis, Fink-Jensen, & Johnson, 2007)

The use of te reo Māori in the school by parents appears to be low (figures in **bold**, see Table 2.5). People who have high levels of competency in te reo Māori are a minority as determined in the recent Māori language survey. Of the 3,858 people interviewed, 869 indicated they had their children educated in Māori medium education. Of those, those who could communicate well with their child's primary

school teacher in Māori, almost half were under the age of 35. More than 70% of those surveyed educated in the Kohanga Reo or taught Māori at Primary school were under 35 years old. It appears that adults, who can converse fluently, are placed at an advantage but form the minority of parents who send their children to Māori medium education (see Table 2.5). While the bulk of people who speak Māori 'well' or 'fairly well' are under 35 years of age and learnt at school, relatively few are able to speak to their child's teacher in Māori medium education 'very well' (14.1%) or 'fairly well' (13.2%) in te reo Māori (Kalafatelis et al., 2007).

Unable to converse with the child's teacher reduces the capacity for the household to respond to the child's educational needs in Māori medium education. Given the recent re-emergence of Māori medium education, the minority of parents who can communicate in Māori with their child's teacher reflected the historical capacity of the education sector to teach te reo Māori in the past. This legacy now places the current generation of school children wishing to learn Māori at a distinct disadvantage.

**Table 2.6    Socio-economic indicators (age-standardised rates with standard error)**

| Indicator | Males | Females | Total | Ethnic group | | | |
|---|---|---|---|---|---|---|---|
| | | | | Māori | Pacific | Asian | European /Other |
| School completion (Sixth Form Certificate or higher), 15+ years, 2001, percent | 50.0 (49.7, 50.1) | 50.2 (49.9, 50.3) | 50.1 (49.7, 50.1) | **30.5** (30.3, 30.7) | 37.8 (37.5, 38.1) | 69.6 (69.2, 70.0) | 52.4 (52.0, 52.5) |
| Unemployment, 15+ years, 2001, percent | 5.5 (5.5, 5.5) | 5.4 (5.3, 5.4) | 5.4 (5.4, 5.5) | **10.1** (10.0, 10.2) | 9.2 (9.1, 9.4) | 6.7 (6.6, 6.9) | 4.2 (4.1, 4.2) |
| Low income, 15+ years, 2001, percent | 21.4 (21.2, 21.4) | 30.8 (30.6, 30.9) | 26.2 (26.1, 26.3) | 29.3 (29.1, 29.5) | 30.9 (30.6, 31.2) | **43.3** (42.9, 43.6) | 24.5 (24.4, 24.6) |
| No access to a telephone, 15+ years, 2001, percent | 7.3 (7.2, 7.3) | 6.7 (6.7, 6.8) | 7.0 (6.9, 7.0) | 12.2 (12.1, 12.3) | **15.6** (15.4, 15.9) | 4.4 (4.3, 4.5) | 5.8 (5.7, 5.8) |
| No access to a motor vehicle, 15+ years, 2001, percent | 4.9 (4.9, 5.0) | 7.1 (7.1, 7.2) | 6.1 (6.1, 6.1) | **12.3** (12.1, 12.4) | **12.3** (12.1, 12.5) | 6.0 (5.9, 6.1) | 4.7 (4.7, 4.8) |
| Not living in own home, 15+ years, 2001, percent | 47.0 (46.7, 47.1) | 45.9 (45.6, 46.0) | 46.4 (46.2, 46.5) | 60.3 (60.0, 60.6) | **63.2** (62.8, 63.7) | 54.4 (54.1, 54.7) | 43.4 (43.1, 43.5) |
| Household crowding, all ages, 2001, percent | 9.3 (9.3, 9.4) | 9.9 (9.8, 9.9) | 9.6 (9.6, 9.7) | 19.1 (19.0, 19.2) | **38.3** (38.0, 38.5) | 18.7 (18.5, 18.9) | 4.2 (4.2, 4.2) |

**Source**: Ministry of Health, Public Health Intelligence from 2001 Census (Ministry of Health, 2007a)

Fewer Māori students leave school with a qualification (30.5%) or obtain satisfactory employment (Human Rights Commission, 2007), and those that go onto tertiary education are fewer in number and are less likely to graduate (Ministry of Education, 2007a). The Government has been unable make significant gains in

reducing many inequalities measured by a range of socio-economic indicators (see Table 2.6).

## *Intermediate Determinants*

Many Māori conceive of health as being the balanced interaction of social, physical, spiritual and emotional aspects of their lives (Durie, 1985; Pere, 1982) within a community with which there are reciprocal accountabilities and obligations between and across generations (McCreary & Rangihau, 1958; Rangihau, 1992; Walker, 1992). The rules and protocols that govern and regulate these processes have developed in parallel with changing Māori society (Mead, 2003), sometimes to the disadvantage of some Māori. Māori meanwhile have developed new resources to address changing environments (Nikora, Guerin, Rua, & Awekotuku, 2004) – a determinants approach. A determinants approach to policy formulation was recently incorporated by Government into policy (Minister of Health, 2000) and monitoring (Housing New Zealand Corporation, 2005; Ministry of Social Policy, 2006) for inter-departmental consistency (Housing New Zealand Corporation, 2005). For example, while some measure of over crowding may be attributed to custom and the desire to have extended family in close contact, the provision of inadequate housing or the lack of support to purchase a home reflects limited access to economic resources whether from meaningful employment or Government assistance for the low income household, Māori and Pacific carry an inequitable burden that has a demonstrable impact of health (Ministry of Health & University of Otago, 2006).

Intermediate determinants for Māori are characterised by inequalities that have a negative health dividend – poor housing and over crowding (Minister of Health, 2005) with disease (Baker et al., 2000), or going to school hungry (New Zealand Press Association, 2007). However how interventions may be applied and therefore how cultural and linguistic meaning can be accurately transmitted to improve health and wellbeing must also be considered. Language is an important determinant and cements social capital. Integrating effective interventions into existing national strategies and goals is an explicit part of health and social policy to improve the provision of resources required for maintaining health and wellbeing. An egregious example was the use of law to extinguish access to traditional medicines — the Tohunga Suppression Act of 1907 (Durie, 1998b). At a time of endemic TB infection, this law was passed to make the control of the disease easier for a

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fledgling public health system. The Act was ineffectual in the control of an important infectious disease at a time when Māori councils appeared to be effective advocates of improved hygiene (Dow, 1999). Māori access to traditional medicines is currently limited by access to the few remaining practitioners even though the Tohunga Suppression Act was repealed in 1964.

## Paradigms for the Health Sector

The WHO's definition of health is analogous to Māori understandings of health. WHO ambitiously defined good health as not merely the absence of disease, but a state of complete physical, mental and social wellbeing when member nations confirmed the *Health-for-all Policy for the Twenty-first Century* at the 51st World Health Assembly in New York (World Health Organisation, 1998). *Health for All* remains an important focal point for member nation's health policy since 1981. The vision of *Health-for-All* affirmed the *Alma-Ata Declaration* of 1978 (World Health Organisation, 1998), which joins people's right to health with their right to participate in the decisions that affect their lives. Although each country in light of its social, cultural and economic characteristics has interpreted health differently when accounting for the unique health status and morbidity patterns of its population, and the state of development of their health system, the WHO definition has provided an aspirational goal, based on the concept of *equity in health*. Health-for-all was described by the WHO more than twenty five years ago as:

> The attainment by all the people of the world of a level of health that will permit them to lead a socially and economically productive life (World Health Organisation, 1995).

The *Health for All* strategy was redeveloped to ensure its continued relevance into the 21st century. A new policy was developed and adopted by the World Health Assembly in 1998. Good health was extended well beyond the absence of disease, abuse, and illness. Good health was to include wellbeing, security and inclusion within family, inclusion in education, and unhindered spirituality. The extension of this is the inclusion of cultural factors that enable the health sector to respond to health need in a manner consistent with the cultural values of those in need.

## *Māori Health Systems*

As described by Durie (1998a) Māori health systems from the time of European settlement were necessary for the wellbeing of the communities they served. The unwritten regulatory system evolved to meet new challenges and was enforced by a shared belief in communal safety and the integrity of a collective entity (Durie, 1998a).

Prior to European settlement, Māori public health systems, the coordinated efforts of Māori society, were successful and this was evident in the observations of Cook (Dow, 1995) a view supported by Pool (1991) and Salmond (1997). Rapid increases in rates of infectious disease and economic effects of land alienation (Lange 1999, p. 21, 67) fuelled rapid change in Māori society and a breakdown of public health for Māori. The Department of Public Health was established at the beginning of the 20th century, more than thirty years after the establishment of a colonial government (Dow, 1995). Resulting developments over the remainder of the 20th century saw health indicators improve for Māori - however health inequalities remained (Ministry of Health and University of Otago, 2006; Ministry of Maori Development, 1998).

Structural changes in the wider health sector were also introduced. Area Health Boards replaced hospital boards, and were in turn replaced by health funding agencies and Crown Health Enterprises.

## Area-Based Provision

With the election of the third Labour Government in 1984, began a series of health reforms that saw Māori engaging in how services could be located and configured to be more responsive to Māori. Under the leadership of Dr George Salmond, the Department of Health established the *Māori Standing Committee on Health* and the *Medical Research Council* was reconstituted as the *Health Research Council* that had a specific Māori Health Committee prescribed in its enabling legislation.

Early in the 1980's health promotion and Māori health development grew together. *Hui Whakaoranga* (1984) provided an opportunity for both Māori and Pākehā interested in health to discuss their ideas for improving health services and the health of Māori (Pere, 1984). The imperative was the acknowledgment of Māori concepts as a foundation for viewing Māori health (Durie, 1993b). *Hui Whakaoranga*

endorsed the notion that improved Māori health could only be achieved when Māori are actively involved in planning and delivering health services. The *Hui Whakaoranga* recommended the funding of marae clinics and community based programmes which address locally defined needs (Durie, 1998b). *Hui Whakaoranga* also recognised that health should be delivered in a culturally meaningful way.

Māori health development in the 1980's was in-tune with the *Ottawa Charter* (WHO, 1986) that in part states:

> …people cannot achieve their fullest health potential unless they are able to take control of those things which determine their health. (World Health Organisation, 1986)

Durie (1998) suggested strategies proposed within the Ottawa Charter reflect priorities in Māori health including: opportunities for Māori to take responsibility for Māori health be made available; that Māori are empowered through training and education, and that service provision by Māori is advocated (Durie, 1998b). The Area Health Boards' (AHBs) lack of responsiveness saw Māori reassess their relationships. AHBs and other regional providers were not meeting many of the needs of Māori (Durie, 1998b, pp. 40-41). AHBs viewed Māori perspectives somewhat sceptically and were seen as doing little for Māori (Durie 1998b, p. 149).

Health reforms of 1993, initiated by the then Minister of Health, Simon Upton (under a National Government) offered Māori and the union sponsored organisations opportunities to establish a role in competition with established providers. Health Care Aotearoa (HCA), a union initiative, was developed to provide community based healthcare network of primary health care providers (Crampton, Dowell, & Woodward, 2001). HCA was established to provide primary healthcare to communities, especially where services were lacking due to low socio-economic status and high health need. In Tai Tokerau HCA maintained a relationship with Hokianga Health and other providers in Tai Tokerau. HCA continues to support the development of small Māori providers.

In 1995, the National Government's six national public health goals were outlined as; the social and physical environment, Māori health, the health of children, young people, adults and older people (The Public Health Commission - Rangapu Hauora Tumatanui, 1995). These goals were included in *He Matariki* for Māori public

health (The Public Health Commission - Rangapu Hauora Tumatanui, 1995).[17]
Key issues for Māori health included service delivery and decision-making systems
responsive to Māori needs, access to information, improving the collection of health
statistics, and the implementation, monitoring and a demonstration of progress to
improve Māori health (The Public Health Commission - Rangapu Hauora
Tumatanui, 1995).  Māori members of the *New Zealand First* political party
exercised strategic representation in Parliament after the 1996 election.  The
National and New Zealand First parties negotiated *The Coalition Agreement* and
made Māori health policy a clear priority.  A working party was convened and
reported:

> ..the need to continue to acknowledge the special relationship between Māori
> and the Crown under the Treaty of Waitangi. (The Steering Group, 1997)

The working party report, *The Coalition Agreement on Health* (The Steering Group,
1997) developed policy to address essential issues identified by *The Steering Group*.
The Coalition Government was to oversee health and disability changes with
centralised purchasing of all health and disability support services to one funder, the
HFA, marking the end of the Regional Health Authorities and the notion of funding
agencies.

## *Health Reforms and Māori Health*

Building on the report *Te Ara Ahu Whakamua* strategic directions for Māori health
included the development of Māori as health providers (Ministry of Māori
Development, 1993).  Development of competent Māori health providers was
identified in *The Coalition Agreement on Health* as a critical requirement to support
improvements in Māori health status and indicated that the following initiatives
were to be undertaken:

- Accelerated development of a skilled Māori workforce,
- Development of administrative and organisational expertise, and
- Māori leadership within the MoH with dedicated provider approval, monitoring and evaluation functions.  (The Steering Group, 1997)

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[17]    These were to promote a social and physical environment which improves and
protects whānau public health; to improve and protect the health of tamariki; to improve and
protect the health of rangatahi; to improve and protect the health of pākeke/mātua; to improve
and protect the health of kaumātua; to improve Māori health status so in the future Māori will
have the opportunity to enjoy at least the same level of health as non-Māori (PHC, 1995, p. 8).

Other recommendations included increased public health resources for direct Māori provider development and more explicit service obligations of Regional Hospital and Community Services when delivering services to Māori. A number of Māori service providers, who meet minimum standards set by the MoH, were funded by the HFA. These providers supplied a comprehensive range of primary healthcare; community based health and disability services, and also identified secondary health and disability services (also see (The Steering Group, 1997). Specific services were indicated in policy to meet Māori health needs.

Concerted pressure applied by Māori in a number of forums, resulted in reports like *Ka Awatea*, which were influential in the development of *The Coalition Agreement on Health*. The pressure of Māori demands was one driving factor; however it was difficult to deliver services sensible to Māori when they did not meet Māori expectations and understandings of health. *He Anga Whakamana*, a report prepared by *Te Pumanawa Hauora* (TPH) at Massey University, was developed for the Core Services Committee (later renamed the National Health Committee -NHC) (Te Pumanawa Hauora, 1995b). NHC were particularly interested in: the philosophy of a disability support service acceptable for Māori: the characteristics of disability support services (DSS) delivering maximum benefit to Māori where quality was assessed to ensure services appropriate for Māori. The report by TPH proposed a culturally based philosophy for DSS for Māori. A framework was proposed composed of principles, service implications and indicators (Te Pumanawa Hauora, 1995b). The principles translate to quantifiable service outcomes determined by measurable indicators. Indicators were to be used as 'guidelines' to choose measures that the provider would use after negotiation with clients and the purchasers

The Mental Health Services Section of the MoH commissioned TPH to develop purchasing guidelines for personal mental health services for Māori. MoH were interested in developing a framework to identify and assess culturally effective service (Te Pumanawa Hauora, 1997). A cultural effectiveness scale quantified features of mental health services in terms of their capacity to meet the mental health needs of Māori. The framework, not a checklist, consisted of two interacting dimensions of 'purchasing options' and 'purchasing principles'.

Essentially the framework was intended to clarify, for purchasers, the balance

between cultural and clinical parameters, mainstream and Māori services, narrow and broad outcome measures, short term and long-term benefits, and health sector development and Māori development.

The iwi budget holding contract between Te Hauora o Te Taitokerau and the Public Health Commission was negotiated as a pilot for 3 years in August 1994 (Te Pumanawa Hauora, 1995a). Alongside the pilot was an external three-year programme evaluation to determine the performance and transportability of budget holding. TPH was contracted to externally evaluate the budget holding pilot in 1995. During a three year evaluation of Budget Holding Public Health Services in Northland, the model for holding budgets for community-based providers was extended to Health Promotion with the establishment in Auckland of *Te Hauora o Te Tāpui* in 1997 (Te Pumanawa Hauora, 1998). Further development of the provision of health and related services by Māori providers has seen approximately 250 establishment by 1997 from a base of 20 over a four year period, and this has remained at about this level for the remaining decade (Gillies, 2006).

## From Funding Agencies to District Health Boards

A challenge for health policy is to describe and formulate strategies and goals so Māori achieve a state of wellbeing at least as good as the rest of New Zealand. An acceptance of Māori understandings of health and well being meant that equity of health status, illustrated by present indicators, did not fully describe the aspirations of Māori until the introduction of *He Korowai Oranga* in 2001 (Minister of Health, 2001a).

The last fifteen years of the 20th century marked the culmination of Māori desire to meet health and social needs. This can be seen in the energetic Māori health development in terms of ideology (validity of Māori worldviews), theory (Māori models of health and kaupapa Māori), and practical development (establishment of Māori providers). *Hui Whakaoranga* combined these elements to provide the Crown with new strategies for meeting their Treaty obligations. Māori are active participants as providers, purchasers and users of health services.

The determinants of Māori health were based upon the interaction of Māori culture and the changing economic and political environment within New Zealand. This interaction was dynamic and firmly anchored in the interpretation Māori made of the

changing world around them. The understanding of the world for Māori was quite different from that of the European settlers. How Māori may view health provides a way of considering the significance of health determinants for Māori.

## *Māori Paradigms*

The introduction of models to describe health and wellbeing for Māori enabled the provision of more appropriate delivery mechanisms for health services in a health sector where Māori views were quite different to the paradigm of western medicine. The development of health services for Māori is not only prefaced on equity of health status for Māori, and the availability of choice as to provider but also in cultural relevance and cultural congruity.

Three models will be analysed and discussed in relation to the notion of health determinants for Māori. The models are Ngā Pou Mana (Henare 1988[18]), Te Whare Tapa Whā (Durie, 1998b[19]) and Te Wheke (Pere 1997; Durie, 1998b[20]). They are presented in their order of appeared in the literature, however this does not reflect on their origins, nor their importance, as they are views of health which accord with contemporary Māori thinking.

### Ngā Pou Mana

Described by Manuka Henare (Royal Commission on Social Policy, 1988[21]) Ngā Pou Mana was developed to describe the concepts of health held by Māori for the Royal Commission on Social Policy. Henare (1988) described waiora as the seed of life:

> To Māori it is the absolute foundation of life, existence and total wellbeing of a person. It also refers to other forms of life. In it's [sic] totality it is the spirituality, intellectual, physical and psychic development of each person. (Henare 1988, p. 22-23)

Ngā Pou Mana describes four prerequisites for health and wellbeing - whanaungatanga, taonga tuku iho, tūrangawaewae, and te ao tūroa. Crengle (1997) summarised with "When all areas are vital and strong, the wellbeing and health of individuals and the community can be maximized." (1997[22])

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[18]     see pp. 24-232
[19]     See pp. 69-73, 76
[20]     See p. 74, 76
[21]     See pp. 24-232
[22]     See p. 22

## Te Whare Tapa Whā

Mason Durie (1998b[23]) concluded a health hui for Māori Women's Welfare League workers undertaking training for the Rapuora research project (Murchie, 1984). Durie drew together themes identified by speakers to create an image of a house, a representation of the relationship between four principles of health. The house (te whare) is a metaphor for health where the house's four sides (tapa whā) represent spiritual (taha wairua), mental (taha hinengaro), physical (taha tinana) and family (taha whānau) health. Together all four are necessary to ensure strength and symmetry, and in balance, represent good health.

Te Whare Tapa Whā is an influential model for describing concepts of health and wellbeing from a Māori perspective. The durability of this model and it's wide application in health policy indicate a successful "bridge" between two worldviews as non-Māori begin to deliver services, referencing this model to meet Māori need.

## Te Wheke

Dr. Rangimarie (Rose) Turuki Pere, a well-respected indigenous educator, described Te Wheke (the octopus), a model of health, at the Hui Whakaoranga (Durie, 1998b[24]) in 1984. Dr. Pere described eight principles that intertwined like the tentacles of the octopus. The close relationship between the principles (tentacles) and health from a Māori perspective enabled Māori and non-Māori to understand the inter-relationship between these principles and wellbeing.

Te Wheke is based on the principles of ako, integrating the dimensions of wairuatanga, tinana, hinengaro, whanaungatanga, mana ake, hā a koro mā, hā a kui mā, and whatumanawa. This model illustrates the features of health from a whānau perspective. The head and body represent the whānau, and the tentacles represent each of the eight dimensions of health, "The suckers on each tentacle represent the many facets that exist in each dimension." (Pere, 1997, p. 3) The intertwining of the tentacles represents the manner in which each of the dimensions is interrelated. Durie (1998b) observed that "waiora, total wellbeing for the individual and family, represented by the eyes of the octopus (p. 75)".

These three models described domains of health and Māori approaches to conveying an understanding of how Māori concepts related to the environment in which Māori

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[23]     See pp. 68-73
[24]     See p. 75

live.  These models were published in English to convey meaning to a wider audience.  Each was developed for a specific purpose. *Te Whare Tapa Whā* was used to teach how four domains related to each other in a manner that illustrated that their value relied on mutual support.  In a similar manner *Te Wheke* provided detail of how inter-personal relationships shaped health and well being and the transmission of knowledge.  The dynamic inter-relationship between the eight domains reflected the subtle and important role of the whanau.  *Ngā Pou Mana* took what could now be defined as a determinants approach to health by linking the present state of health with antecedent events and relationships that gave context to the place or turangawaewae of a Māori in the world.  Each model emphasised the relationship Māori had with their whanau.

A recurring theme in these three models was the recognition and maintenance of inter-personal relationships and the balancing of well being with that of the whānau and the environment.  Being Māori was healthy for Māori.

### *Identity: being Māori*

John Rangihau, who also chaired the *Puao Te Ata Tū* Ministerial Inquiry, considered being Māori to be about the way Māori chose to live and the tribal assets Māori had access to.  Rangihau said that this notion of being Māori was quite different from being Pākehā:

> I can't go along with this [integration] because I can't feel I can be a Pakeha.  What's more, I don't want to be a Pakeha.  There are a lot of things which I do not like, compared with the things I do like in the Maori world. (Rangihau, 1977; p. 189)

Rangihau had indicated that he had no desire to be absorbed into European or New Zealand culture, nor do he wish to be regarded as anything else but "a Maori New Zealander" (1977; p. 189).  To be described as multicultural or bicultural is an oversimplification and denies many Māori the desire to sustain and express their identity as Rangihau wrote:

> My feeling of identity and commitment to Maori things is the result of history and traditions, and the fact I grew up in a Maori community. (1997, p. 183)

Rangihau emphasized that he was not Māori but Tūhoe and his life was shaped by the notion of Tūhoetanga – a member of a tribe and living a tribal life.  More recently the Associate Minister of Māori Affairs, Tariana Turia indicated that she

was no longer satisfied to be known as a Māori, she would prefer the term tangata whenua – a person of the land in reference to related peoples of the Pacific (Turia, 2003). It seems that Māori is a generic term that captures the difference between those people collectively known as Māori and those people who are not. However, within a Māori identity there are several streams and many nuances that give rise to a wide range of affiliations.

## Strategies for improving Māori Child Health

In May 1998, the Ministry of Health provided a background paper on public health issues *Whaia Te Whanaungatanga: Oranga Whanau: The Wellbeing of Whanau: A Background Paper*[25]. *Whaia Te Whanaungatanga* incorporated the results of consultation from seven hui held nation-wide and thirty written submissions. It confirmed the importance of an inclusive *whānau* (family) focused model for increasing Māori health gain as opposed to individual focused models. *Whaia Te Whanaungatanga* provided an overview of Māori public health priorities for whānau collectively and for individual members of whānau. It described demographic and Māori issues which impact on whānau health and wellbeing. It also identified existing Māori health initiatives, and described barriers of access to health care. In particular, it discussed future opportunities for integrated/coordinated care models for Māori.

In 2001, policy took another step forward with the discussion document released by the Ministry of Health. *He Korowai Oranga –the Māori health discussion document* (Minister of Health, 2001a) outlined a health strategy for Māori health that took a whānau-based approach to setting goals. *He Korowai Oranga* built on the foundations established in the 1998 report *Whaia Te Whanaungatanga* in relation to regional health organisations providing services for all people (Ministry of Health, 1998d). The change in focus meant that any health indicator and health outcome measure should relate to the inclusive goal for Māori health, oranga whānau (healthy family). There were no prescriptive measures or indicators outlined in the Māori Health Strategy document, but there were processes for developing the strategy and indicators as required. No doubt there will be same reliance on 'traditional' health

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[25] This paper was the last in a series of papers on public health issues, part of a work program initiated by the Public Health Commission in its report *He Matariki: A Strategic Plan for Māori Public Health (The Public Health Commission - Rangapu Hauora Tumatanui, 1995).*

indicators and health outcomes measures to start this process. But with time these health indicators and health outcome measures will have to relate to the goal of *Oranga Whanau* in order to provide the final evidence of an outcome, and be consistent with the processes outlined in the Māori health strategy. Two consecutive five-year action plans have been established around the policy document. *Whakataataka* is the most recent for the period 2006-11 (Ministry of Health, 2006b).

## Summary

A range of child health indicators have been described. They fall into two categories, proxy (or distal) and direct indicators. With few exceptions tamariki Māori experience a burden of health inequality that belies their status as a health priority, with a dedicated child health strategy. How the inequality and burden carried by tamariki Māori is characterised is determined by indicators and the relationships between indicators and the impact they have on child health. The relationship between these indicators is characterised by the issue being addressed and who is providing the analysis. The reform of the health sector, begun by the 4th Labour Government, led to a series of policy changes that gave priority to child health and Maori health. These reforms also saw the establishment of Māori health providers and the incorporation of Māori models of health into policy and eventually the New Zealand Health Strategy. After the CHS was developed, determinants for child health became incorporated into the NZHS and these determinants were assessed in terms of their impact on tamariki Māori. The quest for equity was extended wider than health for Māori and included the principles of social justice. Other determinants were considered important, even if they were outside the medical causality model and the effect of the impact across generations was considered by the incorporation of a whānau perspective. A good example of this is the impact chronic hepatitis B infection has on tamariki Māori. With rates of chronic infection ten times that of the rest of New Zealand, tamariki Māori are at a very high risk of chronic infection if they are not immunised at birth. Low rates of immunisation and relatively high rates of infection (see Table 2.4, p. 37) are contributing to inequity which is inter-generational in its genesis and outcome.

The role Māori society has in the health and wellbeing of tamariki Māori is important if tamariki Māori are to lead healthy lives as contributing adults. No

social group can remain cohesive and distinct if it is unable to nurture its children, especially when the next generation is exposed to relatively high health risks.

Māori child health and wellbeing is characterised by the data that is summarised to a variety of health states that offer pointers as to sites of intervention. It is not enough to assess Māori child health simply in the context of the health services that are currently provided. The bigger issue is to ensure that tamariki Maori are not disadvantaged by society generally, so that 'being Maori' is not synonymous with being sick.

# *Chapter 3 Methodology*

## TE MOMO RANGAHAU - METHODOLOGY

## Cultural Paradigm

> Ours [mokopuna] spoke both languages when she was three. Only because we spoke to her in Māori, we spoke to her in English, and she went to Kohanga reo in Ngaurauwahia, her kaiako was Maroke, cause I said to the mother, the kaiako is she Rarotongan? [mother's reply was] No. I said must be. She said why? I said it is the way she [mokopuna] is talking[26]. (Hōhepa Kereopa, personal communication, 19 April 2003)

This chapter describes the development of a methodology and how paradigms or knowledge claims interact with the thesis topic. It will show how this research was organised and the way it was fashioned. Critical to developing knowledge and making claims about the veracity of new knowledge is the way in which research is undertaken. The collection of data for research dictates its quality. It follows then that the tools used to collect data for research are some of the determining features of research quality. The development of the child health questionnaire was undertaken to test and improve the quality of a set of research tools, and to investigate the methods for testing questionnaires for reliability and validity.

The quotation above is part of a conversation with Tūhoe tohunga, Hōhepa Kereopa. Hōhepa reflected on the linguistic characteristics of the teacher of his grandchild. He had observed the impact the teacher had on the child's formative bilingual learning environments. The rational and methods used by Hōhepa as he inquired into his child's behaviour are reflected in the methodological approach taken in this thesis. Hōhepa's inquiry was driven by a body of knowledge, mātauranga Māori that was respected by Tūhoe. Often consulted on a wide variety of matters, Hōhepa Kereopa made many people's lives better through the use of rongoa Māori as a skilled practitioner (Moon, 2003, 2005). The first Māori advisor to Whakatane Hospital in the 1980s, Hōhepa saw a lot of illness and disease that confirmed new

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[26] Mokopuna (grand child), Kohanga reo (immersion learning per-school 'language nest'), kaiako (teacher).

(or perhaps old) solutions were required for improving the health and wellbeing of Māori.

## *New knowledge and old ways*

> E tipu, e rea, mō ngā rā o tōu ao: Ko tō ringa ki ngā rākau a te Pākehā hei ara mō tō tinana, ko tō ngākau ki ngā tāonga a ō tūpuna Māori hei tikitiki mō tō mahuna; ko tō wairua ki tō atua, nāna nei ngā mea katoa. (Cox, 1995)[27]

This quotation written by Sir Apirana Ngata for Rangi Bennett illustrated the value he placed on new knowledge but equally on old knowledge. The advice offered by Ngata provides insight into his view of the world. Ngata took account of the opportunities offered by new knowledge, which is knowledge that was not already resident in Māori society. But he also recognized that in order to retain integrity Māori could not abandon Māori knowledge. The advice seems as prescient today, given the pace of change dictated by globalisation. Ngata's advice hinted at a pluralistic approach by associating the new ways of living while maintaining the essence of 'being Maori'.

A pluralistic approach is required to undertake health research for Māori. While Māori choose to remain a distinct and self defining people research will be required to bridge their world with new understandings of today's global world and all that it has to offer. The methodology for this thesis employs multiple methods to provide a contrasting analysis of the data collected that reaches into Māori and non-Māori domains in the same way that life's opportunities influence tamariki Māori. Positivist or quantitative approaches to the methods chosen is undertaken in conjunction with qualitative or descriptive methods to gather data from a variety of perspectives in order to test the research question.

The topic, the health and wellbeing of tamariki Māori, has influenced the methods selected for this thesis. New approaches to health research are required to understand how health indicators may inform inequity that is sustained by chronic child health inequality and dissatisfaction with the status quo is experienced by Māori (Cormack, 2006; Irwin, 1994). The use of key person interviews, focus groups and several surveys were methods employed to collect sufficient data from a

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[27] An annotated autograph written for Rangi Bennett in 1949 and translated by Cox (1995) "Grow up and thrive for the days destined to you, your hand to the tools of the Pakeha to provide physical sustenance, your heart to the treasures of you Māori ancestors as a diadem for your brow; your soul to your God, to whom all things belong."

variety of perspectives in order to understand child health and the factors that influence the understanding of child health. In order to carry out the interviews and subsequent surveys the materials including questionnaire schedules, questionnaires, information sheets and consent forms. They were reviewed by Massey University Human Ethics Committee before approval (PN 00-130) was granted to begin the interviewing. Consultation with iwi authorities, school whānau and key people with expertise was an important part of planning the research, gaining approval to interview, and the dissemination of the results of the research. Part of the consultation included regular face to face reports to iwi authorities as well as reporting to the funder and ethics committees.

The analysis of the statistical data involved the use of standard statistical tests for correlation that reflected the quality of the data collected as well as comparison for reviewing the performance of the questionnaire and therefore provide contrasting perspective to the qualitative information gathered from children and adults regarding child health. The choice of methods and modes of data analysis were guided by the topic, the people involved and the type of data collected. Broadly the methods used for this research were a survey of school children and one-on-one interviews. The survey data were analysed using correlation within the data set collected and with other data collected using the same or similar questionnaires. The correlation methods were dictated by the data collected as was the methods used to analyse the one-on-one interviews. Pearson correlations were carried out to determine if the items used in the questionnaire were consistent with the scale in which they were located and different enough from other theoretically unrelated items to be unique to their scale. Cronbach α was used to determine the relationship between the scales and t-tests were used to compare responses from children and responses from adults as well as between responses from children who had reported illness and those who did not – in the absence of a gold standard for external validity.

Two general views of Māori research are described in this chapter; Kaupapa Māori (Smith, 1999) and a Māori centred approach (Durie, 1998; Cunningham, 1998; Ratima, 2001). A Māori centred approach is well described by several Māori researchers whose research with Māori is a process that defined roles for the researcher and community in order to track accountabilities to Māori communities.

These accountabilities were described in a variety of frameworks using analogies from both Māori and non-Māori domains. In contrast research is reported where the tools, strategies and framework of analysis are resident in te reo Māori, tikanga Māori and governed by kawa. These two apparently different views of research involving Māori reflected differing approaches to research and the diverse needs of Māori communities. This diversity of research approach was described by Professor Chris Cunningham as a continuum from research not involving Māori, to Kaupapa Māori research (Cunningham, 1998). Dr Mihi Ratima described how a programme of research could generate Māori knowledge utilising a Māori inquiry paradigm (Ratima, 2001). A Māori inquiry paradigm would incorporate Western-derived research strategies, design and methods. Research undertaken for this thesis uses an approach derived from the principles of Kaupapa Māori as proposed by Ratima where Māori are significant research participants both as respondents and researchers (Ratima, 2001). However, what distinguishes this investigation from previous work is the use of a variety of tools and methods that are grounded in te aō Māori, as described by Bishop (Bishop, 1998), Te Awekotuku (Te Awekotuku, 1991), Durie (Durie, 2005), and Cunningham (Cunningham, 1998), and well summarized by Linda Smith at the *Hui Whakapiripiri* in 1996 (Smith, 1996). The qualities on which to base the strategies recommended by Smith were; that the researcher identifies as Māori, the research addresses Māori needs, the research accrues positive benefits for Māori, Māori participate in all stages of the research, and dissemination of research information to Maori. To this end a mandate to carry out health research involving children was granted with the support of hapū and regular reports were expected to key hapū members – Mr. Metia Ata, Ms Kaa Anderson and Mrs. Pearl Ngatai, while reporting to regional iwi authorities was shared by Harangi Biddle and John Waldon with face to face reporting to Te Waimana Kaaku and Te Rohe Ūpoko Pōtae o Tūhoe.

Kaupapa Māori is a paradigm that frames many aspects of the thesis including research methods combined with community participation that results in Māori development and Māori advancement (Durie, 1998a) — all critical to addressing one or more research questions.

A number of assumptions can be made about the broad area of research. It was, for example, assumed that the health of the child was an important health issue, that

children were potential informants on their health and wellbeing, that there was space for Māori to investigate the significance of the child 'being Māori' i.e. when a child is Māori, and when a researcher is Māori, the area of research can accommodate distinctive world views alongside the universal condition of 'being a child'. This poses the following philosophical issues: what is being investigated and how does this inform issues that are important to the health of tamariki Māori?

Māori are expected to be able "to retrieve some space" to meet academic and social responsibilities to the communities in which Māori researchers work and collaborate (Smith, 1999). Māori continue to contest the ground over which research is undertaken. This challenges the utility of education-based research for understanding the experience of whānau and tamariki Māori exposed to Kura Kaupapa Māori (Pihama, Smith, Taki, & Lee, 2004). Māori created this space with energy by working with Māori communities and incorporating the community's priorities, values and world views. One strategy was to incorporate Māori communities into the research process as key informants and to identify topics and research priorities. Implicit in this approach is the greater likelihood that the standards of the research would be sufficient to ensure the research findings were relevant to the Māori community of interest. Sometimes this strategy failed because other determinant factors were not addressed due to lack of resources in a situation of multiple and competing local needs that had to be addressed – a hui could be cancelled due to a tangi creating short term delays, or funding allocated to a project meant voluntary resources were drawn away for other projects to ensure the funded project was completed. The competition for voluntary resources, predominately the services of elders to ensure cultural integrity, continues to create pressure on this finite resource in communities that have few resources to back up the community commitment to each project or kaupapa.

Many Māori writers have documented the expectation that research carried out by Māori should have high standards and be subjected to rigorous analysis (Ratima 2001; Mutu 1998[28]; Waitere-Ang 1998[29]; Cunningham 1998b[30]). If restricted to two separate communities of interest, there is a dual accountability that comes from the expectations of Māori communities and the scientific community. The capacity

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[28]     See page 57.
[29]     See page 233.
[30]     See page 399.

to address dual accountabilities compels the researcher resident in both communities to address convergence and divergence. In the past Māori expectations of scientific research communities was poor and had to be improved (Pihama et al., 2004). This required the researchers to be responsive to the views and opinions of the community. Divergence may occur if the process by which the quality of the research is measured and the assessment made, is undertaken by peer reviewers who may not be Māori. Assessment of the research using priorities that do not reflect predominant factors that shape Māori views of health may undervalue the contribution the community will make to the research outcome.

Being responsive implies a relationship. In research responsiveness starts with the first idea, perhaps the research question and what follows is the initiation of the research as it relates to the research topic and research participants. On the other hand, divergence does not necessarily mean incompatibility; indeed the experience from this thesis has been one of considerable compatibility that arises from adjusting reference points by understanding the conceptual variation when describing fundamental principles of health. Examples of this are the models of Māori health described earlier. All three models appear divergent in content and purpose however convergence is apparent from their association with health and wellbeing. The differing points of reference are a reflection of the context for which they were developed, and compatibility in terms of describing health and wellbeing for Māori. The genesis of these models is the domain of traditional knowledge identified by Māori as Mātauranga Māori.

### *Mātauranga Māori*

Royal (1998) provides an examination of mātauranga[31] Māori describing it as:

> …presenting a view concerning the paradigm of traditional Māori culture, and therefore, the paradigm of traditional mātauranga Maori. (1998, p. 79)

After posing questions about its origins, location and features, Royal concluded:

> It [mātauranga Māori] advocates for a certain research methodology, however, it will be necessary to see whether the theory operates under the same methodology. (1998, p. 87)

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[31]     Knowledge of the Māori world, its culture and values.

Kaupapa Māori methodology and theory was further described by Linda Tuhiwai Smith who expanded on the principles of kaupapa Māori identified by Graham Smith (1990 as cited in Smith 1996[32]).

Kaupapa, the reason behind the action, underlines the importance of a Māori worldview in considering research with Māori.  Establishing a Māori research centre was a learning process for a non-Māori host institution and Māori health leader, Helen Moewaka Barnes (Barnes, 1997).  Barnes wrote of the philosophy and strategies used by *Whariki* in the development of their research programme and selection of research methods that fitted with a Kaupapa Māori approach to research. *Whariki* utilized the skills and resources of their host institution to develop new methods for undertaking research, principally evaluation, with Māori communities. They combined the use of computerized telephone technology with utilization-focused activities to undertake basic and strategic research.  With this approach they were able to collect and analyse quantitative data to address research questions important to Māori communities and published ground breaking research on alcohol and drug use that was not premised with a comparison with non-Māori (Barnes, 1997).  Barnes made a distinction between the notion of the theory of Kaupapa Māori (Black, Marshall, & Irwin, 2003; Henry & Pene, 2001; Jones, 2000; Pihama et al., 2004) and the Māori community focused approach taken by Whariki - kaupapa maori captured the epistemological position of Whariki.  A Māori perspective is a normative perspective, an every day perspective developed from the notion of waimaori, water that is safe and designated for everyday use (Barnes, 1997).  Making research available to Māori that included a Māori analysis of Māori issues was about demystifying research by promoting a Māori analysis as the norm – an everyday perspective.

### *Models for Māori Research Concepts*

Between 1996 and 2006, the *Health Research Council of New Zealand* (HRC) sponsored a number of *Hui Whakapiripiri* to discuss methods, theory, and methodology appropriate to Māori health research.  Māori researchers were the main participants.  *Hui Whakapiripiri* resulted in formative development of strategies concerning the practice of health research.  Initial hui were held at Hongoeka Marae (Plimmerton, 1996) followed by hui at Whaiora Marae (Otara 1997), Te Papaiouru

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[32]    See page 16

Marae (Ohinemutu, September 2001) and Te Papa in 2007. At these hui keynote speakers addressed The Treaty (Jackson, 1996), Kaupapa Māori health research (Smith, 1996[33]), the characteristics of Māori health research (Durie, 1996[34]), ethical issues for Māori health research (Peretini, 1996) and Māori health research and models (Cairns, 1996); Glover 1997). Hotere provided an analysis of Kaupapa Māori in a HRC newsletter after interviewing Māori health researchers funded by the HRC (Hotere, 1998).[35]

Several frameworks and models were presented outlining a number of characteristics and principles of Māori health research and the methodology underpinning Māori research. Smith (1996)[36] described Kaupapa Māori theory and developed six principles[37] for Kaupapa Māori health research.

A framework (Table 3.1) presented by Durie describes a Māori centred approach that included a framework that was a vehicle for further debate about Māori health research (Durie, 1996).[38] The framework is constructed from five interacting components (Table 3.1). Within each component were three themes. Professor MH Durie described Māori health research as focusing on:

> …the health of Māori people, as Māori, then research methods and practices must take full cognisance of Māori culture, Māori knowledge and contemporary Māori realties. (1996, p. 33)

In order to ensure that the process of undertaking research from formulating the research question or hypothesis to the dissemination of the findings was consistent with Māori expectation, Cairns identified tikanga (at a level the practitioner was comfortable with) as a fundamental part of Māori research and that when Māori enter research they must have a Māori model in mind (Cairns 1996, p. 31). Cairns indicated Māori research had special characteristics and Māori interpretation was unique:

> There are customary concepts and subtleties of interpretation that allows us to be different and special in our own right. (1996, p. 31)

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[33]    See pages 14-31.
[34]    See pages 32-34.
[35]    See pages 9-10.
[36]    See pages 14-29.
[37]    Six principles are whakapapa; te reo; tikanga Māori; rangātiratanga; whānau; and Māori cultural ethics.
[38]    See page 34.

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That Māori are different and special in their own right provides an explanation as to how research for Māori requires unique rules and processes. Complementary approaches taken by Cairns (1996), Durie (1996) and Smith (1996) describe frameworks and principles within which Māori health research can be undertaken in a manner consistent with the Kaupapa Māori theory. Kaupapa Māori methodology was accepted at the 1996 Hongoeka Hui as based in te aō Māori, sharing common principles and philosophies when considering issues relevant to Māori by Māori (Smith, 1996).

**Table 3.1      A Māori Centered Health Research Framework**

| Principles | Whakapiki tangata (enable)<br>Whakaurunga (integrate)<br>Mana Māori (Māori control) |
|---|---|
| **Purpose of Research** | Health gains for Māori<br>As Māori (insight)<br>To advance positive Māori development |
| **Practice of Research** | Active Māori participation<br>Multiple methodologies<br>Measures relevant to Māori |
| **The Practitioners** | Māori researchers<br>Interim solutions<br>Competencies - Māori knowledge; health research; Māori society. |
| **The Politics** | Treaty of Waitangi<br>Māori and iwi<br>Funding |

**Source**: Durie, 1996, p. 39

Kaupapa Māori research gained initial prominence from educational research literature written by G Smith (1988), when he was describing the development of Kura Kaupapa Māori[39]. In Kura Kaupapa Māori, Kaupapa Māori was the focus of education rather than the non-Māori educational framework promoted by the then Department of Education (Pere 1982; Smith, 1995, as cited in Smith, 1996[40]).

Smith made an important observation:

> Getting the kaupapa "right" is the first and major issue, the second issue is employing the most appropriate methods and people. (Smith, 1996, p. 18)

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[39]      Education with a Māori philosophical base for children who would otherwise attend primary school.
[40]      See pages 16 and 21.

# Research Question

The research question should clearly state the object and context of the research while accounting for a broader view of context to assure Māori cultural requirements are acknowledged and inform the research process (Cox, 1995; Denzin & Lincoln, 1994). Methods selected to investigate the research topic that fit with the context and topic may produce data to answer the research questions. For this thesis, the research question focuses on tamariki Māori and the measurement of health status.

The principle research question is:

**Can the New Zealand Child Health Questionnaire (CHQNZ) be adapted as a validated tool for assessing the health of Māori speaking children*?***

The approach to investigate this research question was to use a proxy measure –the Parent Form (PF) to inform on the reliability of the Child Form (CF), and then to determine the internal validity and face validity of the CF by psychometric analysis of the English and Māori language versions of the CF. The reliability of the CF may also be determined using two orders of comparison for consistency of understanding of questions and answers by adults and by children and by comparison with data from other validation studies. The focus of this study was to ensure children were engaged in the research process. To this end, children were asked to translate from Māori to English and take part in focus group interviews thereby gathering children's perspectives in order to provide richer detail from them about the CHQ. The internal validity and face validity of the PF was determined by psychometric analysis of this instrument.

A number of secondary research questions emerged:

1. What are the psychometric properties (reliability, validity, and factor structure) of the CHQ in New Zealand, and how do these properties compare to those obtained in Australia and the USA?
2. Are there understandings of the health and wellbeing of children that inform the interpretation of health across languages?
3. Do parents and children agree on their assessment of health status - either overall, or by health domain?
4. If so, what is the strength of this relationship?
5. If not, what influences the direction or degree of disagreement by the type of health domain?
6. Is proxy-reporting of child health and wellbeing influenced by respondent characteristics -either overall or differentially by health domain?
7. If so, is this found in both English and te reo Māori versions of the CHQNZ?

8. If not, are there differences related to the age of the proxy informant?

While not all of these issues will be covered comprehensively in one research project, they are explicitly identified as issues that were formative in undertaking this investigation. In order to investigate the issue of responder characteristics suggested by Dr Waters (see Question 6 above), multiple caregivers where available would be interviewed at least once about the health and wellbeing of a nominated child.

## *Research Objectives*

The research objectives for the thesis were established as three overlapping stages with four steps at each stage. The stages are consultation, field research and dissemination:

1)      Consultation
    a)    to liase with experts including key person interviews
    b)    to translate both questionnaires into te reo Māori,
    c)    to validate and test the new questionnaire in a te reo Māori environment
    d)    to feed back to consultation audience
2)      Field research
    a)    to test the face validity of a selected child health questionnaire
    b)    to carry out a pilot study
    c)    to carry out focus group and continue key person interviews
    d)    to analyse the data
3)      Dissemination
    a)    to produce reports for schools and pupils
    b)    to prepare oral presentations for hui and research conferences
    c)    to advocate for changes to improve Māori child health
    d)    to complete a PhD thesis

In order to gather data to address the research questions, the research inquiry started with an existing child health self assessment tool which was translated into Māori and validated using gold standard methods for psychometric testing and validation of translated instruments.

While research is value laden, a key role of the researcher is to negotiate the integration of methods and participants to successfully collect data in order to meet research objectives identified as important. This role has been carried out by researchers without reflecting on their membership of a community.

# A Māori Researcher's Perspective

Being Māori is unique and whakapapa binds Māori together in a manner that dictates ways of relationship building between the researcher and the community (Bishop, 1996). This also ensures that researchers who identify as Māori makes their identity explicit. This opens a path for the negotiation of relationships that provide the community with knowledge of the researcher. This relationship goes beyond academic credentials and realizes further potential to enrich the research topic.

To be described as multicultural or bicultural is an oversimplification for many Māori and denies their desire to sustain and express their identity to those with whom we are related. Māori share the sentiment expressed by John Rangihau in wanting to remain Māori and not be absorbed into another culture (J Rangihau, 1977).

Research that is valued by respondents as well as the research community may best be conducted within a framework that recognizes the significance of cultural values, preferred communication styles and active community participation. Institutions like universities and funders of research such as the HRC invest a great deal of effort in peer review of grant applications that fit a prescribed pattern and express certain values. Research for Māori also respects clear research protocols and values that in addition include the involvement of community leaders, as identified by Jones (2000), Ratima (2001), Kingi (2002),and Manaia (2002). Māori maintain a culture that is unique, values interdependent relationships (whanaungatanga), has a distinctive language and shares a world view that recognizes close bonds between people and the natural environment. Making decisions around ethical issues is as much a matter of meeting criteria as it is of ensuring safety and respecting values. As suggested by Professor Arohia Durie while not all research among Māori will necessarily require close monitoring by an ethics committee, the committee should be satisfied that the applicants have:

> the background knowledge and understandings to conduct the research process appropriately the guidance and support of knowledgeable supervisors or cultural advisors proposed appropriate methods and methodologies drawn from tikanga Māori or which are culturally congruent with tikanga Maori. (Durie, 1998)

The resources required to assess the compliance with these criteria are resident on most committees who retain at least one Māori member to provide advice and if necessary assess proposals against similar criteria. These are in the main value judgments informed by tikanga (Mead, 2003).

## *Values and Ethics*

Being ethical and expressing Māori values were important to Dr Ngāhuia Te Awekotuku (1991), Dr Hirini Moko Mead (Mead, 2003) and Te Ahukaramu Royal (2003). Te Awekotuku provides social anthropological guidelines regarding the ethical issues for developing policy based on research involving Māori (Te Awekotuku, 1991). Te Awekotuku sheeted ethical responsibilities to both the sponsor (in this case the Ministry of Health) and the researcher. The researcher has an over-riding responsibility to the participant and then to the wider iwi that privileged the participant over the needs of the research sponsor. In order for researchers' responsibilities to be fulfilled they are required to be well prepared before beginning the research by confirming consent of the people and their right to anonymity, to have clear aims and to provide a clear expectation of the type of information to be gained. The researchers are also expected to explain how information will be used and were advised by Te Awekotuku not to exploit the participants or use the information "volunteered for personal gain or aggrandisement" (Te Awekotuku, 1991). Te Awekotuku indicated the sponsor was to ensure the research was carried out safely for both the informants and the researcher. In order to avoid high levels of monitoring Te Awekotuku recommended the funder ensure research was carried out in an open and transparent manner, with the researcher maintaining the license to make ethical decisions and undertake the research without compromise to professional standards or tribal loyalties. The issue of safety was emphasized to protect the researcher with access to "effective debriefing or counselling" from unintended and unanticipated harm that may arise from disclosure sensitive issues (Te Awekotuku, 1991).

While the principles of beneficence, non-malfeasance, justice, and autonomy are key to *Operational Standards for Ethics Committees* a rationale for the application of a principled approach to Māori health research can be derived from the integration of these principles (Ministry of Health, 2002). The principle of beneficence is concerned with achieving maximum benefits for Māori. Non-malfeasance, as a

principle, focuses on the reduction of harmful practices and impacts through careful consideration of the evidence and good judgment in decision-making. Justice is concerned with fairness and equity and the reduction of ethnic disparities in health status. The principle of autonomy emphasizes increased opportunities for Māori control over their own health development by increased Māori control over their own health development. There is a sound ethical rationale for a principled approach to Māori health research provided the benefits of the research meet with the participants expectations, that harm is minimized and potential for reducing inequalities that burden Māori for the benefit of the whole community are realized when balanced against the ethical risks. If risk is not addressed there remains the potential to exacerbate inequalities that burden Māori.

With a set of principles it is possible to formulate a code of ethical behaviour, however this is not without risk. While a code of ethics for researchers is a guide and a shield from criticism there are some circumstances where showing no bias when gathering and interpreting data can be done in such a way as to protect all. Mead and Te Awekotuku have indicated that research should be an open and positive experience therefore no one should be compromised as a result of participating in research (Mead, 2003; Te Awekotuku, 1991). However Judge E.T. Durie identified tensions from the presentation of evidence to the Waitangi Tribunal. Durie noted that professional anthropologists and historians before the Tribunal are expected to behave in a similar manner; however some claimant submissions did not confirm to the same code. If there is overt bias or dishonesty in submissions, the Tribunal must treat them with suspicion or discard them altogether (Durie, 1998c).

Many Māori communities who present evidence to the Waitangi Tribunal now depend on research as a method for describing and assessing their needs, expect a research relationship that reflects their values and that researchers will be competent (Durie, 1998c). Māori are now important mediators of research about Māori and for Māori because Māori have an obligation to negotiate critical steps in the research process in order to satisfy research issues that have remained unanswered by research methodologies use in the past (Te Awekotuku, 1991). Concerned about the anti-democratic influence of Kaupapa Māori on education and related policy, Dr Elizabeth Rata critiqued the apparent closed nature of Kaupapa Māori as a

dominating feature of education in New Zealand suggesting to the audience at the 2004 *Teacher Education Forum of Aotearoa New Zealand Conference* that;

> It is through such neo-traditionalist language, flavoured by the incomprehensible post modern jargon of nihilistic intellectuals, that Kaupapa Māori ensures that its ethnic primordialism, postcolonial reductionism, and cultural idealism retain their influence in New Zealand education. (Rata, 2004a)

While Rata's point about the language used by the writers quoted may be jargon it fits well into the style of educational research writing, a style with which Rata seems familiar and an area in which Rata has published (Rata, 2003a, 2003b, 2003c, 2004a, 2004b). Kaupapa Māori is established to make space for multiple roles for Māori and therefore may appear to be closed to non-Māori. The inclusive nature of Kaupapa Māori, the reflection and critique of a wide variety of theory and educational models by a number of authors[41] suggests quite the opposite, that Kaupapa Māori is outward looking in perspective while prescribing key characteristics to things Māori. Perhaps the democracy can be weakened by the issues of equality when it is denied to any group of people however the strength of democracy has to be its capacity to address issues of inequality fairly to ensure all can engage in the democratic process (Sen, 2003).

The characteristics of Kaupapa Māori are another issue. Linda Smith has deserved the credit attributed to her for placing Kaupapa Māori squarely in the lexicon of research in New Zealand. Smith posited this out of the growing frustration Māori had with the poor performance of the education sector that portrayed Māori as educational failures rather than the education sectors failure to educate Māori,

> We [Māori] have a different epistemological tradition which frames the way we see the world, the way we organise ourselves in it, the questions we ask and the solutions we seek. (Smith, 1996, p. 18)

Māori researchers observed that research had often alienated Māori communities because of the negative findings, a deficit analysis and irrelevance that produced little benefit for Māori (Rolleston, 1989). Interpretation of te aō Māori by historical academic scholarship further denied Māori access to their own knowledge and

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[41]     Barnes, 1997; Bishop, 1998; Black et al., 2003; Cormack, 2006; Cram, 1993; Cunningham, 1998; Glover, 1997; Henry & Pene, 2001; Hotere, 1998; Irwin, 1994; Jones, 2000; Mead, 2001; Moewaka-Barnes, 2000; Mutu, 2005; Pihama et al., 2004; Pihama, 2001; Powick, 2002; Rosa, 2003; Smith, 1996; Smith, 1999; Sykes, 2005; Walker, 2006; Walsh-Tapiata & Webster, 2004.

history by selecting issues that fitted preconceived notions of Māori culture. The resulting scholarship was ill informed and had failed  because it did not clearly articulate essential principles of Māori knowledge (mātauranga Māori) in the absence of tikanga Māori  (Mead, 2003), and therefore contributed to a sense of alienation (Bishop, 1996[42]).

## A Decade of Māori Theory and Research Discussion

Te Oru Rangahau (Massey University, 1998) was organised at Massey University, Palmerston North, by Te Pūtahi-a-Toi School of Māori Studies.  The conference linked Māori advancement and development to careful and deliberate planning.  Speakers at Te Oru Rangahau described contemporary development in Māori theory and research.  Bevan-Brown (Bevan-Brown, 1998), Cunningham (1998), Durie (1998), Royal (Royal, 1998), Smith (1998), Waitere-Ang (1998)), and Walsh-Tapiata (1998)) discussed Māori research and development, Māori research ethics, Māori ontology and Māori epistemology.  Many speakers were developing theory forwarded by Stokes (Stokes, 1985), Te Awekotuku (1991), Irwin (1994), Durie (1996), Smith  (1988 as cited by Smith , 1996, p. 21, pp. 14-30), Glover (1997) and Hotere (1998).

An important theme to emerge from the conference was the central role that Māori researchers play was relatively new and added value to research for Māori.  In the closing address Professor Mason Durie (1998a) recalled:

> Had a conference on Māori research been held ten or fifteen years ago it might well have attracted scorn rather than enthusiasm.  Māori people and researchers have not always enjoyed each others company.  Indeed for many years Māori participation in research was confined to filling out questionnaires and donating blood samples - and then hearing how bad it all was. (Durie, 1998a)

The conference message was that research about Māori made little sense without active Māori involvement.  It concluded that considerable progress had been made over the past decade but for progress to continue there were four quite urgent matters that needed to be actively considered (Durie, 1998a).  These matters were:

1. the development of a code of ethics relevant to research and the advancement of old and new Māori knowledge was needed and ought to be developed by Māori.
2. accelerated growth of a Māori research workforce.

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[42]    See page 13.

3. to advance knowledge which enables Māori custom, language and identity to be strengthened.
4. to establish a foundation for Māori Research and Development in order to give focus to the links between research and development, to address the distinctive characteristics of Māori research, and to provide much needed leadership.

Critical to Māori research was the notion of being Māori. This was the subject of the presentations made by many speakers. Speakers talked about combining Māori identity with research methodologies that included at least one of five features. The key feature was that the researcher was identified and acknowledged as Māori in order to make explicit their relationship with, and accountability to Māori communities. In order to meet their accountability to Māori communities, the researcher acknowledged and understood Māori needs by clearly identifying needs and by whom these needs were informed. A researcher, in order to undertake research consistent with Kaupapa Māori, would consider how the research delivered positive benefits to Māori. In order to accrue positive benefits Māori participation at all the stages of the research was a critical feature in order to ensure that the pathway of the research was acceptable and consistent with Māori values, concepts and expectations. Another feature of Kaupapa Māori was the dissemination of the research. Dissemination of research findings that arise from a Kaupapa Māori must include Māori. Failure to include Māori in the dissemination of the research findings has denied Māori an important domain of benefit in terms of research (Smith, 1999). Knowing about the findings reassured participants that the research was completed and answered in some degree the research issue. Dissemination illustrates to the Māori communities that the person undertaking the research had accountability to them and was acknowledging Māori needs with the conduct and reporting of the research study. Where possible describing any identifiable benefit to Māori through the outcome of the research and the roles Māori played throughout the research process would greatly enhance the value of the dissemination.

## Te Ao Māori - Māori World Views

As already noted, being Māori has been identified as a critical element of Māori research, therefore understanding the manner in which Māori experience the world is important. Māori have seen, and some continue to see, the world in terms different to non-Māori (Durie M 1998a, p. 21; Henare 1988, pp. 15-16; Salmond, 1997, pp. 32-33). Though, in describing the diversity of Māori realities, Durie made

it clear that the values Māori held could not be assumed to be uniform (Durie, 1995). In defining a Māori worldview, Marsden and Henare (1992) linked values and concepts to a nexus expressed as:

> The world view is the central systematisation of conceptions of reality to which members of a culture assent and from which stems their values system. The world view lies at the heart of the culture, touching, interacting with and strongly influencing every aspect of the culture. (Henare, 1992; p. 3)

Māori have what is often described as a "holistic" worldview[43]. A holistic approach remains manifest within sectors of Māori society ((Marsden & Henare, 1992). Māori concepts of holism have been developed and described in well-articulated models of health describing Māori concepts of health and wellbeing. The model, Te Whare Tapa Whā described by Durie (1998a) represents health and wellbeing as four related domains[44]. Te Wheke, a model described by Pere (1997), is based on the principles of ako (Pere, 1982), integrating eight distinct domains. Henare (1988) when describing the detail of Te Pou Mana defined waiora as:

> To Māori it [waiora] is the absolute foundation of life, existence and total wellbeing of a person. It also refers to other forms of life. In it's totality it is the spirituality, intellectual, physical and psychic development of each person. (Henare, 1988)

Diversity of Māori models for health and wellbeing clearly illustrates the varying perspectives Māori used to understand health. No one model is sufficient to illustrate Māori views of health and wellbeing. Māori understanding of health and wellbeing is pluralistic and context dependant. Durie (1998a) used Te Whare Tapa Whā to illustrate the link between health and the environment in which Māori lived thought the inter-relationship of four domains of health. Pere described health in her model Te Wheke to illustrate the link between personal characteristics (mauri, whatumanawa, ako), the relationships with people (whanaungatanga) and the contribution previous generations (te hā a koro mā e kui mā) made to the capacity of people to learn, develop and maintain wellbeing (Pere, 1982, 2006; Pere, 1997). This pluralistic of view of health and wellbeing by Māori could be seen as a lack of agreement or consensus however the models share features that suggest differences

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[43] The origins of holism for Māori may be found in Tāne's journey and quest for the three baskets of knowledge. Tāne brought each basket back to earth and each represented a particular realm (Metge, 1976).
[44] See pages 68-74.

may be more a matter of interpretation rather than philosophical values. As already mentioned, researcher and policy makers have access to models that provide a way of understanding and maintaining the balance amongst health determinants while acknowledging the spiritual dimension to health.

Dyall & Ngata (1984) described health, like economic development, as one of the foundations on which the future development of Māori rests (Curry, 1984). While emphasising the potential for impact Māori perspectives of health had a direct impact on the work of planners and decision-makers Ngata & Dyall indicated Māori should be involved in the planning and decision-making, acknowledging Māori values and beliefs (Dyall & Ngata, 1984). An example of decision making that acknowledged Māori custom and beliefs come from The Waitangi Tribunal. The Tribunal found that the state of the environment was an important aspect of health and wellbeing for Māori. The Waitangi Tribunal considered Māori claims for the pollution of Manukau harbour and Motunui resulting from planned industrial expansion. The Tribunal found that the effect of pollution was manifestly different for Māori –the pollution of protected areas was an assault on Māori health because the effect of the pollution was the compromising of Māori capacity to undertake duties to meet the cultural expectations. The pollution of off shore seafood beds would compromise the capacity of local Māori to provide food from safe and reliable traditional resources for visitors. The disadvantage was two-fold; this added economic cost of finding an alternative to a resource that was freely accessible and safe, and an enforced change in practices of food collection contributed to a sense of identity and connection with the land and sea. Identification of local land and water features are important aspects of identity for Māori. Georgina Kirby described the core value of water in understanding health and wellbeing and provision of food as a health determinant:

> Ma te wai nga mea katoa e ora ai
> Tae atu ki te tangata kei roto i tena i tena
> o te puna o te wairua me keri kia pupu ake[45]
> (Kirby as cited in (Henare, 1988))

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[45]    Translation as provided in the Royal Commission on Social Policy.
We depend on water to grow
who will give us that living water?
Young plants grow at the sound of water
We all need water, true living water. (Kirby as cited in Henare 1988, p 23)

In order to undertake research inquiry within the Māori world, a theoretical framework consistent with the worldview of Māori (Māori concepts and realities) may include competencies and values characterising a Māori worldview – that is a Māori paradigm. A Māori paradigm has a number of assumptions regarding behaviour and practice consistent with custom (tikanga):

> A paradigm is a worldview, a general perspective, a way of breaking down the complexity of the real world. As such, paradigms are deeply embedded in the socialization of adherents and practitioners: Paradigms tell them what is important, legitimate, and reasonable. Paradigms are also normative, telling the practitioner what to do without the necessity of long existential or epistemological consideration. But it is this aspect of paradigms that constitutes both their strength and their weakness - their strength in that it makes action possible, their weakness in that the very reason for action is hidden in the unquestioned assumptions of the paradigm. (Patton, 1990)

and:

> Thus, true cultural competence requires simultaneously appreciating not only how groups differ but also how they are alike. (Braithwaite & Clark, 1998)

## *Plurality and Health Research*

Durie (1996), Smith (1996), Glover (1997) and Hotere (1998) focused on Māori as practitioners and stakeholders. Glover characterised Kaupapa Māori research in a different manner:

> [it] can be defined by what it is not (i.e. positivist) [sic] as much by the statements about what it is (i.e. a Māori theory of research/ te wānanga mō te mātauranga rangahau). Two main themes that arise out of the kōrero about Kaupapa Māori health research are that Māori are central to the process and its basis is a Māori world view. (Glover, 1997)

This view of Kaupapa Māori provided an extension of the points outlined by Smith and Durie's approaches. The explicit exclusion of a philosophical domain (positivism) was not unexpected in terms of the history of positivist research on Māori. Early research had alienated many Māori and accrued little benefit to Māori in terms outlined by Smith and Cram (Cram, Pihama, Jenkins, & Karehana, 2002; L. T. Smith, 1999). Glover's view of Kaupapa Māori health research was one that attributed greater value to Māori discourse over an analysis based upon summary values. Glover posited that a positivist approach, common to the physical sciences was inconsistent with Kaupapa Māori health research. The contribution made by medicine, a discipline that has a tradition of science-based positivism, to research

that had accrued benefit to Māori was absent from Glover's analysis. The absence of Māori practitioners in the development and application of science to things valued by Māori had denied Māori the opportunity to contribute to the understanding of a positivist approach. In this light, positivism may be seen as a non-Māori domain.

Determining the roles Māori take and how Māori undertake these roles, their philosophical approach, and how analytical tools may be selected to understand and interpret the data gathered is determined by what tools they bring to research. Pluralism that broadens the scope of these philosophical approaches, including Kaupapa Māori, will go some way to fulfilling Ngata's wish that Māori in the future should equally well versed in science in all its forms, as well as Māori culture (Cox, 1995).

### *Scientific Method*

Progress in Māori health has been made by better understanding the environment in which Māori live, the factors that determine Māori health, and utilizing the benefits that technology has to offer. In the early 19th and 20th century Māori adopted new technology to their lifestyles with success and commercial enterprise. By the late 20th century and into the new millennium, the benefits of technology became restricted by the slow growth in technical expertise and its applications to vulnerable populations. This is illustrated in the application of vaccines to prevent communicable disease. There were two small pox outbreaks, the first in the late 19th century and the second early 20th century. When the mortality rates are compared between Māori and non-Māori, a distinguishing feature is the relatively high mortality amongst Māori during the second outbreaks when there was a short supply of vaccine (Dow, 1999). Absent from the scientific discussion of the medical and social issues around these outbreaks was a disseminated Maori analysis that could inform the wider debate. There were Maori who were well qualified to discuss these issues and they had some impact.

The same can be said today with the relatively high rates of vaccine preventable disease experienced by Māori (Minister of Health, 2007; Ministry of Health, 2006a). Vaccine is a metaphor for the utility of scientific method in Māori health, the development and expertise exist outside the domains of many Māori communities, and although there are many Māori skilled in the understanding and use of scientific method in order to maximize the use of technology, there remains lingering

suspicion of scientific method amongst Māori researchers (Glover, 1997; Te Awekotuku, 1991). In contrast to these firmly held beliefs, the value of a scientific understanding of a health issue that is of concern to Māori has been helpful.

A detailed examination of the history and epidemiology of hepatitis B in New Zealand since the early 1980s will provide a case study of the impact a Maori analysis can have on the perception of a health issue at many levels in New Zealand. Professor Eru Pōmare was asked to review the Eastern Bay of Plenty Hepatitis B Programme (Pomare, 1985). Pomare noted that Hepatitis B was endemic in Māori, Pacific Island Peoples and some Asia people in New Zealand (Milne, Allwood, Moyes, Pearce, & Newell, 1987; Tobias, Miller, Clements, & Patel, 1987). Within New Zealand there was a degree of household clustering of hepatitis B markers associated with the HBsAg positive index case (Martin, Moyes, Lucas, & Milne, 1996). Hepatitis B vaccine was first available in 1984 and made available to children of 'carrier' mothers in the Eastern Bay of Plenty (EBOP) in April 1985 (Pomare, 1985), and six months later to most of the north island, to all neonates from Northland to Gisborne in 1987 (Patel, personal communication, 1992) and to all children under five in 1988 in a national campaign (Milne, Moyes, Waldon, Pearce, & Krugman, 1990). The schedule for babies born to carrier mothers is a birth dose of hepatitis B immunoglobumin (HBIg) together with a dose of hepatitis B vaccine within 12 hours of birth. The second dose is provided at six weeks, the third at three months and the fourth dose at five months.

Nationally, the level of hepatitis B infection for Māori is higher than their European peers (Blakely, Bates, Garrett, & Robson, 1998; Nicholson, 1980; Wilson & Baker, 1996). Pomare was asked by the then Minister of Health to review the early community-based vaccinated programmes that had been funded with community subscription in 1984-1986 (Milne, Allwood, Moyes, Pearce, & Lucas, 1985). The immunogenicity of reduced doses of hepatitis B vaccine, realised in 1985 (Moyes & Milne, 1986), was adopted for universal delivery to children under five-years in 1988 (Milne, Hopkirk, & Moyes, 1994; Moyes, Milne, & Waldon, 1990). These programmes would later demonstrate protection lasted for at least five years (Milne et al., 1992).

Since the days of public prescription for hepatitis B vaccine have now passed with the introduction of hepatitis B vaccine to the immunisation schedule, one could

expect small differences in up take of vaccine and a well documented study of the outcome of prevention. Research published in New Zealand suggests that immunisation rates for children are lower than expected and that the immunisation of babies born to carrier mother babies born to carrier mothers is sub optimal (Moyes, Smith, & Lennon, 2002; Stefanogiannis, 2001).

Moyes and Lennon quoted two small studies, one by Pearce & Taylor (1999) in Auckland and another by a working group in Christchurch suggesting that the timing of the delivery of Hepatitis B Immunoglobumin (HBIg) and hepatitis B vaccine to babies born to carrier mothers is sub optimal. In the Auckland study 83 of 98 babies born to carrier mothers received both HBIg and hepatitis B vaccine in the neonatal period. In the Christchurch study, the numbers of doses of HBIg fell well below that expected from laboratory identification of HBsAg positive mothers. Moyes & Lennon recommendation that the delivery of HBIg be improved with dedicated tracking and service delivery to cover the small but high-risk group of children. Vaccine is offered free to all children under the age of 18 years and to all household contacts of hepatitis B carriers.

The uptake of hepatitis B vaccine and HBIg and the efficacy of hepatitis B vaccine for babies born to carrier mothers is unknown for children vaccinated New Zealand. Given the higher rates of chronic infection in Māori, it seems there has been little change in the reduction of chronic infection that would be expected with a national immunisation programme. Moyes et al (2002) described this to be sub-optimal in terms of the timing of the dose of HBIg, as well as coverage. The delivery of HBIg is an important aspect the efficacy of the neonatal vaccine schedule for babies born to carrier mothers. Sub-otpimal timing would result in higher than expected failure rates and more children would be chronically infected and become 'carriers'.

There has been no systematic notification of chronic infection for some time now. Community-based screening and referral offered by the Hepatitis Foundation and the screening of women presenting at antenatal clinics remain the two systematic options available for the identification of hepatitis B carriers. Acute hepatitis B infections are notified and action to protect contacts where necessary. The remaining pool of infection remains largely occult because of the lack of official notification at a time when prevention and treatment are available and funded from Vote:Health. The prevention of chronic infection is important because this leads to a

much higher risk of liver cancer.

## Hepatitis B Related Primary Liver Cancer

Blakely et al (1999) estimated that in New Zealand, 100 deaths per year are attributable to chronic HBV infection, or about 0.3% of all deaths (Blakely, Bates, Baker, & Tobias, 1999). These are predominantly in non-European men between the ages of 30 and 60 years. Most of these men are Māori. Hepatitis B is a vaccine-preventable disease and the vaccine has been used routinely in parts of New Zealand for up to 18 years. The efficacy of hepatitis B vaccine in New Zealand is well described for children whose mothers are not hepatitis B carriers (Milne et al, 1985, Salmond et al 1999). However the same cannot be said for babies born to carrier mothers. The prophylactic role of HBIg is important in improving the efficacy of hepatitis B vaccine. Although the timing of the dose of HBIg is important (Beasley, 1983, Moyes et al, 2002), delivered within 24 hours of birth to prevent perinatal transmission, for some babies born to carrier mothers this is not happening (Moyes & Lennon 2002). This raises the question about the efficacy of the current schedule for babies born to carrier mothers. We would expect that where the vaccine was not effective, 70-79% of babies born to carrier mothers whose mothers are HBeAg positive would become HBsAg positive (carriers). The rate for HBeAg negative mothers is lower.

Long term follow-up of cohorts of vaccinated children demonstrate immunological memory (Milne et al, 1992). No vaccine failures (chronic hepatitis B infection of susceptible children after vaccination) have been reported to date. Medical Officers of Health review the delivery of the neonatal immunisation to babies born to carrier mothers but incomplete records have revealed questions about administration of the programme for those most at risk of chronic infection. The risk of chronic infection is still higher for children born to hepatitis B carrier mothers and therefore to disproportionately more tamariki Māori. Without Pomare's report, the success of the user pays programme that established free hepatitis B vaccination in New Zealand may not have proceeded and with its success the introduction of hepatitis B vaccine to the immunisation schedule. This would have been a disadvantage to Māori who still have the most to gain from an effective immunisation programme.

*Scientific Method*

Although the discipline of statistics was established by Francis Galton (Galton FRS, 1907), the founder of eugenics, the explanatory power of statistics brought new meaning to communicable disease with the establishment of epidemiology. In the last three decades of the 20th century Eru Pōmare shed new light on Māori health statistics (Pomare et al,, 1995; Pomare, 1980; Pomare, 1993; Pomare & de Boer, 1988) and this proud tradition has been continued by Bridget Robson and Ricci Harris as editors of the most recent edition of the Hauora series (Robson & Harris, 2007).

Since these reports, greater opportunity has emerged for Māori to contribute to new knowledge by accessing new tools and combining these with their own observation and understanding of Māori communities, offering new explanations of health and wellbeing. The longitudinal study of Māori House holds –Te Hoe Nuku Roa (Te Hoe Nuku Roa, 1999), established in 1993, is designed to collect statistical information about Māori households in order to inform policy and improve the collection of survey-based data.

# Multiple Methods

In order to carry out the research for this thesis a range of methods, dictated by the research question and the health issue, were selected to address a health priority identified by Māori and Government – the health and wellbeing of tamariki Māori. The lack of reliable survey data from tamariki Māori indicated a validated tool was required in order to collect the data that would help to describe the health and wellbeing of tamariki Māori. The choice of questionnaire, the topics covered and languages chosen was less clear therefore requiring further research to test assumptions and finally validate the survey questionnaire. The approach to this research included a positivist approach using scientific methods that have been treated with suspicion by Māori. The use of scientific method and the positivist approach implicit in the methods of survey and statistical analysis have been taken up by Māori in order to understand their world with benefit accruing from the new0 knowledge gained and health gains that have arisen from the engagement of Māori in medicine, epidemiology and mental health.

A combination of methodologies that includes methods that connect child health with the statistical data presently collected and the quality of health and well being

experienced by tamariki Māori may provide a new approach to assessing the health and wellbeing of tamariki Māori.

The quotation that began this chapter marked a point made in a conversation with the late Tūhoe tohunga, Hōhepa Kereopa. Fine variations in everyday language used in the care of children were observed as a vehicle for understanding; not only understanding what was said, but interpreted to understand a person's background. The rationale and approach described by Hōhepa Kereopa illustrated one of the methodological approaches taken in this thesis –listening to the parent and the child in order to understand them. The use of a proxy measures is sensible where no other information is available, and this has been the case for child health survey data for some time. Interpreting child health from proxy data is reliant on points of reference and validation and this approach is analogous with the changes in the role Māori have in understanding their health and wellbeing. For some time Māori have been researched and advised in a manner that made little sense, and accrued little benefit to Māori. The active role Māori have in health research, and many other research domains has provided new perspectives which involve a phase of negotiation that ensured the community was aware of some of the implications of the research before they agreed to participate. When the research was analysed, the benefits for the community included being advised on the outcome of the research that had taken into account ethical principles and processes designed to protect the researcher and the community.

## Summary

This chapter describes theoretical perspectives that formed a foundation for the thesis. Māori research paradigms have evolved rapidly since 1993 and this evolution has been informed by Māori thought about the provision of health and education services. Knowledge has been produced and has contributed to a Māori epistemology from which preferred theories can arise. I have posited that research involving Māori which draws on preferred theories or frameworks, has provided meaningful engagement with Māori.

A Kaupapa Māori paradigm, as it relates to health research, is the paradigm underpinning the methodology. Kaupapa Māori commits the researcher to dual accountabilities and ensures the researcher takes for granted the validity and

legitimacy of their culture, it's institutions, and cultural ethics. Kaupapa *maori* as characterised by Barnes demonstrates that a maori analysis, arising from data collected using new techniques and tools, can bring new understanding to issues that are of concern to Māori outside of Māori institutions. Māori centred research is located on a continuum between kaupapa Māori and research not involving Māori as described by Cunningham (1998).

The development of Māori theory by people undertaking research with Māori and the establishment of the validity of a Māori worldview have been critical to the development of methodology sensible to the participants and consistent with Māori values, while engaging Māori as active participants. Kaupapa Māori is an expression of past and contemporary understandings of Māori society and how Māori wish to understand the contemporary world to develop and enhance. Like whakapapa, the journey of Māori research inquiry from the past is continually acknowledged as formative and inextricably linked to the present day and therefore an important part of the methodology.

Kaupapa Māori underpins the research question for this thesis. The research was framed within a Kaupapa Māori paradigm, undertaken from a Māori development perspective, and involved Māori throughout the whole process. Research undertaken is Māori-centred though not all of the standards were from historical Māori paradigms. The research methods and analysis requires the researcher to seek the opinion of Māori and to respond in a manner consistent with their values. Accountability is a feature of this style of research and analysis because the researcher supplies the key informants with an analysis of their discourse. The use of the *Child Health Questionnaire* fits well with Kaupapa Māori–the tool was developed in a non-Māori environment, however the testing and validation of the *Child Health Questionnaire* responded to the needs of Māori and this is reflected in the modifications to the questionnaire and the inclusion of questions about cultural indicators. Finally the value of the domains that were used for the *Child Health Questionnaire* was tested using focus groups and key person interviews.

In the next chapter, *Kaupapa Rangahau* is where the research methods applied to the study of the child health are described and critiqued.

# *C h a p t e r   4*

## KAUPAPA RANGAHAU - METHODS

Chapter Four - Kaupapa Rangahau describes how the research presented in this thesis was undertaken.  Methods involved participants in one or more of the following: questionnaire completion, group discussion and individual interviews in order to test and validate the New Zealand Child Health Questionnaires (CHQNZ).  The CHQNZ were derived from the questionnaires developed, adapted and tested by Jean Landgraf (Landgraf, Abetz, & Ware, 1996) and Dr. Elizabeth Waters who had developed the Child Health Questionnaire (CHQ) in the United States and Australia respectively (Waters, 2001).

The CHQNZ are a set of paper-based survey tools, used in school settings to gather statistical data on child health.  Testing and validation of CHQNZ questionnaires included testing for face and content validity to ensure that the domain structure assumptions were valid in a sample of tamariki Māori in school settings (Child Form), and their parents or caregivers in their home settings (as take home questionnaires – Parent Form).

Key person and focus group interviews were also used to gather data about child health, the use of the CHQNZ for tamariki Māori, and tool's structure and content.  The CHQNZ were initially tested in English before being translated into te reo Māori.  Forward and back translations of the CHQNZ informed its development and required participation of child and adult translators.

## Research Question

As described in chapter 3, the principle research question is:

**Can the New Zealand Child Health Questionnaire (CHQNZ) be adapted as a validated tool for assessing the health of Māori speaking children?**

From this question arose the six consequential questions also referred to in Chapter 3 (see p. 65):

1. What are the psychometric properties (reliability, validity, and factor structure) of the CHQ in New Zealand, and how do these properties compare to those obtained in Australia and the USA?

2. Are there understandings of the health and wellbeing of children that inform the interpretation of health across languages?

3. Do parents and children agree on their assessment of health status - either overall, or by health domain?

    a. If so, what is the strength of this relationship?

    b. If not, what influences the direction or degree of disagreement by the type of health domain?

4. Is proxy-reporting of child health and wellbeing influenced by respondent characteristics -either overall or differentially by health domain?

    a. If so, is this found in both English and te reo Māori versions of the CHQNZ?

    b. If not, are there differences related to the age of the proxy informant?

## Questionnaire Adaptation

As already described in chapter 3, national health surveys of New Zealand have reported child health by proxy. The national health survey of 2006 also collected information from parents regarding child mental health status as well as the child anthropomorphic measurements. The use of gathering proxy information as a method for determining the wellbeing of tamariki Māori is consistent with research reported by Dr Sue Crengle (1997) and Dr Cindy Kiro et al. (2004) who interviewed parents and caregivers of children to gather data about the health and wellbeing of

tamariki Māori.  Dr Kiro supplemented the parent interviews with focus groups that included children (Kiro et al, 2004).  Dr Peter Watson and Dr Sue Crengle developed a computer-based survey method to gather data from children attending high school (Watson et al., 2003).  The survey was undertaken to describe protective and risk factors from the child's perspective (Watson et al., 2001).  The questionnaire and method was finalized for the survey in 2000 after piloting both the questionnaire and the computer-based methodology (Watson et al., 2003; Watson et al., 2001). For the first time since the International Study of Asthma and Allergy Conditions studies (ISAAC) (Moyes et al., 1995; Pattemore et al., 2004; Shaw, Crane, O'Donnell, Porteous, & Coleman, 1990) a population-based survey interviewed children and adolescents directly in a school setting (Watson et al., 2001).

## *Child Health Questionnaire Selection*

During the planning for the second national health survey of New Zealand in 1994, a wide range of tools were considered for gathering data.  A specific child health survey was undertaken to investigate health service usage.

In the national health survey (reported in 1999 as "*Taking the Pulse*") 970 adults were interviewed to gather child data for 1090 children.  Interviewers from Statistics New Zealand asked adults 'to act as a proxy respondent for a selected child in the household (Ministry of Health, 1999b).  The lack of a validated child health questionnaire, completed by children remained an obstacle to supplementing the proxy data (Ministry of Health, 1999b).  However, a validated disease specific self-completed child questionnaire had been used to collected data from approximately 3,000 13-14 year old children who participated in the ISAAC Study carried out between 1992 and 1993 (Moyes et al., 1995; Pattemore et al., 2004).  Absence of a general health and wellbeing questionnaire to collect population data was soon resolved, but too late for the 1996 survey.

## Child Health Questionnaires

A number of questionnaires are available for cultural adaptation.  Developed in Europe many required translation into English (Bullinger, 1995; Bullinger et al., 1998) and from English (Wagner et al., 1998).  They have been translated into many languages providing normative data with which to determine the qualities of the adaptation and standardisation.  Dr John Ware, developer of the Short Form 36

questionnaire had developed an earlier questionnaire, the General Perceptions Questionnaire (GPQ)(Ware, 1976). This questionnaire demonstrated a move away from single item measures. While single item measures are proven to correlate very well with the multi-item GPQ, the benefit of the multi-item approach included scales that interrogated the relationship between selected health related activities and indicators of wellbeing. Based on a variety of theoretical models the multi-item scales developed to characterize child health can be summarized to summary factors. Leonora Harding produced a review of child health measures suggesting useful criteria for assessing the characteristics of a child health measure in order to determine which was suited to the task in hand (Harding, 2001).

Jean Landgraf and colleagues (1996) first published the CHQ as an English language report (parent and/or caregiver form, (PF) and later a direct report - a self-completed child report form, (CF)) (Landgraf et al., 1996). Prior to the CHQ, few of the psychometric tools developed for determining health related quality of life and disease state for children offered the flexibility of the multi-dimensional nature of the CHQ's domains and standardised.

Although the CHQ, developed by Dr. Jean Landgraf (Landgraf, 1996) did not satisfy all these criteria, the CHQ covered three of the four WHO defined Quality of Life domains (excluding environmental indicators), had child generated questions, and had demonstrated acceptable reliability and validity. Unlike the 'How are you' (HAY) child health questionnaire developed in the Netherlands (Bruil, Maes, le Coq, & Boeke, 1996), the KINDL developed in Germany CHQ (Ravens-Sieberer & Bullinger, 2000), or the TACQOL (Vogels et al., 1998) and the CHIP-AE (Starfield et al., 1993), the CHQ does not include the same degree of qualitative assessment or disease specific items. The CHQ does not explicitly cover environmental indicators within its scales, it was validated in a predominantly Afro-American population whereby some environmental factors such as socio-economic indicators were reflected in the responses provided. Landgraf drew her study sample from population not dissimilar in health inequality experience to that of Māori in New Zealand.

## The Child Health Questionnaire (CHQ)

The CHQ was one of the first validated questionnaires that collected information from caregivers as well as from children. Based on a tested theoretical model it was

rapidly adapted for use in other languages to monitor international studies. The CHQ is a pencil and paper questionnaire comprising sets of questions specifically developed for children and adolescents of school age and designed to be completed without assistance. The CHQ is used to assess a child's physical, emotional, and social wellbeing from the perspective of the parent/guardian (for children five years and older) or the child directly (over the age of 10 years). The CHQ also measures the child's general health, change in health, physical functioning, bodily pain and discomfort, limitations in school work or activities with friends due to physical problems or emotional/behavioural difficulties, behaviour, mental health, and self-esteem.

There are two parent forms differing in the number of questions — 50 and 28 questions (PF50, PF28). The PF28 was developed in 1990 for large population studies where many children would be evaluated. The most often used version of the parent-completed form is the CHQ-PF50. The child-completed form is the CHQ-CF87, consisting of 87 questions. The CHQ-CF87 was developed for children 10 years of age and older (Landgraf et al., 1996).

There are two methods to score and report CHQ data.

1.  Component scores representing physical and psychosocial health can be summed from the individual scale scores.

2.  Means for each of the CHQ scales can be calculated by summing the scores. This yields a profile for the 14 health concepts.

A higher score or mean will indicate a higher rating of health and wellbeing. Scores and means can be compared to a representative sample of children in the US and Australia. As with all heath related quality of life tools, preliminary profiles for some child health-related conditions have also been reported (E. Waters et al., 2000). Therefore norms and sample size estimates are now available or can be estimated. The first were provided in the User Manual (Landgraf et al., 1996).

Since its release in 1998, the CHQ has been tested and validated in Europe,[46] Australia,[47] and USA[48] to gather heath data on the health status of children.

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[46] Georgalas, Tolley, & Kanagalingam, 2004; Poucho et al., 2001; Raat et al., 2002; Raat et al., 2005; Raat et al., 2002; Ruperto et al., 2001; Schmidt, Power, Bullinger, & Nosikov, 2005; van Staaij et al., 2004.

However while children were interviewed as part of the research process most of this data were collected from parents or care givers.

## *Child Health and Health Related Quality of Life Assessment*

A review of the literature published about the use and testing of child health tools reveals that health quality of life (HQoL) is a relatively new aspect to determining the disease status of a child or their wellbeing. When HQoL publications on child health are classified into two groups; those that have relied on an adult's response, or those that relied on the response of a child and perhaps an adult (parent, caregiver and/or clinician), a tension arises between the perception of child and adult over the assessment of physical and emotional wellbeing (Landgraf et al., 1996). Strategies to reconcile these perspectives were first developed by the validating and testing of the PF versions of the questionnaire using emerging international guidelines. Stringent procedures were used to develop and evaluate translations and adaptations of the PF50, noting that:

> …a noteworthy benefit of translation work prior to an instrument's standardization and dissemination is the identification and adaptation of problem items, ambiguous phrases, idiomatic expressions and conceptual inequivalences. (Landgraf et al., 1998)

Prior to undertaking the pilot survey for the New Zealand Child Health Questionnaire (CHQNZ), the US-English language versions of the CHQ were tested with parents and children for face validation after considering the Australian version and the experiences of Dr Waters and her research team (Haby, Powell, Oberklaid, Waters, & Robertson, 2002; Wake et al., 2002; Elizabeth Waters et al., 2000; E. Waters et al., 2000; Elizabeth Barbara Waters, Salmon, Wright, Wake, & Hesketh, 1999, 2001). In parallel with the face validation of the CHQNZ, consultation was undertaken with child health experts, Māori with an interest in child health research, child health and related social policy. The opinion of the child health experts influenced the development and execution of the research plan for this thesis.

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[47] Cameron, Smidts, Hesketh, Wake, & Northam, 2003; Salmon et al., 1999, 2000; Schmidt et al., 2005; Wake, Salmon, Waters, Wright, & Hesketh, 2002; Waters et al., 2000; Waters et al., 2000; Waters, Stewart-Brown, & Fitzpatrick, 2003; Waters, 2001; Waters et al., 2001.
[48] Asmussen et al., 2000; Baker et al., 2003; Cameron et al., 2003; Speechley et al., 1999.

**New Zealand**

In order to develop a tool that would accurately reflect the health and wellbeing of children who live and are educated in New Zealand a developmental approach for the validation and piloting of the child health questionnaire was undertaken. Health experts and experts in Māori health and development were consulted through the testing phase. This process allowed the testing of four questions:

1. are the data generated by these questionnaires sensitive to the needs of two different communities,–both having diverse and sometimes different needs?

2. are the health indicators identified for the health status of tamariki Māori sensible to their parent/caregiver

3. are the child health indicators sensible to the child interviewed, and

4. are the child health indicators sensible to the health experts interviewed.

The four broad areas explored during the pilot study and key person interviewing helped characterise issues connected to the health and wellbeing of a child. Comments from initial interviewees about a particular aspect of the child health were explored in detail in later interviews. The questionnaire was modified after initial school testing and validation to incorporate the views of experts and the experience of children during the study. Data were collected over a four year period during which time a model for child health status was developed. This reflective practice shaped and tested the relationship between the understanding of children and the understandings of adults.

## *Validation*

Te reo Maori; the Māori language is a significant element of Māori culture that largely defines and is defined by Māori (Black et al., 2003; Ministry of Social Policy, 2004). Linguistic competence (Acquadro, Katrin, Giroudet, & Mear, 2004; Kulich et al., 2003), as well as knowledge and interpretation of cultural contexts depend upon skill of the writer and translator(s) to arrive at an agreement of how best to express the original in its target language (O'Rourke, 2001).

**Translation**

Language comprises oral and written expression and is therefore an important means of communication. Language is specific to each cultural and linguistically

distinct population group. The CHQNZ was developed from an the original version CHQ - an English version standardized to the USA (Kurtin, Landgraf, & Abetz, 1994; Landgraf et al., 1996) and later adapted for use in Australia (Wake et al., 2002; Waters et al., 2000; Waters et al., 2000; Waters, 2001; Waters et al., 2001) and other languages in several countries (Baker et al., 2003; Cameron et al., 2003; Landgraf et al., 1998; Ng, Landgraf, Chiu, Cheng, & Cheung, 2005; Poucho et al., 2001; Raat et al., 2002; Ruperto et al., 2001; van Staaij et al., 2004). In order to employ the CHQ in New Zealand, it was necessary that it address equivalent concepts in both te reo Māori and English to make it possible to pool data and compare results. The consistent interpretation and analysis of results is only possible if the data generated by each questionnaire share demonstrable equivalence, a property termed "one instrument" by the European Regulatory Issues on Quality of Life Assessment (ERIQA) group (Chassany, Sagnier, Marquis, & European Regulatory Issues on Quality of Life Assessment (ERIQA) group, 2001). The critical properties identified by ERIQA group were:

1. All language versions obtained are conceptually equivalent to the original instrument and to one another,

2. They are culturally relevant and acceptable to the target population within each target country, and

3. They are psychometrically comparable (2001, p. 209).

This process was used to manage the linguistic and cultural aspects of the te reo Māori (target language) versions of the CHQNZ.

The linguistic validation of the CHQNZ was complemented by a statistical evaluation of the relative properties of the English and te reo Māori versions, and also compared with summary data from Australia and USA. This second phase was the psychometric validation of a two-phase process termed a cultural adaptation (Acquadro et al., 2004).

### *Linguistic Validation*
Translation of the CHQ was an important step in this research. Four stages were identified in the manual for linguistic validation prepared by the MAPI Research Institute (MAPI): forward translation (translation of source questionnaire), quality control through backward translation (translation of target questionnaire), test of

understanding or cognitive debriefing, and if necessary international harmonization (Acquadro et al., 2004). MAPI suggested that each stage improved the quality of the translation.   An equivalence standard for translation was set to ensure that patient (POR) scores could be compared.  In order to ensure equivalence MAPI established a four step protocol to establish conceptual equivalence between the original and translated questionnaires and the ease of understanding of the participant. For this study there were two distinct audiences, adults and children.  However, the linguistic validation of the CHQNZ solely into te reo Māori, an official language in New Zealand, precluded the necessity for an International Harmonization process.  The CHQNZ, in its CF 87 and PF 28 forms, was already tested in English. The linguistic validation was carried out by the author in collaboration with two independent licensed translators and seven children fluent in Māori.  The standard linguistic validation process is characterised by four steps; concept definition, forward translation, back translation and pilot testing.

## Conceptual Definition

The aim of describing this definition is to clarify the concepts investigated by all items of the original instrument to ensure they are reflected appropriately in both languages therefore contributing to the face and content validity of the CHQNZ. Concept definition was first undertaken by analysing the CHQNZ to identify initial set of concepts and reconcile these with those published by Landgraf (Landgraf et al., 1996) thereby establishing an important element of external validity.  Once these concepts were identified they were compared with those arrived at after testing the CHQNZ for reliability, content and face validity.  The concepts identified were then discussed with experts in Māori child health to reconcile or maintain conceptual equivalence, a process that involved children alongside adults.

Testing the CHQNZ for concept definition followed the methods described in MAPI linguistic validation process (Acquadro et al., 2004).  First the original instruments (CHQ-USA) were analysed alongside the Australia instruments, and then compared to the concept definitions for scales and items with those for the CHQNZ in English. At this point it was decided to use all 87 items of the CHQ. After reconciling the differences between the USA, Australian and New Zealand English versions the CHQNZ in English was then compared with the te reo Māori version.  In so doing it was possible to confirm the definition of many of the concepts prior to the field

testing (school-based survey) of the questionnaire. The final stage of questionnaire development not included in this thesis, was to be a discussion with the developer regarding the findings of the review of concept definitions. The differences between the NZ English and te reo Māori versions are reported in Chapter 6 (p.147) and form an important part of the original research of this thesis, in terms of method development - developing research methods with children and validation of psychometric testing using proxy informants (parents and caregivers in this case).

## Whakamāoritia - Translation
The aim of this second step was to translate the questions of the original CHQ PF 28 and CHQ 87questionnaire into Māori and produce a version that was semantically and conceptually as close as possible to the original questionnaire. One qualified translator, a native speaker of Māori, proficient in English preformed this step. The forward translation of the CHQNZ into te reo Māori was untaken to obtain a consensus target language version. The process was started with the translation of the CHQNZ by Ms Kaa Anderson. Professor Taiarahia Black and Ms Julia Taiapa checked the translation and this translation was used for the face validation and reliability testing. This translation was further tested in schools by teachers and found acceptable with minor changes. A second translation was deemed unnecessary.

## Translation to Source
Backward translation of the CHQNZ into English was undertaken to assess and control quality. The backward translation involved two adult translators and seven children. The translations were entirely independent of the forward translation process and of each other. The comparison between the back translation and the consensus version was undertaken by the author and Māori language experts. The analysis of variance and convergence informed preparation of the pilot version of the CHQNZ.

## Survey
A survey was undertaken to gain an understanding of child health from children and their parents, as well as teachers and language experts. The determination of the utility of the instrument in therapeutic areas was not undertaken as this duplicated the work done in the US and Australia, and the number in this study would not be

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sufficient to give adequately reliable population estimates. Two procedures occurred in parallel: cognitive debriefing with a sample of respondents using focus group and individual interviews, and parent reviews.

The aim of the cognitive debriefing was to assess the clarity, intelligibility, appropriateness, and cultural relevance of the target language version to a sub-sample of children tested. Focus group and individual interviews were undertaken with healthy subjects to test the interpretation of the translation. The Teacher's Review, as suggested by Waters (2001) was undertaken to gain input as to appropriateness of the school-specific and education-specific terminology of the instrument and to incorporate feedback from parents/caregivers and their children. The te reo Māori version was provided to interested school staff for their comment. Suggestions were incorporated into the final te reo Māori version along with the results of the cognitive debriefing (see above).

## *Assessment of Validity and Reliability*

Criticism of qualitative approaches to research is often made on the basis of a lack of rigor. This is especially important when using psychometric tools such as the child health questionnaire where there are particular concerns about the validity, objectivity and reliability of the questions used are investigated.

Patton noted that the role of the researcher was critical in qualitative research:

> In qualitative inquiry *the researcher is the instrument*. Validity in qualitative methods, therefore, hinges to a great extent on the skill, competence, and rigor of the person doing fieldwork (1990, p. 14).

Robson (1993) and Yin (1994)[49] described four tests of quality that can be used with qualitative research: (i) construct validity, (ii) internal validity, (iii) external validity and (iv) reliability.

### Construct validity

Construct validity, sometimes referred to as face validity considers whether the techniques are measuring what the researcher claims they are measuring (Robson, 1993). Construct validity can be difficult to assess. Robson recommends "using a multi-method approach to avoid the risk of relying on one way of measuring or gathering data." (Robson. p. 69) Using multiple sources of evidence, establishing a

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[49] See p. 32-33, fig 2.3

chain of evidence, and by having key informants' review a draft of the report can establish a sensible progression. In this study a multi-methods approach and multiple sources of data were used.

Key person interviews were undertaken with a variety of people drawn from a range of backgrounds and persuasions. The interviews were transcribed and notes read to participants to check accuracy. Themes were identified during data analysis, and raw data relevant to the theme was transferred into a table for analysis and later used in NVIVO as nodes for coding (Bryman, 2004; Gibbs, 2002).

Quotes were abstracted from transcripts to illustrate the themes identified in this study. Informants read the transcripts of their interviews and resulting reports. The school-based survey, focus group interviews, the second key person interviews were used to test for validity.

Construct validity of the CHQNZ was assessed by evaluating the issues that arose when addressing the section in the CHQNZ that addressed reported health issues by seeking the informants' opinion on what issues were redundant or missing and of those identified which were priorities for them. This led the informants into a discussion about those things they thought influenced the health of a child. These views were contrasted with the statistical data to help ascertain whether the assumption of a two factor model for health, a property of the CHQNZ, was supported by the themes and factors identified by the informants during face to face interviews and focus group interviews.

## External Validity

In quantitative research, external validity refers to statistical generalisability (Robson, 1993)[50]. Generalisation in epidemiological studies refers to inferring meaning from a study of a sub-population to that of the population. Therefore the researcher attempts to generalise a particular set of results to a broader population or theory through application of the analysis of a sample and perhaps multiple sources of data within the sub population. While testing for construct validity the wider application of the CHQNZ was also considered in either language by; testing the CHQNZ's psychometric properties (in the CF and PF form) and considering external validity by comparing the responses of children reported with three or more

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[50]    See p. 73.

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identified health issues with the assessment of the parent. Generalisability can also be tested by considering reliability across language versions and inter-country summary data. For this study, the limited number of schools and small student sample precludes generalisation to the New Zealand population. The testing of the validity and the reliability of the CHQNZ is partially informed by external validation.

## *Reliability*

Reliability involves demonstrating that the study can be repeated (Robson, 1993)[51]. Reproducibility is an important aspect of research. The study is repeatable using the methods described because they were adapted from previous research with the addition of the child back-translation step. In addition, the appendices that contain the questionnaire for child (see Appendix 1, p. 238) and parent interviews (see Appendix 2, p. 314) provide the link in the chain of evidence. The questionnaires used in this study, which when confirmed is a measure of reliability by providing transparency to the process of survey data collection. Reproducibility will be a goal of the survey method. To ensure reproducibility, trained interviewers were used to carry out the survey and a single version of the survey questionnaires was used for the whole survey to ensure reproduction of approach.

Robson (1993) described two other relevant issues for determining the quality of qualitative research. They are objectivity and credibility (Robson, 1993)[52]. Evidence of inter-observer agreement where observers see the same phenomenon demonstrates objectivity. Multiple data sources and multiple observations provided checks for consistency and variation of data. Formal re-interviewing of selected key people ensured data patterns were not artefacts of the analysis or data collection in this study. Establishing a chain of evidence ensured transparency of the data collection and analysis processes such as the use of illustrative quotations from interview transcripts allowed the reader to make an assessment of the objectivity of the data analysis. All the face to face interviews were undertaken by one interviewer using the same interview schedule for the second interview and focus group interviews. Also see construct validity (see this section in this thesis on p. 94). Important to this study was the validation of the Child Health Questionnaire New

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[51] See p. 75.
[52] See pp. 74-75.

Zealand version (CHQNZ), so the agreement between the proxy-completed form (PF) and the self-assessed form (CF) to provide a comparison for which the CHQ was originally designed.

During a three-year period of this research there was potential for familiarity compromising the researcher's objectivity as well as modifying the response of participants. A researcher's task includes accurately representing the perspectives, views, experiences and understandings of the participants. Building a working relationship between the key players was critical to the success and quality of the research. Confidence in the research and confidence between the researcher and the informants was an important research principle of a kaupapa Māori, adding to credibility in terms of being seen – kanohi kitea.[53]

Credibility of the researcher was established during the "settling in" period of the research plan. The development of a research plan required the researcher to engage in a feedback process to the community, schools and parents and children who participated in the initial validation phase. The relationship that developed with networking contributed to building the confidence of the stakeholders.

Reliability of the CHQNZ was evaluated using statistical tests of item-internal consistency, scale-internal consistency and item discriminatory and test-retest reliability.

**Internal consistency**

Internal consistency was used to test the assumption that an item was linearly related to the underlying concept being measured for each multi-item scale. Pearson correlations between items and scales corrected for over-lap, was calculated along with item means and standard deviations. Scale internal consistency was assessed using Cronbach's alpha coefficient (α), in the software used for this analysis (SAS Institute, 2001). Alpha was calculated using the option for alpha 'if item deleted', which calculates what the internal reliability would be if this item were not part of the scale.

**Test-retest reliability**

Test-retest data of the CHQ English version are available from the research conducted in Australia (Waters, 2001). In New Zealand, insufficient te reo Māori

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[53]    Face to face meeting is an example of being seen.

test-retest interviews were returned during survey and in the post survey study to ascertain test-re test reliability.

Waters used two follow-up time periods, based on the content of the CHQ to fit within the retrospective recall period of four weeks for the majority of its items (Waters, 2001). The CHQNZ was re administered on average within two weeks to reduce recall bias. Results were analysed for those who did or did not experience a significant event (see Chapter 6, p. 191); the analysis examined questionnaires where it was reported by the same person.

Intra-class correlations (ICC) and Spearman correlation (Howitt, 2003) are used to examine differences between scale scores over time. Waters suggests that an ICC of 0.80 or greater indicates a highly reliable scale (Waters, 2001), although in this situation low test-retest correlations may reflect actual change expected for long recall periods and not necessarily indicate that the instrument has poor reliability (Kubiszyn & Borich, 2003). To avoid this, (CHQNZ-PF) Waters recommended that parents were routinely asked to report if there was any illness.

# Questionnaire Administration

The study aimed to test the collection of information from a survey after running a pilot study of a cross sectional community sample of tamariki Māori aged 5 to 13 years. Schools provide a practical and efficient setting to access a population of children aged 5 to 18 years across two geographical locations, notwithstanding some limitations.

The adaptation of the instrument for children with severe disabilities was not the purpose of this study and would require another substantial research project. The study sample included children aged between 8 and 13 years attending regular schools (state-funded English speaking and Māori speaking schools).

## Sampling children through schools

Schools provide an organizational infra-structure that yields a convenient population of children because:

1.  school attendance is a legal requirement for children 5 to 16 years in New Zealand (Education Act, Children, Young Persons and their Families Act)

2.  schools' regular communication with parents/guardians minimises the burden of data collection,

3.  schools often use health initiatives as a focus for health promotion (personal communication, Virginia Signal,  3 May 2002)(Cancer Society of New Zealand, 2006; Ministry of Health, 2003b), and

4.  there is a history of school based health research (Milne et al., 1992; Moyes et al., 1995; Walker et al., 2005; Watson et al., 2003; Watson et al., 2001)

However the objectives of this pilot study would contribute little to the education of children and could possibly compromise the educational opportunities for those children who took part in the survey. Close collaboration with the staff of the schools minimised adverse outcomes by providing support during the time of the survey, detailed information about the survey prior to the event, and a summary report to conclude the study.  This was done to limit expectations prior to the study, and minimise interruption during the study by improving the relevance of the study to contemporary education and health issues.  A reward in the form of a self-adhesive sticker was offered to all children who returned consent forms and questionnaires to the school (see example on p. 101, or Appendix 5, p. 368).  The reward was offered to improve compliance for the return of information sheets, consent form and questionnaire - completed or not.

## *Pilot Study*

The pilot study provided the research team with much feedback on how to deliver the questionnaire, keep children interested and ensure that parent forms were collected from home.  The pilot study was undertaken at one school in order to test the first version of the te reo Māori form.  This school offered an ideal environment for a pilot study.  The school was small (roll of 39) and taught solely in te reo Māori. After the approval of the school whānau, questionnaires, information sheets and consent forms were prepared for students over the age of 8 years and the parent or caregiver.

Information and consent forms were sent home with each child in the targeted age range.  The reward of a sticker was offered to those children who returned the forms. Once consent was received, the child was enrolled as part of the study.

Adult questionnaires were sent home for the parent or caregiver to complete. This step could only happen after signed informed consent had been returned to the school.

### *Administration of Questionnaire*

The questionnaire was initially read aloud to the class so the children could follow the questions. Delivering the questionnaire by reading it was found to be an effective strategy for younger children from the ISAAC study (Moyes et al., 1995).

During the pilot the children became disinterested and later bored with the pace of the presentation. After approximately 20 minutes the class was rearranged into groups and the children instructed to self direct. Each child completed the questionnaire with minimal assistance from the research team. Assistance, when requested by the children was predominantly the re-reading of the questions. Sometimes the context in which the question was set had to be read again to the child. In no cases was the question reinterpreted.

### **Responses from Parents and Children**

Most of the feed back from the children and the adults was positive. The pilot study was voluntary and took relatively little time. Those who provided feedback generally found the survey interesting and were surprised how well the children had responded to the long questionnaire.

## School-Based Survey

Schools were selected at the first stage by purposive sampling. Selecting schools and students at random would create a major disruption of the programmes of many schools and is practically impossible. A list of eligible children was selected from the school roll and questionnaires and consent forms were provided for each child and their parents.

Twelve schools were selected in order to cover a cross section of school environments that Māori speaking children might experience. For example, School A was a dedicated Māori language school (Kura Kaupapa Māori) where as school G was of similar size but did not have Māori language classes. School C was a two classroom rural Kura Kaupapa Māori, while school B was another small rural school that taught Māori immersion class. Schools E and F were larger primary schools

with te reo Māori immersion classes and school D was a larger decile 10 school with no dedicated te reo Māori class (see Table 6.5 - School Characteristics Section p. 173). The variety of schools narrowed considerably when the school building programmes in three decile 1 (most deprived) schools were brought forward to start during the term of the study. These schools withdrew leaving eight schools to take part in the study. One school undertook to carry out the pilot study leaving seven schools for the survey. It was the survey data that was used to calculate the psychometric properties of the CHQNZ.

## *Developing the research study with the schools*

The research project and study questionnaire was given a title and logo to increase its appeal and attraction to all the participants. The final project was entitled *Te Whakatūranga mo Te Hauora Tamariki* to represent the importance of having child-informed epidemiological data on the health status of children.

**Figure 4.1  A sample sticker**



A logo was developed to provide a colourful and meaningful identification of the project for the schools, parents and children themselves. The student graphic designer was asked to construct an image that represented children and allowed them to identify with the symbolism (Figure 4.1 above or Appendix 5, p. 368). A range of resources were developed to accompany the study to increase the information available to those involved, ensure the processes of the study were transparent, encourage involvement and ownership. Resources included a booklet

that could easily be read to provide information on the project and contact details of the research investigators and assistants (see Appendix 6, p. 375).

The second phase of the project was the survey of 150 school children in two regions of New Zealand. The questionnaire developed in phase one was 'piloted' in phase 2. The two regions chosen were the Manawatū-Wanganui and the Bay of Plenty for access to schools supported by the Tūhoe Education Authority (Eastern Bay of Plenty) and local to Massey University in Palmerston North. Schools were invited to participate and a total of 150 children were selected from schools in each region (see Sampling Frame, p. 103 for details of how the selection was made, and School Characteristics, p. 173).

Children were interviewed using the CHQ CF97 (New Zealand version) for children 8 years and older. One questionnaire (CHQ PF 50) was sent home for parent completion for children eight years and older.

## Focus Group Interviews

Focus group interviews with children as well as their parent/caregiver were used to collect qualitative information regarding the questionnaires used. The issues identified by the focus groups were recorded and notes were taken from each recording to supplement hand written comments made during the focus group sessions.

There were three types of focus group interview - children only (type 1) or adult only (type 2) and mixed child and parent/caregiver (type 3). These were planned to explore child health themes emerging from the literature and key person interviews (kaumātua, policy makers and child health providers), with follow-up discussion of themes identified, as described by Thomas (1995) and Murphy, Cockburn & Murphy (SAS Institute, 2001). Caution was taken to ensure the dynamic of the focus groups was such as to avoid the participants challenging inconsistencies between different understandings and conceptualisations of the child health as suggested by Thomas, Steven and Browning et al (1992). The approach taken during the interview was one of talking with children as suggested by Cram while searching for pattern and meaning (rather than prediction and control); complexity and contradictions in participants life experience; and the children's own views (1996).

Issues raised with the three focus groups were:

1. Type 1, with children, (to discuss child health issues, health self assessment questionnaire)

2. Type 2, with Parent/Caregiver (to discuss child health issues and child health assessment questionnaire)

3. Type 3, with Children and parent /caregiver (to discuss health assessment questionnaire debrief )

During the course of this research project parents/caregivers and children were interviewed about their views on child health and their thoughts of the CHQ. Based on earlier experience with SF36™, the tool (which was developed using the similar principles as the CHQ) was found to be readily adapted for a New Zealand sample as SF36 (Waldon, 2004).

## Key Person Interviews

The key person interviews and follow-up interviews for the questionnaire-based interviews were used to identify concerns regarding the topics raised in the interview as described by Thomas (1995). The concerns included duplication, and concepts overlooked, misunderstood or missing from the questionnaire. In order to avoid this key people were selected to cover a range of competencies and experience in education, health and social welfare, and a semi-structured interview schedule was employed after a preliminary unstructured interview had been completed. The twenty one key person candidates included nurses, doctors, teachers, community leaders, linguists, academics and marae elders.

## Sampling Frame

Methods such as focus groups and in-depth individual interviews take considerable time to plan, undertake and analyse, therefore the number that can be undertaken is limited. A selection process was required to provide sufficient data to answer the research question and to be of sufficient depth and scope to provide adequate coverage of the research topic. Patton indicated, "the logic and power of purposive sampling lies in the selection of *information-rich cases* for study in depth" (1990, p. 169). Using purposive sampling can increase the breadth of information obtained.

As Patton states:

> ..the validity, meaningfulness, and insights generated from qualitative inquiry have more to do with the information richness of the cases selected and the observational and/or analytical capabilities of the researcher than with the sample size. (1990, p. 185)

A tension that is created by purposive selection is the bias that may cause distortion of the findings. Recall bias and observer biases (Robson, 1993)[54] are potential problems in purposive sampling and interview based qualitative research (Robson, 1993). Bias can be minimised by ensuring (that the number of) interviews were undertaken to the point of redundancy where no new information was collected (Denzin & Lincoln, 1994[55]; Yin, 1994).

## *Description of the participants and the conduct of interviews*

Interviews with key informants were initially unstructured. Preliminary themes were identified in the literature review and knowledge of Māori health. As new themes were identified during the research process they were incorporated into a semi-structured interview schedule. The face to face interviews with key informants were undertaken to build a picture of the sector and those health related issues that may be associated with child health and wellbeing. The face to face interviews lasted between one to four hours. An interview schedule was used (see Appendix 8, p. 382), written notes were returned for comment and changes incorporated. Issues that arose from the checking by the interviewee added important detail to the descriptions and provided an opportunity for further explanation for those interviewed.

## Write up and Note taking

All information collected was recorded in written form as notes and recordings were transcribed. Notes were written up during the interview and included with the transcript if requested. The purpose of the write up was to ensure the durability of the data. The formal record of the research had several distinct phases, which included the literature review, the data collected from interviews, the reporting of the interviews to the interviewees and feeding back information to the participants and the community. An additional step was employed to improve accessibility to the audio recordings with the conversion of the recording from audiotape to digit media.

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[54]    See pp. 67-68.
[55]    See p. 230.

During the focus groups a facilitator guided the interview session while the principle investigator took full notes to supplement the audio recording of each session.

## Data Analysis: Oral and Written Data

All the data collected during the research process and the literature review was considered.  Multiple readings of each set of field notes, interview texts and other text information were made and a content analysis undertaken.  Content analysis involves the systematic examination of text in order to identify areas of commonality and difference between different data sets within the literature review and within the document review (Pope, 1995) using techniques such as pattern matching, explanation building and time-series analysis (Yin, 1994)[56].  After multiple readings, threads emerged that linked issues.  These threads were collated and from this themes were identified. The analysis was repeated with data from several participants and commonality of themes indicated a high level of relevance and importance.

The content analysis method was undertaken with the establishment of a separate file for each theme.  From each interview, any data that appeared to be relevant to each theme were copied and collated into the file.  The information within each theme was then analysed and interpreted.

The information obtained during data analysis was collated producing a dense description of those factors related to child health and what relevant indicators and features could be used to characterize those issues which were relevant to the health and wellbeing of tamariki Māori.  Selected quotations were used to highlight themes and were included in the findings of this research.

### *Back Translation Scoring*

Translators were asked to write notes onto the questionnaire as they translated. The 'back translating children' (BTC) worked on their translations independently with six preparing detailed transcripts and the seventh choosing to complete fewer items.

The back translation process was principally a qualitative comparison between the source document and the text prepared by the person who had back translated a

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[56]     See p. 102, pp. 106-119.

questionnaire. The agreement between the two back translations provided by adult linguistic experts was assessed qualitatively and found to be very consistent indicating a very high level of inter-rater agreement. However in order to quantify the qualities of the back translations provided by the seven BTC, an assessment process was required in order to capture the variation in transcripts provided by the BTC.

The script of each back-translation undertaken by children was transcribed and entered verbatim onto a spreadsheet for analysis (see Appendix 3, p. 315). Each translated item was assessed for quality of the translation. The item-responses were assessed for the direction of change within their range. The quality of the translation was evaluated by comparing the translation of each item and response provided by each BTC with the original text. A score of 1 would be awarded for a poor translation of each item, a score of 2 for close approximation to the original text, and 3 for literal or almost literal translation of the item. Scores were then summed for each scale. The scale scores were averaged to provide an overall children's assessment the quality of the forward translation.

### *Questionnaire Scoring*
Questionnaires were scored according to instructions in the CHQ manual: items within multi-item scales are scored, coded (sometimes reversed and/or recalibrated) and summed into raw scale scores. Raw scale scores are calculated using the algebraic mean of all items in the scale, which are then transformed to scales with a possible range of 0-100.

## Psychometric evaluation
A multi-trait analysis framework was used to evaluate item and scale internal consistency, item discriminant validity, and ceiling and floor percentages (Acquadro et al., 2004). Responses were omitted from the computation of scale values if more than 50% of items for a particular scale were missing or if more than 60% of all scales had missing data. Data would be excluded from the multi-trait analysis for this reason. Missing item values were imputed, as recommended by the developer (to compare with US and Australian data), if fewer than 50% of items for a particular scale were missing using the mean score of the items completed within the particular scale for each individual questionnaire.

Where U.S. and Australian data were available, New Zealand psychometric results were compared to assess whether the instrument was performing in a similar or varied way. The normative data for the US, extracted from the CHQ manual (Landgraf et al., 1996) and the Australian data (Waters et al., 2000) is included in the tables that follow for comparison.

## *CHQNZ Reliability*

Reliability of the CHQ was evaluated using tests of item-internal consistency, scale-internal consistency, item discrimination and test-retest reliability (already described).

### CHQNZ Internal consistency reliability

As described in this chapter (see p. 97), item internal consistency was used to test the assumption that the item is linearly related to the underlying concept being measured.

## *CHQNZ Validity*

Validity of the CHQNZ is tested with methods for examining face validity, undertaking translation and adaptation for the New Zealand population, construct, and criterion validity.

### Face Validity

Face validity and Content validity was examined using face to face interviews with key people, adults and children.  Face validity is determined using a weaker form of validation, the subjective assessment of participants understanding of each question.  This was important because it would also identify terms that were unacceptable and therefore contribute to reduced questionnaire completion.  Content validity was undertaken to identify questions that did not meet the participants' expectation for child health.  The use of acceptable terms and phrases would confirm the quality of the forward translation as well as identify any unacceptable words, phrases or questions.  Once face and content validation was completed in one on one interviews, focus group interviews of parents and students were undertaken to test the face and content validity of the CHQNZ. The methods and composition of the focus groups have already been described earlier in this chapter (see p. 102).

**Translation and adaptation to New Zealand**

The focus groups and expert interviews informed the linguistic appropriateness of the two language versions of the CHQ. The results of changes to the instruments are described in Chapter 6 (see p. 147). The CHQNZ was translated from English to Māori and back translated by two licensed translators. The te reo Māori version of the CHQNZ was back translated also by seven children aged between 9 and 13 years. The child translations were compared for consistency with the CHQNZ English language version as well as the back translations provided by the two licensed translators. The results of the translation exercises were used in the development of the CHQNZ prior and during the pilot stage of the study.

Differences in mean scale scores reported by the CHQNZ PF28 (proxy-report) and CHQNZ CF 98 (self-report version) were recorded with standard deviation calculated for the entire sample and by language version of questionnaire completed. Differences were tested for statistical significance. Tables that incorporate the point estimates and standard deviation are included to provide a picture of the summary factors for scales and items to compare translations with Australian and USA data for validity.

## *Discrepancies in reports: agreement and association*

Chapter 6 includes the assessment of the agreement between children and their parents. The methods used in Chapter 6 are described in detail here as it comprised of a range of different analyses, using the richness of item and scale analyses that an instrument such as the CHQ allows, with the availability of parent and child reports. The parent-child agreement analyses are limited to those children whose parental questionnaire was completed.

**Parent-child differences in responses**

Statistical methods used to test the similarities between the CF and PF data sets were non-parametric because the pattern of responses on each item did not fit a normal distribution and consisted of categorical response options (e.g. very often, fairly often, sometimes etc). The response options resulted in categorical data, the scoring system used summed values of each categorical response on a continuous scale (e.g. using a range of 1 to 6 etc). In spite of this, and knowing it is not strictly the best test to examine differences (comparing apples and pears), the previous non-parametric analysis was examined using the parallel continuous approach to scoring. Absolute

differences in item mean scores and paired t-tests of differences in mean item scores were calculated.

## Parent-child association

The association between parent and child responses was tested using the non-parametric Spearman's rank correlation statistic (r,) and the Chi square test. The Chi square test is a test of whether the distribution of individuals among the categories of one variable is independent of their distribution among the categories of the other. In other words it compares the proportions in each response category.

## Parent-child agreement using Student t-test

The measure of agreement between children and parents about identical (categorical) items is represented by correlation of scales using Student t-test statistic (noted in Chapter 7, p 201). It holds an advantage over simply examining the proportion of the sample in agreement because the latter is strongly influenced by relative rates. For example, simple agreement on family car accident will be high if there is a high chance of both parents and children were present. Student t-test, on the other hand, can account for chance expected agreement by comparing differences among means.

A Student t-test of $p<0.05$ was set as the threshold for values showing worse than chance agreement (Bryman, 2004). Overall rates for each variable are presented for all parents and all children (matched sample).

## Analysis of raw data using cross tabulation

As suggested by Waters (2001), a simple cross tabulation of each item by respondent was conducted to examine the proportion of parents or children reporting on identical categories. *Simple cross* tabulations *were* employed to determine the percentage, and raw numbers of matched respondents in each cell were examined to determine whether *there were* identifiable trends in differences or agreement between parents and their children.

# Summary

This chapter described the methods, data variables and outlined statistical techniques used in the research programme to test and validate the CHQNZ as a bilingual health assessment tool for children. The development of the CHQNZ, the piloting of

the CHQNZ and finally the school-based survey for the measurement of the health and wellbeing of children aged 8 to 13 years have been described   The development and analysis of the CHQ was in part based on the methods developed by Elizabeth Waters (2001) who developed and piloted the CHQ in Australia.  The assessment of validity was done by evaluating differences in scale values for children who were well enough to attend school. Children whose parent or caregiver had ever reported three or more illness events by a professional were used to test external validity. Children and their parents were also asked to identify any condition or illness the child might have. These scores were then compared against those of children reporting no health conditions.  Comparing the psychometric properties of the CHQNZ with USA and Australian data provided an additional test for face and content validity

The CHQNZ is intended as multidimensional bilingual health status tool developed for clinicians, policy makers and researchers interested in measuring children's functional health and wellbeing.  A range of specific research questions was described, related to both the use of this specific measure and the broader application of health status measures for children. The aim to develop measurement methods sensitive to the needs of children, parents, clinicians and schools in two languages predominant in New Zealand/Aotearoa is clearly outlined in order to address the research question and to test whether the notion of equivalence was practical in a school setting for using a 'one tool' approach to the development of a child health questionnaire.

# *C h a p t e r   5*

## HE KOHINGA KORERO - PERSPECTIVES OF CHILDREN

## Outline

This chapter introduces the qualitative (face to face interview) data collected during the data collection phase. It presents an analysis of key person interviews of adults who had an interest in the health and wellbeing of Māori children – tamariki Māori. The health and wellbeing of tamariki Māori is the explicit focus of a wide range of interests covered during these interviews.

All participants who agreed to take part in this research did so on the understanding the research was about what they thought influenced the health and wellbeing of children. All were initially contacted by letter and then directly approached to discuss the topic and provide signed consent. Notes were taken while recording the interviews.

A three-step interview process was developed for this study. The first step was an unstructured interview exploring the topic from the perspective of the informant. The second was a structured interview using a schedule developed from issues arising from the first round of unstructured interviews. A third and concluding interview was undertaken where the informants reviewed their comments.

The interpretation of the interviews was undertaken using thematic analysis and returning the transcript to check the interpretation of their comments. This checking was undertaken in order to convey the meaning as intended by the informant

# Health and Wellbeing for Children

The criteria for the selection of key informants was an interest in the wellbeing of children and a special interest in the health and wellbeing of Māori children – tamariki Māori. This chapter presents the recollections of people who were involved with *Matua Whangai*[1] and *Puao Te Ata Tū*[2]. The analysis of the interviews will show how the Government and Departments of State respond to the needs of Māori children. The influence of the adults closest to the child, significant adults, will be presented from the perspective of several key informants. Several investigations into the status of children were driven by the needs of tamariki Māori, the most far reaching was *Puao Te Ata Tū*. *Puao Te Ata Tū* provided a model for public service consultation whose features can be seen across the public sector.

## *Interviewing Key Informants*

Few informants declined a second meeting, and in the one occasion it happened, the informant was not well and in his opinion "you have already talked to our [Tūhoe] experts" (PKT, 15 December 2003, Whakatane Returned Serviceman's Association Clubrooms). Two key informants were interviewed once and both deemed a further interview unnecessary because they had no more to add. The remaining key informants were interviewed on two occasions and made comments and corrections to the transcript of their interview, with the exception of two informants who did not wish to read the transcript of their interviews.

Informants were selected for their knowledge of the health needs of tamariki Māori from their experience as health professionals, policy makers, child welfare officers, Māori Affairs Officers and experts in Māori child health, as nominated by iwi representatives. Most of the interviews were carried out at the home of the informants with the exception of a telephone interview with a health policy maker who had found new employment in Europe and was not returning to New Zealand in the foreseeable future. Two health professionals were interviewed at their place of work.

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[1]    Matua whangai is the adoption of a child
[2]    *Puao Te Ata Tū* is the name of the report of the Ministrial Advisory Committee on a Maori Perspective for the Department of Social Welfare (Ministerial Advisory Committee on a Maori Perspective for the Department of Social Welfare, 1986).

Collecting the thoughts of these people about child's wellbeing was influenced by the topic to some degree. To be responsive to their priorities and how they reflected on the health and wellbeing of tamariki Māori, the first interview was unstructured where the participant outlined their thoughts. On two occasions participants requested a schedule of topics or questions and in one case the participant spoke on immunisation and child health. After the interviewer consented, the tape recorder was started and with that the formal part of the interview was initiated, sometimes with a mihi –a formal introduction by the participant. Prior to subsequent interviews, a transcript of the prior interview was offered for review. Points raised by the participant were noted. From the time participants agreed to take part in the study, they dictated the pace and number of interviews as well as the venue and timing.

## Analysis of Data

Once the audiotapes were transcribed, the text was checked for consistency with the recording and the transcript offered to each participant for review. In some cases sighting of the transcript was sufficient, however most participants who requested a copy of the transcript reviewed and on reflection, made notes correcting passages they thought were better expressed in a different manner. The analogue recordings were then converted into digital recordings for future reference – a technique that provided additional opportunity to reflect on the interviews during the analysis and writing up stages of this study.

The text data were converted into NVivo files for analysis (QSR International, 2007). The initial coding table of themes and notes contributed to the early analysis of data using NVivo. The analysis was continued manually for the final stages of analysis and write-up. NVivo enables the fast retrieval of previously coded material, although this advantage lessened as coding progressed to the stage where no new categories and themes emerged. Coding and sorting of text led to the identification of threads that developed into themes. The process was informed by the review of the interviews using the digital recordings, with repeated listening and review as themes emerged. The second interviews provided an opportunity to raise issues with the informants and respond to their questions regarding the topic. This responsive method influenced the interpretation of emergent themes because of the analysis and feedback strategy.

Themes were identified from the first set of interviews and an interview schedule was compiled. The opportunity the participants took to reflect and review their comments aided in the interpretation of the interview and the identification of themes and topics with which to organize and analyse their collective wisdom.

## The Key Informants

Four respected Tūhoe kaumātua, ten health professionals, two retired senior Department of Social Welfare managers, a retired senior social policy lecturer and practitioner, a retired Matua Whangai worker and five academics were interviewed about the wellbeing of tamariki Māori and whānau wellbeing. The ten health professionals included two Māori nurses, two paediatricians, three senior Ministry of Health officials, a Public Health Medicine Specialist and two specialist nurses.

Four Tūhoe kaumātua were interviewed for this study. They were Hōhepa Kereopa, Materoa Nikora, Pearl Ngatai and Metia Ata. Hōhepa Kereopa, who died in early 2008, was an internationally recognised Tohunga (expert) on healing and rongoa Māori (Māori medicine) and had an active interest in child health. Materoa Nikora, a kuia (elder) from Rūātoki had seen many generations of children grow up in the Ruatoki valley. Materoa agreed to talk about child health because she had seen the effect of poor living conditions and inadequate childcare on the wellbeing of tamariki Māori, and she wanted to help with the research. Materoa had worked in Government for many years, taking time out to raise her family. When Materoa finished paid employment, she returned to Rūātoki to settle near Rūātoki. Materoa remains very busy and has acted as secretary to Te Rohe Pōtae o Tūhoe for more than ten years. The remaining and perhaps most influential kaumātua were Mrs. Pearl Ngatai and Mr. Metia Ata. Metia came to Massey University in 1994 to ask for the help of the Department of Māori Studies to assist with understanding the mental health issues for the Rūātoki area. The request was prompted by community concern following the suicide of young people from the valley. Metia died in early 2008, a cancer survivor for more than a decade. Pearl looks after her whānau at Matapihi near Tauranga and provides advice to the whānau. Pearl continues to provide support and advice on tikanga, attends hui and tangihanga to ensure that her knowledge is passed on. Pearl constantly reminds whānau to visit her in order to

pass on her knowledge and the tikanga of our whānau, taking on this role for the whānau when Metia died.

An important watershed in child-related policy was the release of *Puao Te Ata Tū* (Ministerial Advisory Committee on a Maori Perspective for the Department of Social Welfare, 1986) and the interaction of the inquiry team and the Minister of Social Welfare, Hon Ann Hercus. The evidence produced by the inquiry team also informed some of the detail of the *Child, Their Families and Young Persons* Act (1989). For these reasons I interviewed Mr. John Grant, then Director-General of Social Welfare and Mr. Doug Jordan, Director of Social Welfare for the Auckland Region and prior to that Director of Social Welfare at Whakatane and a colleague and friend of John Rangihau in the 1950s and 1970s. Mrs. Yvonne Marshall provided her view of child wellbeing in relation to her work as a Matua Whangai Officer in the Manawatū and how community groups supported children requiring the support of the Matua Whangai programme. Mr. Merv Hancock, now retired from lecturing in social work and social policy, has an enduring interest in child welfare and wellbeing. Mr. Hancock's contribution included his view of context for the change of focus that *Puao Te Ata Tū* brought to protecting susceptible children from Departmental incompetence. Mr. Hancock was social worker in the Eastern Coast-Bay of Plenty, the Manawatū and later a local body politician and teacher of social workers.

A wide range of health professionals, all with specialist interests in child health were interviewed and provided their perspectives on child health. Two Māori nurses from Te Waimana, Harangi Biddle and her twin, Awhi provided a great deal of support with detailed and extensive feedback on the questionnaires, their insights into the provision of support and care for mothers and tamariki Māori in the Eastern Bay of Plenty. Mrs. Diana Grant-Mackie, who reflected on her career as a Specialist Ear Nurse in South Auckland and her current interests in social justice and the rights of children, provided detailed insight into the connections between people and how this influenced the assessment of the health and wellbeing of children. Mrs. Grant-Mackie spent much of her professional life working with tamariki Māori and had applied a social justice perspective to her practice. Dr Alison Blaiklock, a public health medicine specialist with a special interest in children's rights, provided frequent advice on structural determinants that influence the wellbeing of child, and

in particular the expression of the rights of the child in policy. I also spoke briefly with Ms Helen Purcell of Kawerau on her experiences working as a public health nurse and currently as a specialist nurse tracing hepatitis B carriers as part of their care.

At the policy side of child health I talked with Dr Barry Borman (Public Health Intelligence, Ministry of Health), Dr Claire Mills (past Immunisation Register Coordinator, Ministry of Health), Dr Russell Wills (Hawkes Bay District Health Board) and briefly with Dr Nikki Taylor (IMAC). These informants provided insights into how child health information is collected and how the information fitted with their perspectives of child health. These interviews helped inform the analysis on structural determinants of health and how domains and scales may relate to specific health policy areas.

Several educationalists provided views on the wellbeing of tamariki Māori, Ms Haromi Williams (Tūhoe Education Authority), Ms Kaa Anderson, Ms Peti Nohotima and Ms Julia Taiapa (Massey University), helped inform the planning and evaluation of the pilot study and the survey, as well as negotiating with iwi authorities regarding the survey. The setting for the survey in a school setting made their input critical to the further use of such a questionnaire in a school environment, building on the precedent set by the ISAAC study (Moyes et al., 1995; Pattemore et al., 2004; Watson et al., 2003).

## *Themes and Threads*

The health and wellbeing of children was the strongest theme and a consistent thread throughout the interviews undertaken. Using a term from the art of making korowai –traditional cloaks, the main theme identified can be called aho tangata[1], the theme from which the other themes and threads are related and which underlies the integrity of the finished article. In a korowai the aho tangata is not always visible and depending on perspective, the features of the finished article may hide it. These features depend on the aho tangata for their position and status, but may never be directly connected but the purpose and materials from which the finished article is composed strongly influence their relationship. The korowai model is not unique

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[1]  The aho tangata is the thread from which all the remaining threads of a korowai trace their origin as they in turn descend from to top to the foot of the korowai holding in place the weft or treads that run parallel to the aho tangata.

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and has elements in common with the Māori Health Strategy, He Korowai Oranga (Minister of Health, 2001a; Ministry of Health, 2006b). Tracing the connections of the threads back to the aho tangata will conclude this chapter.

The informants were asked to consider what affected child health and from whom the care of a child could be provided. The connection between adults and children was investigated in order to describe how the needs of a child may be met, specifically those children for whom te reo Māori was likely to be their first language. For this reason a deeper understanding of how the care of a child was determined in a Tūhoe context was investigated by interviewing a number of Tūhoe kaumātua. The themes that arose are to a degree the democracy of opinion arising from the purposive selection of key informants. This democracy of opinion is presented as close to that recorded in notes and on tape in order to reduce misinterpretation and perhaps misrepresent these informants. The order of themes is along the life course starting at birth and then considering factors that influence a child's life through to adulthood. The first section is Whanaungatanga – Relationships and the birth and care of children in a Tūhoe context. Next is a section on how child care is supported in a whānau and their interaction with health services and traditional care. The following section outline the factors that influenced child health from the perspective of the informants interviewed. The determinants identified included housing, education, spirituality and injury. The penultimate section is about welfare and safety where policy development is recalled regarding the process of undertaking the review whose report is know as *Puao Te Ata Tu* and impact this report has had on consultation with Maori. The final section concludes this chapter with a review of chapter suggesting a framework for analysis of child health and welfare determinants – Te Aho Tangata.

## *Whanaungatanga -Relationships*

During two interviews Hōhepa Kereopa, commented many times on the quality of the relationship established between adults and children, starting first with the relationship formed between mother and child at birth. Hōhepa reflected on the relationship he and his wife had with their grandchildren and how it had developed during his lifetime as he cared for the children of his whānau while working in the service his people, Ngai Tūhoe. He considered the health of children as an important link between whānau and whenua. He started the first of two extended

interviews by describing the traditional assessment of the environment into which a child was born and the relationships that are bound by the rules that link Tūhoe together, their tikanga and kawa.

## Mana whenua – Kereopa's Views

> Te Rangihau always said love interpreted for us was kin. The other word that we use for love is matemateone, those concepts all coming off the same tipuna. (Hōhepa Kereopa, 19 April 2003, Nukuhau)

Without children, a line in whakapapa is terminated and the link with the land is weakened in a generation. By virtue of this inevitable outcome for any childless whānau, whakapapa is the currency of the future and it is women who glue whānau together.

> The strong pull to Māori is about whakapapa, for Māori [it] is about their history, their lifestyles you know and developing, developing lifestyle, because it was our women folk who did that. Because they were the best in whakapapa, the mind was sharp and everything was sharp, and why? (Hōhepa Kereopa, 5 April 2004, Nukuhau)

The roles of members of the whānau regarding the care of children are diverse and gender related. This is reinforced by the kawa (rules and protocols) of the marae, which is based on fundamental principles. Both women and men are integral elements.

> ….they [women] have a taonga called whakanoa, you have tapu and noa, now noa is the taonga given to women, now they can delete the tapu of anything, anyone, anytime. Our women are put into a safe place. (Hōhepa Kereopa, 19 April 2003, Nukuhau)

While safety is an important part of the kawa of the marae, the focus is on identity and the maintenance of the connection with the land and therefore a connection to the people who first settled the land,

> So the power of whakanoa was put there and the power of whakanoa was put there for the survival of the nation. And they will develop the tikanga, they will develop the kawa, not the men. And why? Because they are the carers, they are the best to know who nurtures, how to nurture the nation. It wasn't just about whānau, their whānau was the nation. It was the survival of their nation. (Hōhepa Kereopa, 19 April 2003, Nukuhau)

For Tūhoe, the status of woman is more than that of the birthing of the next generation, or the prescription of ritual on the marae. The roles that men and women have are for the benefit of the whole whānau by taking a child centred approach the benefits for whānau became clearer.

## Whānau – Birth and Care

The first concern for whānau was the capacity of the mother to form a strong and enduring relationship with the child. This assessment involved the whānau with the father of the child taking responsibility for the support but not the direct care of the mother before birth and for the first period of the life of the newborn. The timing for the whānau decision regarding who would take care of the child was dictated by how the baby responded to its environment. This first period of life, 9 days, was the time when mother recovered from the stress of giving birth and began to care for baby supported by whānau.

During the first nine days, no decision was made by the whānau about who would be responsible for the care of the child. Birth order was very important. Often with the first born the decision was made for the grandmother of the child to assume its care and avoid any chance of neglect from an inexperienced birth mother while maintaining the child in close proximity to her,

> The fear is that if they do that process that the child could become abused. Abuse in a way because mother is still new at child care, it is like an animal, baby might come hoha when she is tired, and she will react. To stop her doing that that is why the grandmother always takes away the first child. Your second child come you have got that sort of feeling from the first one and then you start to grasp it, you are still monitored. (Hōhepa Kereopa, 19 April 2003, Nukuhau)

The strength of the relationship between mother and baby was determined by observation of the mother and baby during the first days of life for the baby and was carried out was for the safety of the child, mother and the whānau,

> It is just to keep that child safe. When it gets to the last one, no worries it is close to the heart all the time. And that is why we have the saying that the last born is the pikipoho or the tamaiti waiwahitahi. The pikipoho is the one who is cuddled up to the poho, to the bosoms all of the time in the fear that that might be the last one. (Hōhepa Kereopa, 19 April 2003, Nukuhau)

The timing of the assessment depended on the development of the baby – the baby's first conscious response to its environment was observed and this marked the time for deciding who would take responsibility for the child. There were a number of factors that informed the decision, but the safety and wellbeing of the child was never a secondary consideration. The sharing of a child with others was also carefully considered in order to maintain contact with relatives for the maintenance of ties that would ensure their support, even over great distances and time. The rationale for this was to a degree political in order to maintain access to resources. An example Hōhepa provided was the maintenance of the connections between Ruatāhuna, Te Waimana and Ōhiwa,

> The ones who lived in Ōhiwa and the ones to lived up Ruatāhuna and Waimana here. They would come and go down for food. They would live with the relations there [Ōhiwa] and sometimes when the distance got too far, like in time wise, they gave a child or took a child from Ōhiwa and took it up this way. That give the parent who and say oh, I need to go and see my child. It goes back and builds that relationship up stronger. (Hōhepa Kereopa, 19 April 2003, Nukuhau)

In order to ensure the wellbeing of the child the rules which regulated the mother and child's care were clear and only those who understood and were accountable were ever considered for this important role. Where the parents were not able to care adequately for the new-born child, the whānau took an active role.

> We assume all our parents taught all our kids the same. But they didn't. Some of them lose their children, their first born. It don't take long for the aunties and uncle to come together say okay the next one I am going to have just to break, that's just um….. to build strength back into the mother. (Hōhepa Kereopa, 19 April 2003, Nukuhau)

The welfare of the mother was as important as that of the baby, making sure that the mother had sufficient post-natal respite. Before the whānau could assess the baby's situation and how baby could best be accommodated by the whānau, the baby's development was monitored and after nine days the baby's arrival was confirmed and celebrated with a blessing and anointment - tohi,

> You tohi them until nine days because after most children –you give them nine days. How you judge it is you run your finger past and if the eyes follow your finger then they can see. That is when you tohi them. That's when you wet –you have from birth until then according to our old people, to prove yourself worthy of that child. (Hōhepa Kereopa, 19 April 2003, Nukuhau)

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The celebration also marked the confirmation by the whānau as to who would be responsible for the wellbeing of the child and charged with raising the child,

> So as soon as the baby follows [your finger] that is the time to put on the feast –the hakari to celebrate the coming of the child. To celebrate you being worthy of having the child, not to celebrate the child. It is to celebrate you the parents have agreed to all those concepts to accept this child for what it is and everything it is. We do that [tohi] all the time. (Hōhepa Kereopa, 19 April 2003, Nukuhau)

The role of the birth parents was not always to be that of raising the first born. Where there was a strong claim for the child, the whānau would come to an agreement as to whom the child would be gifted to ensure it and the whānau's wellbeing, especially when the birth parents were unable to care for the new born.

## Support of Whanau

The shared care of children was not always decided at birth and the pressures of daily life saw changes in circumstances where the role of caregiver was shared with relatives,

> It did not matter when night fell and you were at you neighbours place, you slept there. As kids use to go around and play and when night came, or when lunch time came you were fed by that one. And if you did anything wrong you got a hiding. Because they treated you as if you were their child. And they gave you the smack for doing wrong. They didn't give you the smack because you belonged to somebody else. And they fed you because you were theirs. We use to live like that then. (Hōhepa Kereopa, 19 April 2003, Nukuhau)

Another perspective of child wellbeing in the same area was provided by Mrs. Materoa Nikora. Materoa spoke of the strong connection between spirituality and the wellbeing of the whānau. Reflecting on her childhood she was aware from an early age the role karakia (prayer) and whanaungatanga played in maintaining the health and wellbeing of children, her peers and subsequent generations. At that time she was dependant on the knowledge of her mother and father, their ability to recognize when children were unwell and intervening with the resources they had at hand.

> My mother, father put us on their back and took us to our grand parents place at the marae, about 10 minutes [walk] away from were we lived. In those days they use to have two huts. One for cooking, and one for sleeping. Because they were in the Ringatū faith and they were very staunch. (Materoa Nikora, 10 Sept 2003, Ngāhina)

The capacity to provide help and support at times of need was an issue. When children were sick parents knew where to take their children for help and what was required,

> So when we got there my dad lit a fire outside and they had the ashes and he use to bring it into where the sleeping place was. We had a lid, a milking can lid. He turned it upside down and he put the ash in - that use to be our heater. And that is what [he] did all night. (Materoa Nikora, 10 Sept 2003, Ngāhina)

Support was available and offered to the parents of the sick children in the form of karakia. Having grandparents available with advice and further support meant parents could respond to the needs of their children without necessarily being near a doctor or hospital. The modest housing available to Materoa's grand parents was typical of the time and precluded sharing for any length of time. Living some distance from Whakatane Hospital with little or no access to immediate health services, the care of children was a series of home-grown initiatives that were grounded in their values and beliefs associated with the Ringatū Church.

> We were brought up in the Ringatū faith and we were taught certain things we weren't allowed to do, like putting toiletries and things like that on the table and that we weren't to go to the cemetery without washing our hands when we come out. (Materoa Nikora, 10 Sept 2003, Ngāhina)

Connection to the Ringatū Church, brought with it accountabilities. The church brought people together and with this the care of children was strongly associated with practicing safe behaviours that shared a common set of values and offered strategies for easing concerns for health and wellbeing,

> The only way that would get us out of that condition was us to have a karakia with a Ringatū Tohunga and I believe that a lot had to do with the mind. The problem was always in the mind, the battle with the mind and it does have an affect on our wellbeing. We have good thoughts there was no problem, but if we start doubting or filling our thoughts with negative things then it affects our world, that's how I see it today. (Materoa Nikora, 10 Sept 2003, Ngāhina)

Not all people were committed to these values and once family members moved away from the valley, the influence of the church and the safety it offered the community was more difficult to detect. With the establishment of new housing for Māori in Taneatua in the early 1960s, the health of children living in this new

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environment, 10 kilometers north of Rūātoki and nearer Whakatane Hospital was noticeably different,

> They were healthy as and you know they stayed in that condition while they lived in Rūātoki. But the moment they moved into Taneatua, they had a home, they had to move into Taneatua. All those kids started getting sick. (Materoa Nikora, 10 Sept 2003, Ngāhina)

The comparison between children who lived in Rūātoki and then moved to new housing in Taneatua suggested that the expected improvement in health was not as apparent as expected,

> They [children] could fight against anything when they were living here [Rūātoki] and barely having anything to eat you know like they just survived [on] whatever they could get. Now that's remarkable because when they were in this situation [in] Rūātoki, not one of those kids ended up hospital not one of those kids got sick. But the moment they move into a beautiful warm house they got sores, they got sick, they were always sickly, they was in and out of the hospital. I can't understand. You know. (Materoa Nikora, 10 Sept 2003, Ngāhina)

Some of the health problems experienced by children of Rūātoki and Taneatua were in part the responsibility of their parents who may have spent too much time away from home, or who did not have enough good food to eat. However, the wellbeing of the children was compromised by other factors and getting to hospital was then a good outcome although an indication of poor health.

## Whanau and Health Services

Diana Mackie-Grant made the similar observations in Auckland dealing with the new mothers and their children at Te Tira Hou Marae in Glen Innes, Auckland. Te Tira Hou marae was established in Auckland to provide a focus for the people who had moved to Auckland and needed the facility of a marae to maintain their connections with family and relatives (personal communication, Sir John Turei, Te Papa, 3 November 2001).

Diana practiced as an Ear Nurse Specialist working with Māori children and saw a strong association between people, their circumstances and their health needs,

> so I came then to realize that how people lived was really important. I do think such as the connection –Te Tapa e Whā, and the connection between those things, from a Māori point of view, and then I saw how people lived and the difference that their, you know their connection with other people, with other Māori, the family connections and all

those sorts of things, and then I saw the study of the Māori Women's Welfare League. (Diana Grant-Mackie, 25 July 2003, Auckland)

The response to their needs was not always seen as helpful, even for her family,

> When my grand-daughter was born she was sent to the PHN [Public Health Nurse] and not the Plunket Nurse, even though she had asked for the Plunket Nurse, because she was so called at risk. One being Māori, one a solo mother, one this and one that you know, so it was sort of like an adding up thing. (Diana Grant-Mackie, 25 July 2003, Auckland)

The move to cities like Auckland affected the health and wellbeing of some children and for these children the hospital was closer at hand. The relationship the patient (mother or child) had with the health professional was also important and the balance of power between the two could lead to a particular form of embarrassment or shame from not knowing what to say to the doctor or nurse. Diana observed this in her practice,

> Papaarangi Reid, she ran a session for Māori women down in Freemans Bay, and that was to sort of talk about the names of your body, parts of your body, because they didn't know the proper names so they were too shy to go to the doctor and use the names that they did because they knew they were not nice names and things like that. And I have heard that today young Māori, well maybe not the young ones so much, but the older -30's and 40's, are still shy. (Diana Grant-Mackie, 9 March 2003, Auckland)

Communication between patient and health professional is important and can be particularly challenging when the child is the prime informant. An important step in assessment of a child was to establish a bond, that of a "trusted friend" (Dr Russell Wills, personal communication, 27 May 2004, Hawkes Bay Hospital). The purpose of this was to enable health professionals to gather sufficient information from the child, and others, without further distressing the child. Communication with the child was facilitated by developing a friendship: the remaining factors that Dr Wills identified were related to the collection of survey data and what he saw as the priority when investigating child health using a population health survey or monitoring routine health data.

Dr Wills considered the general principles of a comprehensive survey of child health should be organised around existing data that described a concept of child health that was holistic and that meaningful questions were addressed. From his perspective,

the questions were about determinants of health that included nutrition and exercise, health hazards such as injury and smoking, and preventable admissions including vaccine preventable disease, injury, infectious disease, and asthma. This was complemented by the comments made by Dr Claire Mills who concluded that the efficacy of national immunisation programmes would benefit from the management of the register to combine the recording of the status of children and any subsequent admissions.

# Health Determinants

Housing is now accepted as an important health determinant however the influence that poor housing may have on a child's health trajectory is better understood in terms of improving the physical environment to control known pathogens such as tuberculosis (Feely, 2006).

## Housing and Employment

It seems incongruous that child health would appear to deteriorate after moving into new and better quality housing. Reflecting on the reasons for moving into towns and cities, the quality of housing in rural areas such as Rūātoki had declined because of insufficient funding available to build houses for the people who lived in the valley on their own land. The Department of Māori Affairs (DMA) constructed many houses but the large families meant housing was always under a great deal of pressure. The blocks of land that people lived on were small and supported small dairy holdings. Living in the Rūātoki valley, like many rural areas in New Zealand, the people were largely self sufficient,

> Well the benefit they had living in Rūātoki was the fact they could go to the bush and get meat there, or whatever like Pikopiko, they can survive here. Well that's their life, they are hunters. (Materoa Nikora, 18 Sept 2005, Ngāhina)

This also extended to the availability of land with which to grow vegetables and fruit, foods that were valued highly and were not always in plentiful supply,

> We grew a lot of, that paddock there [pointing got a flat two hectare field north on the house] it was lined with all the different vegetables –in that paddock. There was always a time of planting and there was a time of harvesting. So that's how the families here lived, because we all had big families. A lot of them had thirteen - fifteen and they could afford to have those big families because we were such efficient. And of course

they were dairy farmers, they had their own meat, they had sheep, they had cattle, they had their own fowls for eggs, they had sheep, well like pigs, you know, that is how we lived here. (Materoa Nikora, 18 Sept 2005, Ngāhina)

People worked on the land and when seasonal work was available, they moved around or took up working in the nearby dairy factories and later at the pulp and paper mills established in Kawerau and Whakatane. The lack of public transport between Rūātoki and places for off-farm work led to many families moving to where they could get better work and housing, but as observed with the move to Taneatua, the health of the children who had lived in the Rūātoki valley was not necessarily improved.

The Town and Country Planning Act (1977), first enacted in 1953, restricted the subdivision of rural land blocks and effectively stopped the building of new homes on the smaller blocks of land in the Rūātoki valley. Lack of suitable housing added to the pressure to leave the valley and the consequences for whānau networks established and maintained over generations was the additional pressure that distance created. Strategies for whanaungatanga had to be adapted for the changing circumstances dictated to the carers and parents of tamariki Māori. Families may have moved 30 kilometers from the valley but they no longer had the daily and immediate contact of whānau with which to share decision-making, childcare and to talk about the rapid changes that were happening with the displacement of Māori and others from land in the valley. Where resources could be found to supplement whānau networks to provide effective and sustainable support, the capacity to support children became dependant on the capacity of one or two adults to access these resources. Aside from the health risks that came with poor housing and low income, the life trajectory for children was also influenced by language and custom.

## Education and Language

Education was very important and a matter prompted by Hōhepa Kereopa's observation regarding the quality of te reo Māori of his grandchild's teacher (see p. 56).

It is not about what they learn it is about how they use their hinengaro to see things. That's number one for me, from having a good understanding of language, they would understand why cut the fingernails, why wash your hands after toileting –all those things. And

yet they don't, they don't understand things proper so things won't be done. Not only that, education is the key things wairua. Because wairua is about understanding and you believing in it. The once you believe that is the taha wairua of the individual. (Hōhepa Kereopa, 5 April 2004, Nukuhau)

The place for children to be educated was not only at school, it was also at home and reliant on the eating of meals as a whānau, with the exception for visitors – visitors ate first. This creates a tension for the education of tamariki Māori, to learn the way to live a good life at home with your whānau or to learn new things that may not be available in the nearby school.

Moving from traditional areas like Rūātoki, Māori had access to more choices in education and many took advantage of this by going to boarding school or living with whānau,

> I saw the benefit of moving out from Rūātoki to get that education. I was able to –it gave me a good foundation, and appreciate the learning and also the communication skills that I learnt –I am comfortable with whoever. Especially kids, that is the difference with the children of Rūātoki being educated here. (Materoa Nikora, 10 Sept 2003, Ngāhina)

While the immediate health needs of a child were the domain of the whānau and those closely associated with the child, choices regarding other child health determinants were less clear. Access to education can provide a foundation on which a child's full potential could be achieved. For some this meant leaving the area where they had been provided the support they could expect from whānau. One option was to seek whānau support to attend boarding school. Some were able to take advantage of role models from outside their whānau to gain access to the educational role models and new educational opportunities. Materoa left the Rūātoki valley to be near her grandfather and was able to attend school in Auckland as a native speaker of te reo Māori. Her grand mother was supportive,

> she nurtured me and helping me with my English, and the way of life in Auckland and I saw the benefit of moving out from Rūātoki to get that education. I was able to –it gave me a good foundation, and appreciate the learning and also the communication skills that I leant –I am comfortable with whoever. (Materoa Nikora, 18 Sept 2005, Ngāhina)

Once in a different part of the New Zealand education system, Materoa had access to the English language and took advantage of the new opportunities that this

brought and the support that was available to her at her new home. She sees these opportunities being available to today's children and reflected on her experience with a class from Rūātoki. While taking students around various tertiary institutions the class came upon an art teacher. This teacher had taken their dress and general appearance as a sign of their receptiveness to being taught –the class was dressed as best they could afford,

> …so every time he would ask a question it was always this nice clean looking kids in the room, so anyway he said [to the class] "I am very very fortunate because", he said, "I was taught by brilliant sculptor, and his name was Arnold Wilson". He said "any of you know Arnold Wilson?" Well all my kids' hands shot up because Arnold is from Rūātoki. (Materoa Nikora, 18 Sept 2005, Ngāhina)

The reaction of the class broke the ice and two students went on to be taught by this teacher, but it was the intervention of Materoa and the precedent set by Arnold Wilson that helped build a relationship between this teacher and the tamariki Māori. The teacher went on to visit the Rūātoki valley,

> [He asked] "can I come to see them where you are training them?" I said "you may." So he followed us to Rūātoki not long after that, and he said "look , these kids art is far better than the ones at the polytech." He said "Look I would love to take these kids back to the polytech." So he invited them if any of them wanted to carry on. And he was there to help them too. But I knew that it was too good to be true, but two of those young boys put their hand up and they are doing very well. I don't know where they are now but you know they were given the opportunity and they [are] the better for it. (Materoa Nikora, 18 Sept 2005, Ngāhina)

At several levels the relationship between children and adults reflect on the wellbeing of adults as well as children. From birth where the caregivers of a child may not be the birth parents to a child's access to health services and education, the roles that adults play is an important feature of child health. For tamariki Māori, especially those who speak te reo Māori as their first, and perhaps only language, the relationships they have with the people around them are predicated in many cases by the kawa of the local marae and therefore the whānau, hapu, or iwi, who exercise mana whenua (authority in the region surrounding the marae).

> Because in the schools systems. I am talking about Waimana, It is the repetition of waiata. They become fluent with the waiata, when they become fluent the story is told, the story of told. And when the story is

told they become part of the story.  So then at the end of the day they will come up and sing the song and they will say this belongs to our koro and their grand father Rua.  (Hōhepa Kereopa, 4 April 2004, Nukuhau)

## Injury and Spirituality

The influence of adults extended to the development of policy and the consultation undertaken prior to, during and once policy was set in place. Whether these policies were for the marae, home or new legislation, if they were to influence Māori, Māori expected a role along the policy development continuum.

While education and housing are important health indicators and determinants, injury also featured as a factor in determining the health and wellbeing of tamariki Māori. Irrespective of the injury, the harm for children was manifest in many ways. Due to the child's maturity, vulnerability and potential life long consequences, the immediate safety of the child was a concern even when immediate medial care was not available.  The solution was often first to meet the spiritual needs of the child and the whānau when harm was anticipated,

> The only way that would get us out of that condition was us to have a karakia with a Ringatū Tohunga and I believe that a lot had to do with the mind.  The problem was always in the mind, the battle with the mind and it does have an affect on our well being. (Materoa Nikora, 10 Sept 2003, Ngāhina)

The relatively high rates of injury and abuse are not recent phenomena, however suicide and self-harm are relatively new phenomena and have quickly become a significant burden (Robson & Harris, 2007).   The safety of children was a concern; their physical and spiritual safety.

> One day he is going to end up with Social Welfare. And the parents are going to get blamed for too many accidents. Later on [as he gets older] the accidents are going to worse.  Because he does not fear escape, he will escape.  [therefore] The road, the road gate is always locked. (Hōhepa Kereopa, 5 April 2004, Nukuhau)

Concern for the safety of children was raised by Māori and was the subject of two inquiries.  The management and the outcome of both inquiries changed the way subsequent Governments considered child wellbeing and welfare.  The reports of both inquiries were released to responsive ministers who quickly implemented the recommendations and changed the expectation Māori and their whānau had when

they interacted with the DSW (personal communication, John W. Grant, 6 April 2004).

The next thread that emerged from the interviews was safety and its relationship with wellbeing.

## Wellbeing and Safety

> The Māori welfare service and it was broadly presented with its efforts it was concerned with among other things to try and improve Māori housing to improve Māori health and its relationship to the other services now during that period. John Rangihau represents the emerging strength of the Māori community defined voice to say what it wanted to say about the services being applied to the Māori people and in particular the voice of independence was emerging strongly in that period not only through Rangihau but through other Māori welfare officers. (Merv Hancock, 7 Jan 2003, Palmerston North)

John Rangihau's early contribution to social policy predated *Puao Te Ata Tū* by 28 years with the research he undertook with John McCreary (McCreary & Rangihau, 1958). Aware of the changing pressures on Māori, the researchers asked the community of Ruatāhuna about their expectations for their children and found that the community anticipated change and looked beyond the region for opportunity more than 50 years ago. They reported parental aspirations for the education and development for their children, preferably in the area, as well as future employment with the development of the forestry resources that presently employed many in the community. It took the Government another 40 years to make progress in order to meet the aspirations of these people. Along the way the Department of Māori Affairs (DMA) assisted households with support for the management of their commitments,

> Māori Affairs had the automatic transfer from their [tenants] rents to their rates and then after the end of twelve months we had the city council ringing us telling us that if people didn't pay the rates well it was longer than that actually that they were going to be turfed out. (Yvonne Marshall, 27 Jan 2005, Palmerston North)

With the closing down of the freezing works from the beginning of the 1980s Māori households in Wanganui, who relied on the department for support with managing finances, were left on their own. They were forgotten once the money stopped coming in. When substantial debts had accrued for unpaid rates, rent or after insurance cover had lapsed, the city council made contact with the DMA. The

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tenants were not the only people forgotten by DMA. During the 1980s honorary community officers were recruited to assist Māori Affairs Officers with their duties, meeting with the Housing Corporation to discuss the allocation of vacant housing to families and whānau in need. The honorary community officers also helped out with schools who requested some cultural support such as teaching children kapa haka or organizing a hangi. These volunteers were unpaid and when the DMA was disestablished in 1989 with the creation of the Iwi Transition Agency (ITA), the honorary community officers relied on their initiative because "the department just ceased but they still [had to] do the work" (YMM, 27 Jan 2005, Palmerston North). The honorary community officers held warrants and carried out their work as long as they could, in part because DMA's provider functions had been devolved to other Departments and Ministries when the DMA was disestablished including the working relationships that had developed around childcare and protection. The ITA assumed the development of policy advice for Government from 1 October 1989 (Butterworth, Young, 1990). Māori advisors were to be appointed to assist DSW and relevant government agencies,

> in the event that willingness of the government to bring Māori people into the top echelon of the department in to the key policy forming welfare advise structure that the government had was welcomed and as it was also the involvement of the local Māori and local committee's around the local welfare office. (John Grant, 6 April 2004, Upper Hutt)

By the mid 1990s a new Chief Executive was appointed to DSW and Ms Margaret Bazley, reviewed DSW's mono-cultural bias promoting Te Punga as a framework for bicultural development (Bazley, 1994).

The same economic reforms that saw the freezing works close also saw the closure of sawmills surrounding Ruatāhuna, a region where Tūhoe have very strong connections to. Ruatahuna is the birth place of John Rangihau. The needs of the people of Ruatāhuna and tamariki Māori were durable and complex. The non-responsiveness of DSW, termed "cultural racism" in the findings of *Puao Te Ata Tū,* were indicative of the perceived capacity of Government to assess and intervene in the best interests of tamariki Māori (Ministerial Advisory Committee on a Māori Perspective for the Department of Social Welfare, 1986).

In Ruatahuna during the 1950s, the preference for parents was to expand education opportunities for their children. Tūhoe Education Authority started coordinating the

education in the area in 2005. With micro-wave broad-band to enable networking with Wharekura (Māori immersion secondary schools), Whare Wananga and Universities, new educational opportunities were available to the parents and children of Ruatāhuna. However with few economic opportunities there seems to be fewer options once the children leave school (Personal Communication, Haromi Williams, 15 Dec 2005, Taneatua).

The role of Māori in informing social policy is illustrated by the consultation exercise that resulted in the recommendations Puao Te Ata Tu report (Burns et al., 1986; Rangihau, 1988) to the Minister of Social Welfare, Hon Ann Hercus in July 1986. As the chairman of the committee, Mr. John Te Rangi-Aniwaniwa Rangihau was influential in getting Māori participation in the committee, the administrative support provided to the committee and support through to the hui held on many marae throughout New Zealand and the working committee (Komiti Whakahaere). The relationship between DMA and DSW was close on the East Coast and in the Bay of Plenty where Māori formed a majority in many areas.

Mr. Merv Hancock worked in the Gisborne – Opotiki area between 1951 and 1957. He was based in Gisborne and worked for the Child Welfare Service. He had a very close relationship with the Māori Welfare Officers. The task of the Māori Welfare Service was to facilitate the social objectives of the Social Advancement Act of 1945. The Māori Welfare Service was charged with improving Māori housing and health and the relationship to the other services during that period. Merv met John Rangihau and other Māori Welfare Officers on Government training courses, but it was through his Child Welfare work on the East Coast that Mr. Hancock observed the change in mission as the Māori Welfare Officers started to change the circumstances for the impoverished living in Māori communities and away from home,

> the voice of independence was emerging strongly in that period not only through Rangihau but through other Māori welfare officers who I could name in that area and what they were speaking up for was to create a space where in fact Māori could manage their own affairs and not have these things done by pākehā institutions. (Merv Hancock, 7 Dec 2004, Palmerston North)

Mr. Hancock's experience with Māori Affairs Officer on the East Coast was similar to that in the Bay of Plenty. Both areas had relatively low population densities and

high proportions of rural communities were Māori. Concern for Māori youth who had came to the attention of the Courts or Child Welfare was already known to the Social Workers via Māori Affairs Welfare Officers. Mr. Doug Jordan recalled this from the long association he had with several Māori Welfare Officers.

> The Māori community officers were concerned for their people and for their children. They were saying you know all of our kids, a hell of a lot of them were going into state care, you people are putting [them into] institutions. But there is nothing positive happening for them. (Doug Jordan, 25 July 2003, Auckland)

Mr. Doug Jordan was a Child Welfare Officer in Whakatane after being transferred in 1966 from Rotorua where he would return ten years later to renew his acquaintance with many of the Māori Welfare Officers including Mr. John Rangihau and Mr. Pita Awatere before transferring to Auckland as a senior manager in the Department of Social Welfare in the late 1970s.

> That is when I got to know Pita Awatere and often when they were going out to a marae, to talk on issues, they would invite me to go with them. So I went to quite a lot of maraes in the Rotorua -Taupo area with those two. And they would take me really so I could explain the role of the Child Welfare people in the main: where we fitted in and why we did certain things and what the laws were. (Doug Jordan, 25 July 2003, Auckland)

Mr. Jordan, whose contact with Mr. Rangihau began in the late 1950's at university in Wellington and later in the Bay of Plenty continued in Auckland. At a meeting several welfare officers met to discuss child welfare,

> …he had been a child welfare officer at one stage, and I also met him with John and others, and that was Neville Baker. Neville Baker came along with these people and they wanted to talk to me about some concerns. Their major concern from a child welfare point of view was that a lot of Māori children were coming into the care of the state but they seemed to be scattered in all directions, they had no link ups with their whānau or even with Māori people, they were placed in foster care in different places, they were in institutions, and they weren't making any progress at all. (Doug Jordan, 25 July 2005, Auckland)

This meeting confirmed the concern Māori had about the care and protection provided by the Department of Social Welfare and other departments of state. Māori Affairs Officers were relaying the concerns of their communities to test the water before taking this up with head office. This strategy proved effective because soon

the Director-General of Social Welfare, Mr John Grant became involved and the DSW's responsiveness to Māori was investigated,

> … and things did happen for the first time after a lengthy consultative process right over 18 months or so for 65 marae and 140 odd other meetings in total 143 meetings we where able to build within the Department of Social Welfare a what would you call it a climate of co-operation and a willingness to consult and if nothing else. (John Grant, 6 April 2004, Upper Hutt)

The resulting report, *Puao-Te Ata Tu* was published two years after the findings where presented to the Minister at a hui at Waiwhetu marae in July 1986,

> …after we had been from to North Auckland to Southland and most parts in between with marae meetings we invited and we had started to form the conclusions in our minds starting to get them down on paper. The essential recommendations were taken to a hui at Waiwhetu and representatives of each of the marae that we went to around the country were invited there now. At that gathering of hundreds of people including the chief executives of the other social service departments health, education and police, justice and so on state services commission they were there [Māori] as well now at that meeting at that hui. (John Grant, 6 April 2004, Upper Hutt)

Late into the night and once all the speakers had been heard the hui decided to establish a Komiti Whakahaere to work with the Minister of Social Welfare, Ms Ann Hercus. The people nominated were,

> Taitako Tawhiri from Whanganui, Joe Karetai in Christchurch, Api Mahuika from Ngāti Porou, Norman Perry who was with the Whakatōhea Trust Board. At the time are Ruruhia Robin, Hawkes Bay, Eva Rickard from Tainui and Ann Tia from Auckland. (John Grant, 6 April 2004, Upper Hutt)

The response of the Government was immediate and positive. The Minister of Social Welfare committed funds immediately to resource the bi-cultural focus of her Department and the Minister of Māori Affairs, Koro Wetere and the Minister of Social Welfare went to the Cabinet for additional funding which was granted. At the regional level the Department of Social Welfare began training staff in bicultural practice,

> finally on bi-culturalism the committee strongly believed that we were talking about here a social and cultural partnership not separatism. (John Grant, 6 April 2004, Upper Hutt)

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The bicultural focus for the DSW meant integrating their services, at least in the short term, with those of the DMA while bicultural resources and training was provided for social workers and support staff were developed and delivered as a result of the recommendations in *Puao Te Ata Tū*.

The initial response of the DMA was to team Māori Affairs Officers with Social Workers "to find whānau and find family and make contacts and make links with and for the department" (DJM, 25 July 2005, Auckland). While these teams worked together there were also challenges for the non-Māori officer,

> …he found that the disadvantage for him was that he was a Pākehā, and he didn't have the knowledge, the links or the input. Never the less they made quite a few connections and satisfactory placements. And they were concentrating on kids who were in our boy's home in Owairaka and I think quite a lot of state ward Māori kids who were placed at Wesley College and they linked on those plus other kids as well. (Doug Jordan, 25 July 2005, Auckland)

There were roles that Mr. Jordan recognised from his prior field work in the Bay of Plenty, that required channels of communication within the community in order to identify children at risk, act to remove the children from harm and place them into a safe place.

> A baby had been left unattended in a unlit, and cold and damp one-roomed shack, I suppose you would call it, up in Rūātoki. The Police had called me out about 2 o'clock in the morning. We couldn't find anybody who knew and thing other than they had heard this baby crying and it was cold, it was hungry, it was wet. So I took it back with me and put it in a foster home overnight. I found a couple of relatives and with those relatives I rounded up a whole lot of other relatives and we had a hui in my office, all sitting on the floor for a whole day deciding on the future for this baby. (Doug Jordan, 25 July 2005, Auckland)

Prior to formalisation of what is today called the Family Group Conference, most children, and therefore their parents, who came to the attention of DSW where assessed by DSW with little or no assessment of the wider circumstances and their environment,

> …sadly felt by the community officers the implemented it that Māori could do a better job for their own than Social Welfare was doing taking them out of a Māori environment and putting them in family home wasn't working. In fact it was only encouraging them [children placed by Social Welfare] to build up their network to do bigger crimes later on. (Yvonne Marshall, 27 Jan 2005, Palmerston North)

At the time when a child appeared before the Children's Court face an array of challenges, some legal but in some cases non-transparent challenges for which the Act appeared to facilitate,

> …there was what were called complaints under the Child Welfare Act. You complained they were indigent, not under proper control, living in an environment detrimental to their physical or moral well being and several other complaints. The Police didn't have to consult you, they just gave you notification when you got the notice you had to go and do the report for the [Children's] court. I remember a Magistrate directing the Police in future before the Police bring any complaints under the Child Welfare Act before this court I demand they consult with the Child Welfare Officer first. (Doug Jordan, 25 July 2003, Auckland)

It seemed inevitable, in hind sight, that Māori children were not going to fare well and required skilled and knowledgeable help, to avoid the courts. This meant Welfare Officers had to make contact with the community and prevent as best they could the referral of a child to the court.

> Usually it just meant more meeting(s) more attending youth court, children's board, Housing Corporation for a placement or houses for people because a lot of times there was frustration one of the thing we did that did put family's at risk. (Yvonne Marshall, 22 July 2005, Palmerston North)

The skills offered by Māori were not recognised by their colleagues and sometimes this led to unintended consequences. The effect was seen by Welfare Officers that the displacement of tamariki Māori was leading the their harm,

> Their major concern from a child welfare point of view was that a lot of Māori children were coming into the care of the state but they seemed to be scattered in all directions, they had no link ups with their whānau or even with Māori people, they were placed in foster care in different places, they were in institutions, and they weren't making any progress at all. (Doug Jordan, 25 July 2003, Auckland)

The issue of child welfare and the concerns of Māori raised during the consultation hui for *Puao Te Ata Tu* also informed the consultation undertaken for the preparation of legislation to update the Children and Young Persons Act (1974) and took a step towards reforming the Children's Court established 50 years beforehand under the Child Welfare Act (1925),

> The review was on in that period. Puao Te Ata Tū came at the point when there was already a proposed act, Child Welfare Act which is

> where Puao Te Ata Tū came in and the Māori critique of that act was
> that this proposed act was in fact institutionally racist in its structure and
> needed to be changed and that's how the changes were made and the act
> got a new title and got a new emphasis and that's the way it was made
> whether it got as much from Puao Te Ata Tū as it could have is an open
> kind of question. (Merv Hancock, 7 Dec 2004, Palmerston North)

Although the care and protection of tamariki Māori was the issue driving the Ministerial Inquiry, a larger issue that had its genesis in the review of the Royal Commission into Social Security (1972). For similar reasons to the *Pu Au Te Ata Tu* report recommended that the "Social Security Commission should be opened up to representatives of the community" (John Grant, 6 April 2004, Upper Hutt). According to Mr. Grant, the notion of community consultation was raised as a recommendation by Justice McCarthy.

The matter of consulting with the right people was an issue that Mr. Grant and Mr. Jordan commented on from the level of the Child Welfare Officer to the policy maker, and indeed this also influenced the delivery of services outside DSW. Consultation was a hallmark of the success when it came to the placement of children prior to the formalization of Family Groups Conferences. The success of these informal meetings was in part due to the people who attended,

> One of the old kuia that was there, she sort of took control and you
> could see that she was the family king pin. And eventually it was
> decided this baby would go with this other family which was part of the
> whānau and I kept in touch with them for about two years and never
> heard of any more problems or troubles –ever again. (Doug Jordan, 25
> July 2003, Auckland)

The phrase 'ngā tangata tika ki te tēpū' was used by John Grant several times during the two interviews undertaken as part of this thesis.

> in functional terms it meant that we the Department had to be concerned
> to see that decision should be founded on the right information from the
> right people: ngā tangata tika ki te tēpū - get the right people to the table
> and finally on bi-culturalism the committee strongly believed that we
> were talking about here a social and cultural partnership not separatism.
> (John Grant, 6 April 2004, Upper Hutt)

As Director-General of Social Welfare, it was a strategy Mr Grant valued, that the right people were involved in the decision making. This was informed by the quality of people he could draw upon after *Puao Te Ata Tū* following the hui at

Waiwhetu marae,

> there was full discussion and full debate at that night when that hui
> accepted what the committee reported to them back to them it decided
> that they would selected a group which they called Committee
> Whakahaere to help the minister of social welfare and her Department
> implement the recommendations when they came out in the report and
> that was on the recommendations of Ape Mahuika, Eva Rickard and Joe
> Karetai. (John Grant, 6 April 2004, Upper Hutt)

The Komiti Whakahaere and the continued support provided by the Māori members
of the inquiry committee leant much weight to the provision of Māori resources: the
introduction of biculturalism in DSW was ahead of many other sectors of the public
service.

## *The Shadow of Puao Te Ata Tū*

> I cannot understand because it was just reaching the enthusiastic go go
> when I retired. I retired in 1991. So I don't know what happened. I
> think there were changes in personnel. John [Rangihau] died, John
> Grant retired. A lot of senior [staff] in Social Welfare who were
> enthusiastic moved on. (Doug Jordan, 25 July 2003, Auckland)

Although the election of a new Government in October 1990 may have contributed
to a change in emphasis on their bi-culturalism policy after the retirement of Mr
Grant and the premature and unexpected death of Mr Rangihau, the lack of progress
on bi-culturalism within DSW was perhaps the implementation of the previous
Cabinet's wish to be silent in terms of biculturalism in 1986. The Cabinet had
decided that the terms of reference would not include the word bi-cultural, so the
word was removed from the terms of reference and the report of the findings was
released in 1988, two years after the hui at Waiwhetu marae.

> This is about the only significant change made and really it didn't
> change the focus and strategies of the report. It was that we had used
> the word bicultural. The task of the Māori Perspective Advisory
> Committee was to advise the Minister of Social Welfare on appropriate
> means of bringing a bicultural approach into the needs of Māori into the
> Department of Social Welfare. That bicultural approach was taken out.
> The words bicultural were taken out but really whole approach of the
> committee was a bicultural approach. And in the event its
> recommendations reflected that. (John Grant, 6 April 2004, Upper Hutt)

The Waiwhetu hui strongly supported a bi-cultural approach to the care and
protection of tamariki Māori and to the required policy development.

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> In the event that willingness of the government to bring Māori people in along with the department, into the key policy forming welfare advice structure, that the government had welcomed. And it was also the involvement of the local Māori and local committee's around the local welfare office and institution seen as a tremendous step forward. I think for same it was threatening in the department. (John Grant, 6 April 2004, Upper Hutt)

The move towards a bicultural mode of operation within the department was well under way and significant resources had been committed. There were challenges and some of the regional Advisory groups were disbanded when it was perceived that they were beginning to dictate policy. Mr Grant reflected on the legacy of *Puao Te Ata Tū*,

> We where able to build within the Department of Social Welfare a what would you call it a climate of co-operation and a willingness to consult and if nothing else that's what Puao Te Ata Tū [achieved]. Too, our biggest success was and that also rubbed off on to [and] in to other areas you know the departments even to the Police. (John Grant, 6 April 2004, Upper Hutt)

This section was committed to the retelling of the recollections of people who were involved with *Matua Whangai* and *Puao Te Ata Tū*. During the analysis of the interviews undertaken in the chapter it became clear that no matter how Governments and Departments of State respond to the needs of children, the adults closest to the child, significant adults, had the greatest and most profound influence. When significant adults were no longer able to respond to the needs of the child, the Government had a duty of care, a duty delegated across the public sector as well as to doctors, lawyers and professionals who have an ethical duty of care. *Puao Te Ata Tū* provided a model for public service consultation whose features can be seen across the public sector.

### *Te Aho me ngā Whenu -Themes*

The development of threads and themes emerging from the opinion and observations offered by the key informants on the health and wellbeing of children varied in part due to the purposive selection of informants. The selection of key informants was made to cover as many areas that contribute to the health and wellbeing of children as possible while interviewing as many people as possible within the limited timeframe of this research study. The selection process traded

depth and identification of new issues for a comprehensive review of prioritised issues –health services, health determinants, culture and language, and education. These domains were selected to inform the study to help understand the context for the application of the CHQNZ and the implication of prior investigation into the wellbeing of Tamariki Māori.

## Te Aho Tangata – A Framework for Analysis

The purpose of this chapter was to provide an understanding of child health and wellbeing from a number of perspectives to provide a synthesis that would inform the testing and validation of the CHQNZ.

While many themes were identified during the analysis of the key person interviews, their relative contribution to understanding health and wellbeing and a child health questionnaire was not immediately clear.  However when considered in concert, they present a framework on which to link factors that were identified during the key person interviews.  *Te Aho Tangata* was the sum of these themes and not an easily identified thread in its own right.  Contributing to *Te Aho Tangata* the following were identified *whenu* (treads) - mana whenua, kawa, tikanga, hauora and ngā tangata tika ki te tēpū.  The whenu are interwoven and characterise the Aho Tangata – child health and wellbeing.  Connecting the whenu are sub-themes that merge in differing context to form patterns, each pattern a distinct representation of the status of the child that extends beyond accepted definitions of health or wellbeing.  Some of these patterns may equate with the scales and domains of the CHQNZ while others perhaps describe the context in which the CHQNZ must function, and perhaps capture.

With each whenu is a process that in conjunction with the features identified in this chapter informed a process to produce a desired outcome.  For example, tikanga and kawa (in the section on Whanaungatanga – Relationships, see p. 118) were themes that emerged during the interviewing.  Strongly associated with kawa was education and how teaching te reo Māori was supported at home (see p. 127).  For this thesis, this validated the decision to provide in te reo Māori the information that went home that was consistent with the school environment.

The first theme to emerge from the interviews was mana whenua.

## Mana Whenua

Mana whenua is the status a person or people have in connection with the land. In terms of tamariki Māori their status in terms of mana whenua is determined by birthright validated by whānau and the law. Later in life this status may change but for tamariki Māori mana whenua is one of the features of whānau. Strongly associated with mana whenua was the notion of whānau – being born, and being born into group that identifies as Māori and has connections with other whānau by land (whenua), ancestry (whakapapa) and by deed (marriage). The time of whānau, the birth of a baby, was the time when the care of the baby was determined by nominated whānau members. The adults charged with raising the child were selected in the best interests of the child, and in the past this relationship building had the additional benefit of maintaining whānau connections and access to whānau resources. Maintaining access to traditional whānau resources is less often practiced now, although language and culture are now critical resources for today's tamariki Māori. The notion of whangai (open adoption) is still a feature of whānau development. Whangai is the gifting of a child for the mutual benefit of whānau and the child -the re-integration of whānau by the process of whangai. Whakapapa characterises the connections between people, though generations and across generations. Whakapapa is the science of tracing the connections between people through time and across the world and is best expressed in te reo Māori. For a child the notion of mana whenua places the child at the nexus of whakapapa, whenua and whangai. Associated with children and mana whenua is tikanga, another whenu identified from the key person interviews.

## Tikanga

How the rules that framed the welfare and safety of children were applied emerged as theme when the response of 'The Welfare' was recalled. Although most welfare issues were associated with the care and protection of children, tikanga also included the terminology used by public servants and health professionals, how the rules were applied as well as the assistance offered by Government agencies. The key informants explained that safety required an understanding of the whānau, the child's history, and connections and accountabilities with other people. When 'The Welfare' intervened it was often to provide help to the disadvantage of tamariki Māori, ignoring the wishes of whānau and the outcome was at the expense of the

whānau. The key informants indicated that the Government was required to seek additional support and help in order to maintain the best interests of tamariki Māori. The Government had excluded Māori from this vital role and new resources were put in place to improve the responsiveness of DSW. An outcome of the investigation led by the Ministerial Advisory Committee on a Māori Perspective for The Department of Social Welfare was a set of 13 recommendations. Sadly with the loss of many of the leaders within the Department of Social Welfare, the death of the principle advocate and a lack of qualified human resources within the department, the initiative was lost. Tamariki Māori were at risk from unresponsive Government agencies a decade later and a new investigation was launched. This subsequent investigation by Judge Michael Brown illustrated the limited degree to which the Department and later Ministry had not addressed the needs of tamariki Māori. A new Minister and Cabinet took up the recommendations of Judge Michael Brown and further changes to the way services are provided for tamariki Māori were put in place. The re-emergence of te reo Māori provided a new pathway for biculturalism, and with this a new appreciation of the rules by which care for tamariki Māori will be undertaken.

## Kawa

The rules and guidelines that influence the inter-relationship between people were seen as an important issue for tamariki Māori. Whether it was to celebrate the birth of a child at home, formal occasions on the marae, or the family group conference, kawa and knowing the kawa was not only important for determining the needs of tamariki Māori, but also in responding. The strength of kawa is how well it is understood and having the requisite skills to act appropriately. Assessing needs and responding to need can best be done by learning from role models, being formally instructed and reinforced through practice –a good education. In terms of child care and protection the emergence of the practice of the Family Group Conference (FGC) was a change of kawa for the relevant Government agencies who use the FGC to draw upon the resources of the whānau. Kawa and tikanga are strongly connected and the bonds between the two are reflected in the behaviour and cohesiveness of the parties with an interest in the child, and their ability to work together to ensure the child's potential is not compromised. An ability to converse in the language of the whānau, te reo Māori was an important skill for many of the Māori Affairs

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Welfare Officers until the DMA was disestablished in 1981. The re-emergence of te reo Māori in the delivery of services for children and whānau may strengthen whānau approaches to the care of tamariki Māori and make explicit the use of kawa whose understanding is shared by the whanau and 'The Welfare" alike.

## Hauora

The focus on the material needs of children was associated strongly with the health and wellbeing of tamariki Māori. Good housing, sufficient food and health care were required to maintain good child health and well being. The inter-relationship between the many determinants of child health and wellbeing is an emerging science. The determinants identified by key informants included housing, availability of healthcare, religious values and spiritual intervention, demarcation of risk and safety, and sustenance. The influence the Government of the day has on many of the determinants is necessarily indirect. The Government has an indirect role in the care in protection of children until a child is assessed to be at risk. Given the measures to determine risk are related to the immediate physical and emotional wellbeing of the child the Government has less influence because it is reliant of the child's caregivers for preventing harm to the child and early warning when such harm appears. The child's caregiver(s) status if questioned is determined by the Court guided by legislation including the *Guardianship Act* and the *Children, Young Persons and Their Families Act*.

The inter-relationship between determinants and health is generally accepted, however the people who deliver these services, who determine need and priorities, do not seem to be as well inter-connected because important services such as child and maternity care remain outside the Primary Healthcare Organisation structure and registration for the Immunisation Register is voluntary meaning there is no oversight of the delivery of this health service to children. Agencies have acted almost independently and sometimes counter to the interests of the child. Health inequalities for tamariki remain a durable feature of their health and well-being, and few if any tamariki Māori specific strategies or tools are available to fill the information void. Surrounding the little information that is available are 'joined up strategies' to share this information in a manner and avoid the needs of tamariki Māori falling into the silos that Recommendation 13 of *Puao Te Ata Tū* was made to avoid. The monitoring framework established by the Ministry of Social Policy as

part of the Social Report goes some way to an inter-sectoral approach but the delivery against these indicators remains slow if change in these indicators is an effective measure of progress. A feature of the approach taken with the Social Report is to get some of the right people around the table.

"*Ngā tangata tika ki te tēpu*" was a phrase often used by Mr. John Grant to characterise the consultation process adopted by DSW as a result of *Puao Te Ata Tū*. Mr. Grant recalled the benefits and risks of consultation that included not getting to the issue because the information and advise being provided did not reflect the needs of the people. The history of consultation prior to *Puao Te Ata Tū* featured an absence of Māori, therefore some advice was an improvement. After *Puao Te Ata Tū,* DSW and later most other Government Departments and Ministries struggled to get advice because of a lack of information and suitably skilled advisors. The information has taken time and resources to collect but now it is possible to build a picture of the health and well being of tamariki Māori. Most of the measures and sources of information are proxy measures whose interpretation may not reflect the needs of tamariki Māori. Getting the right people around the table, ngā tangata tika ki te tēpū, would now include Māori and the advice would be informed by tamariki Māori. A strategy used during the inquiry led by John Rangihau was to talk with Māori, hear what they had to say, and report it in a manner that could be retold with Māori present to see the response to their wishes.

# *Chapter 6*

## NGĀ HUA O TE RANGAHAU – RESEARCH FINDINGS

## Introduction

This chapter describes how the methods selected to test and validate the CHQNZ were employed in a variety of primary school settings. The chapter is divided into two parts, Whakamāoritia –Adaptation and Validation, and Mahi-a-kura – School Work. Whakamāoritia is the adaptation and validation of the two language versions of the questionnaire in order to preserve equivalence for comparison. Whakamāoritia is a two-stage process that involves the face validation of the questionnaires and then the adaptation which involved forward and back translation. Reconciliation of the translations is critical to evaluating the validity of the CHQNZ. Mahi-a-kura –the school-based application of the CHQNZ is the second part of its test and validation. Having developed the CHQNZ questionnaires, in two languages, a survey was undertaken to collect the necessary statistical data to carry out a psychometric evaluation. Standard statistical methods were used to validate and test the questionnaires. Multi-trait analysis was used to determine the psychometric properties of the CHQNZ in order to evaluate the convergent and discriminant validity of the hypothesized item sets across translations and between Parent Form (PF) and Child Form (CF) data. Some data is presented in tables that are present in the text of this chapter. The remaining tables referred to in the text of this chapter are present in Appendix 9.

This chapter concludes with a summary of the psychometric properties of the CHQNZ in this study reflecting on the interpretation provided by focus groups, key person interviews and finally the interpretation provided by seven children during the back translation process.

# Whakamāoritia –Adaptation and Validation

Te reo Māori — the Māori language, is a significant element of Māori culture that largely defines and is also defined by Māori (Titoki Black et al., 2003; Ministry of Social Policy, 2004). Kura Kaupapa Māori along with nearby schools offering English and Māori teaching environments were therefore selected for inclusion the study. After face validation the CHQNZ was translated in two stages before the instrument was tested in this environment.

The adult translators with expert knowledge regarding the interpretation of both languages translated the CHQNZ. Translation accuracy was ensured by comparison of translations between multiple translators and translated versions of the CHQNZ. The remaining challenges were; the reading-age of the responders, and the type of language used to ensure that items were understood and therefore meaning was captured succinctly and accurately therefore maintain conceptual definition within scales (also see p. 92).

Before the questionnaires were translated their face-validity was assessed. Adults and children were provided the appropriate self administered CHQNZ to complete. A post-completion interview was carried out to gauge their experience of completing the CHQNZ. All testers completed the questions without assistance and reported that all the sections of their questionnaire presented an interesting challenge and a way of extending their vocabulary. The final face-validation stage was an analysis of the back translations provided by seven children whose first language was te reo Māori (see p. 157). Validity of the CHQNZ was tested with methods for examining face validity, undertaking translation and adaptation for a New Zealand population, construct, and criterion validity in order to take into account the context in which the CHQNZ would be applied.

## Reading Age

The reading age was taken into account when the CHQNZ was adapted and this carried through to a protocol for the survey for both the te reo Māori and English translations of the CHQNZ. A strategy was instituted to ensure those with lower than expected reading ability could be helped with their self completed questionnaire. The strategy was two-fold, the first was to survey groups of children at school and to use a power point slide presentation to pace the self completion of

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the questionnaire.  The second part of the strategy involved trained class assistants (Mr Pareiha Kunaiti and Ms Julia Taiapa) who re-read the question where a child had difficulty with the question.

When the back-translations were prepared by the children new face-validity issues emerged and these are discussed in the section on back-translation (see p.157).  The translation of terms and the relationship the item had to the item-response are issues that reflect on the findings of back-translation process pioneered in this study.  Back translation is a method for determining the validity of a questionnaire.  Other forms of validity are now briefly described to inform the approach taken to the validation of the CHQ as a tool for assessing the health Māori speaking children.

## Criterion (Concurrent) Validity

Due to length of the CHQNZ-CF and the absence of gold standards for the majority of the conceptual domains it was not possible to evaluate concurrent validity of the items or scales using gold standard instruments or diagnostic criteria against which to verify each childhood condition (as identified by the parent or caregiver) as might be expected for health related quality of life or generic quality of life tools. The method devised tested the relationship between the child's health state and the items and scales of the CHQNZ. It compared the presence of health conditions with the relevant item and scale summary score. This question –"*Does your child have any of the following conditions?"* was used to discover illness and health problems present in the child as reported by the parent. The scales of the CHQNZ were compared for samples of children whose parents reported any condition versus those whose parents reported them to not have any conditions.

## Discriminant Validity

In analysing the extent to which an item correlates (or does not correlate) with its hypothesised scale than with any other scale within the questionnaire, its "success" is quantified by proportion of agreement.  Item discriminant validity is measured by assessing first, high levels of item-scale correlations (at least 2 standard errors greater than the correlation of the item to other items or scales) and second, the percentage of item-scale correlations greater than the correlation of the item to other scales (not necessarily by 2 standard errors). The Steiger's t-test statistic for dependent correlations was used with the 95% confidence interval that is equivalent

to 2 standard errors of the correlation coefficient.

## *Face Validity*

Face validity was initially examined during face to face interviews with adults and children. This was followed up by focus group interviews with parents and children. Face validity was first examined with the US-versions of the CHQ to find a version of acceptable length that covered child health issues in depth without onerous responder burden. In this study the PF28 (7), PF50 (13) and CF87 (8) questionnaires (Landgraf et al., 1996) were provided to twenty eight collaborators (twenty CF and eight PF) to complete. Each collaborator was given a brief exit interview regarding the length and suitability of the questionnaire they had completed. Collaborators completed their respective form quickly and with little reported difficulty. Responses revealed a preference for the PF28 form and CF87 forms; both forms were acceptable although changes were recommended. Some terms were viewed as unusual by parents and children, as well as the participants of the focus group interviews. These unusual terms made understanding the questions more interpretive than the participants expected for a child health questionnaire. Comment and feedback from the adult focus group, participants and collaborators raised concerns about the expected reading-age of the age group of interest (8 – 13 years) being lower than many of the children's chronological age. Child focus group participants had difficulty understanding new terms and some terms where not clear from the way the questions and responses were phrased. Children were asked if other words were more appropriate. The pain questions for example had a scale many children found confusing. After further discussion the child focus group suggested a new question be included to ask about the interference of pain with everyday activities.

## Bodily Pain (BP)

The PF50 form has three items related to pain, the CF87 two items and the PF28 has one. All three seek recall over a 4 week period. In this study however, the recall period was thought by all responders to be two weeks too long for accurate recall and tempted some child responders to think back even further. Three children had difficulty with the response scale initially seeking the lowest health state for both questions. Parents responded to this section suggesting the order of the items might

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be better if reversed.  When asked if more pain questions should be added a parent commented that the scale was "about right" but the children suggested another question that would effectively act as a screening item.

## Family Activities (FA) and Family Cohesion (FC)

This section was viewed most positively by the children and adults who made comment on these two scales.  A focus group member enquired,

> Have you done a whare tapa wha approach?  In your questionnaire packaging, have you done nga patai a whānau, a hinengaro, a tinana, a wairua (questions covering the domains of family, mental health, physical health and beliefs)? (FG–M, Child Focus Group Interview, 03 December 2005, Kura Kaupapa Māori o Manawatū)

Taking a multi-dimensional approach that included the relationships was raised as a general philosophy that fitted well with the anticipated users of the questionnaire.

The Family Cohesion (FC) item brought about the most thoughtful responses from children, some of whom appeared to have considered the health consequences of the forms of behaviour described in the Family Activities scale (FA) for the first time. Adults made positive comments about the inclusion of questions that asked about the wellbeing of the child from the perspective of the family.

> I hope we [whānau] do, who else is going to worry about their health if we don't.  (FG–M, Child Focus Group Interview, 03 December 2005, Kura Kaupapa Māori o Manawatū)

 When the notion of whānau was introduced the intergenerational impact of kuia and kaumatua (elders) entered the discussion. This added new complexity to the analysis of the CHQNZ considering Māori perspectives of inter-generational child care and the interaction of children in a wider but still family-based context.

## General Behaviour (BE)

This scale of sixteen questions was rapidly completed by the collaborators.  This suggested that the items were easily understood and the item-responses were relevant to each question.  In this study some parents recommended alternative wording for the questions about disobedience at school, argumentativeness, and being poorly coordinated.  The questions about stealing were a surprise to some responders (an adult and two children).  Their feedback concerned the interpretation of stealing from family that was "borrowing without asking' – neither party

considered this to be stealing but more an issue of communal ownership and sharing. This issue was considered carefully and it was decided to leave this question unchanged.

## General Health (GH)

There are two parts to this section, the first is the general health question followed by a series of questions on the perception of the child's health.

The use of 'global' to define a single health question was not useful for some responders. In terms of the general health question 'overall' was suggested as a term that fitted better for a single health question for both PF and CF form (see Appendix 1, p. 238 for CF and Appendix 2 for PF form, p. 314). This was noted but the wording for this question remained unchanged and the title was not used in either questionnaire.

The series of general health questions followed the mental health and self esteem questions. Being similar in format but differing in answer-set all responders viewed most of these questions as a little confusing with some having to change their answer to the first question when they realized the format of the answer-set was 'different'. The nature of the answer-set was a challenge to some of the responders but when asked what would they change all said the answer set was fine as it was. The question that challenged both adults and children was the question about how the child's health was assessed in relation to others (k) and the state of the child's health in the future (g & h). Although one child wrote a comment saying the question "being less healthy than other kids I know" was hard to understand, however the wording for this and the remaining questions in this scale were not changed. Emphasis was added by underlining the operational word in each of the five last items of this scale to reduce confusion.

## Mental Health (MH) and Self Esteem (SE)

These two sections, similar to the previous section on behaviour were completed with little difficulty. The questions were well understood and matched well with their respective answer set. No alternative wording was suggested and the number of questions was thought to be appropriate. When asked if there were questions that may be optional, all adults agreed that some could be left but a consensus on which questions was not settled due to differing opinions in the group. When shown the

short form (PF28), the parents thought the shortened sections were more accessible. The self esteem questions appealed to all the responders and adults made most remarks about this section suggesting this was a child health issue they thought important. When asked if there were any questions missing two suggested adding a question about confidence to stand and talk about a relevant issue. This section fitted well with the issue raised by the Adult Focus Group regarding a multi-dimensional approach to child health that included mental health.

## Physical Functioning (PF)

The level of physical activity and the domain in which the activity was undertaken were reworded to take into account current sport and activity preferences for the children in the study. In response to the consensus raised during the face validation exercise this was done to reflect the environment in which they lived. Interestingly the children reflected on the choice of responses they were given and asked why they all 'looked the same'. Activities were changed to reflect greater differentiation of the level of physical demand specified for each question. The order of responses was checked against those suggested by the responders, for example the distance walked. The notion of stairs was a challenge because the children had little experience of multi-storied homes or schools and adults recognised this as a situation with which children may be unfamiliar. The Adult Focus Group commented on the physical activity noting that there were terms that were difficult to understand because they had no experience the subject of the translation. An example was the notion of multiple flights of stairs. The experienced of most children who had used stairs were of single flights of stairs in a one floor building. Stair wells, that are a feature of tower blocks, are much less common in rural New Zealand and were not an everyday experience for many children.

## Everyday Activities (REB) & (RP)

The everyday activities were easily understood in comparison with the previous section on physical functioning. These questions covered the domains of Role/Social Emotional and Behavioural (REB) and Role/Social Physical (RP). The relationship between health and activities is already outlined by in comments on physical activities in general and this familiarity made interpretation of this section straight forward. The health impact of how the child felt regarding their activity was

accepted and not questioned by adults or children.

## Parent Impact (PE) and Parent Time (PT)

Adults viewed the PF-only questions in this section as difficult for children to understand. The questions for the parent to complete were not part of the child assessment form and when this was explained their opinion of the section was more positive. All responders thought that this section was second in preference to the self esteem section and very useful when considering the health of a child.

## Dental Health (DH)

Dental health was a new section developed from the "Importance of Dental Behaviours Questionnaire" used in 2003 for the Tūhoe Dental Health Survey by Tūhoe Hauora (Personal communication Drina Hawea, 22 April 2006). The Tūhoe Dental Health Survey was undertaken to describe attitudes to dental health in the Rūātoki and Waimana valleys in marae-based interviews. The survey was delivered in a face to face interview by Māori health workers in English to people attending meetings. The child version adapted for this survey utilized all the questions for people not wearing dentures after discussions with Awhi and Harangi Biddle, two nurses with many years of practice with tamariki Māori and their mothers. The response from the Adult Focus Groups was supportive and comments indicated dental health was an important child health issue in the Manawatū as well as the Bay of Plenty. The response to this section indicated that the questions were easily understood by both children and adults. For some adults it was not immediately clear that the questions were about their child, however this did not appear to be a factor in either the completion of questions in this section for adults completing the CHQNZ-PF or children self completing the CHQNZ-CF.

## Language Preferences

The language preference for children was self declared –during testing a child could complete a questionnaire in the language of their choice. This option was available to all children attending primary school, however the language policy of the Kura Kaupapa Maori precluded a choice and all children were provided with te reo Maori version of the CHQNZ.

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## Demographic Questions

The order and type of demographic question was not changed in the survey questionnaire used in this survey. Some questions were reworded to reflect New Zealand schooling, social terms and anticipated consistency between translations. Where the wording was changed to maintain consistency between translations the order of choice and directions was maintained for the question. The adult collaborators questioned the structure of questions used in this section. They had concerns about the information being requested about the relationship between the child and the adult preparing the PF form, and the relationship the adult had with other adults.

For example marital status was a highly debated issue and the categories were changed to reflect the distinction between a de facto relationship and marriage both of which have legal recognition in New Zealand. Divorced and separated were set into two categories maintaining the number of choices but making comparison with US and Australian data difficult because the combining of married and de facto, and the separation of divorced and separated. A similar issue arose for comparing ethnic background data internationally. Māori was introduced as a distinct category and being conceptually different from the race-based approach taken by Waters (1999) and Landgraf et al., (1996) introduces a category which can be summarised using a new dummy variable for race. All three types of ethnic or race question were intended to collect information on the child's background in order to identify minority populations and potential cultural and linguistic groups for further analysis of health states.

The adult focus group raised the difference in meaning of educational qualifications, relationship between child and caregiver and marital status revealing that the Māori translation reflected their experience better than the English item for many in the adult focus group. Identifying relationships from te reo Maori that reflected the realities of Maori adults was a affirmation of their world view because it captured their experience.

The children were not asked the same set of demographic questions as the adults but during the focus group interview showed interest in what their parents and caregivers were being asked about their own health. They understood the terms suggested by the adult members of the focus group.

Changes were suggested and it was noted that a post graduate qualification was not the same as membership of a professional society (for example practising as a lawyer). Marital status in English, like the relationship between child and adult reflected non-Māori values and the translation equivalence might have used more descriptive terms.

> Marena is okay, but there are those who would want another option like kua hono. (FG-M, Adult Focus Group Interview, 03 December 2005, Kura Kaupapa Māori o Manawatū)

The remaining issue for the Adult Focus Group was the classification of ethnicity. Some members preferred Māori to be the first option with more ethnic groups recognised. During the discussion the limitation of the numbers of categories was agreed to limit the range of choices, but as one participant noted,

> They are iwi in their own right. What we call Hinamana (Chinese), every marae, every hapu is its own iwi. ……..Villages an hour away, they do not have the same languages, they do not even write the same way, different words. (FG-M, Adult Focus Group Interview, 03 December 2005, Kura Kaupapa Māori o Manawatū)

The variety that is hidden in ethnic classification of many people living in New Zealand conceals the diversity that would not otherwise be known.

The CHQ was adjusted where demographic items were not clear or the item-responses were inconsistent with the item. This process was applied to the child and parent questionnaire in order to maintain the equivalence of meaning between the proxy and self completed versions prior to the preparation of the final translated versions that would be the CHQNZ Child Health Questionnaires.

The focus group interviews had discussed the survey versions of the CHQNZ (see Appendix 1 and 2) that had been translated after face and content validation. The translation provided an additional opportunity to test for validity (see next section). The process for testing and validation of the CHQNZ involved a multi-step validation process. Once the initial face validation exercise was completed two initial CHQNZ versions were available for translation. The two versions prepared for translation were the CF98 and the PF28. In order to start the translation process translators were sought who had experience teaching in a total immersion Māori environment, or who were native speakers with a current translator's license.

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# Translation

The face validated version of the CHQNZ (PF and CF versions) were translated into te reo Māori suitable for year 4 to year 11 student who could read and understand te reo Māori.  A bilingual version was developed for the PF-28 version and mono-lingual versions were developed for the CF-87 leading to the following instruments; the CHQNZ-PF28 Bilingual, the CHQNZ-CF87 Māori, and the CHQNZ-CF87 English (see Table 6.1 for details, p. 156)

**Table 6.1      Nomenclature for selected CHQ (Self Completed Forms)**

| Name | Version | Language | Number of Items | |
| --- | --- | --- | --- | --- |
| | | | CHQ items | Total[1] |
| CHQNZ-PF28 Bilingual | CHQNZ-PF | English/Māori | 28 | 48 |
| CHQNZ-CF87 Māori | CHQNZ-CF | Māori | 87 | 112 |
| CHQNZ-CF87 English | CHQNZ-CF | English | 87 | 112 |
| CHQ-PF28 | CHQUS-PF | English | 28 | 41 |
| CHQ-CF87 | CHQUS-CF | English | 87 | 100 |
| CHQ-Australia-PF50 | CHQAU-PF | English | 50 | 70 |
| CHQ-Australia-CF80 | CHQAU-CF | English | 80 | 90 |

## *Forward and Back Translation*

The formal translation of the CHQNZ involved translation of the source questionnaires.  The translation process started with a primary translation (from English to target questionnaire language, te reo Māori) followed by the secondary translation (back translation of the target questionnaire from Māori to a second source questionnaire in English).  The two source questionnaires were compared to confirm the translation to Māori for equivalence, and the interpretation of the key concepts identified by the collaborators who carried out the preliminary testing and also those identified by the focus groups.  Mrs Kaa Anderson completed the primary translation from English to Māori.

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[1]      The total excludes items required to be completed for signed informed consent as this will vary from study to study.  In the case of this study nine additional items were included to complete the consent form for a child (CHQNZ-CF87 Maori and CHQNZ-CF87 English).  The CHQNZ-PF28 Bilingual required an additional 36 items to secure consent from adult and child as well as consent to participate in an optional subsequent focus group interview (See Appendix 1, p. 237 for CF, and Appendix 2 p. 313 for PF).

The primary translation was carried out with consideration given as to how the item would be naturally read aloud while using words that were generally accepted. The phrasing was then structured in language that would be best understood by a child and finally consideration was given to the forward and back translation of the item in order to test how robust the translation was likely to be. However, there were some sentences where the same construction in Māori rendered a different meaning in English. Mrs Anderson gave an example,

> My child is not as healthy as other children. [original question]
>
> He kaha ake te ora o era tamariki, tena i taaku. [translation]
>
> Other children are healthier than my child [back translation]
>
> (Mrs. Kaa Anderson, personal communication, 20 March 2003)

The approach taken to translate both the PF and CF form was to clarify the meaning of any item that was not clear after the adult back-translation step had been completed. Where items were part of a scale the meaning of the scale was considered for all of the items. English language versions of the questionnaires were circulated during the translation phase to schools that took part in the survey as part of the teacher consultation suggested by Waters (2001) in order to check the face validity of the questionnaire in the school environment. Comments from the schools are presented as part of the findings of the survey (see p. 170).

The translations of the CHQNZ were submitted to Professor Taiarahia Black for review and comment. After considering Professor Black's comments a review version of the questionnaires was circulated to collaborators, Mr Pareiha Kunaiti and Ms Julia Taiapa. Mr Hōhepa Kereopa and Mr Metia Ata undertook the formal back-translation of both questionnaires. Their comments were collated and a final version of the translated questionnaires was developed and printed. The novel second stage of the translation method was carried out as a further face validity test and also a test of the quality of the translation of the CF98-Māori questionnaire. Additional back-translation were carried out by seven children.

## *Back Translation and Validation*

The final translation stage for the child questionnaire was a back-translation undertaken by children (BTC). The BTC were enrolled at Kura Kaupapa Māori (Language Immersion Schools) and had been educated for at least the previous four

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years solely in te reo Māori and an environment that values and promotes collaboration, cooperation and sharing of resources. These values are explicit and a prerequisite to functioning in a immersion Māori education environment. Te reo Māori was their first language and although they were taught English, the emphasis was on social, cultural and linguistic competence in Māori speaking domains. For these reasons this additional validation step was undertaken in addition to the formal back translation process.

With the incentive of a $50 shopping voucher in the two weeks prior to Christmas, seven BTC were commissioned to translate the CHQNZ CF-Māori in their own words after they had completed their own CF questionnaire. The BTC worked on their translations independently with six preparing detailed transcripts and the seventh choosing to complete fewer items. The following sections are an analysis of their translations.

Each BTC wrote comments onto a blank CF87 questionnaire as they translated the questionnaire. The scripts provided by the BTC were transcribed and entered verbatim onto a spreadsheet for analysis (see Appendix 3). Overall the BTC translated 92.4% of the presented questions (see Error! Reference source not found. p.). Excluding the BTC who translated the fewest items, the proportion of items translated rose to 94.9% and excluding the two who translated the fewest items (81.2% and 77.6% respectively), the proportion of items translated rose to 97.6%. The translation of the item-responses was much higher because there were eight types of response and most were repeated. The context of each response aided comprehension and then translation into English, both in terms of direction of change and in the range of responses to an item (see Tables 6.4a and 6.4b, p. 160).

## Scoring the Back-Translation

The analysis of the translation of the items and scales was presented in alphabetical order for each scale of the CHQ-CF Māori. The quality of the translation was evaluated by comparing the translation of each question and response provided by each BTC with the original text,

1. a translation of an item that reflected the meaning of the original text and included most key words was rated a maximum of 3

2. a translation of an item where the meaning was close to the original text but few or no key words were used, the translation was rated 2

3. where the translation of an item bore a no resemblance to the original text, the translation was rated 1

4. a whole number score was attributed where a translation was attempted

The scores were summed for each scale and an average was calculated from all attempts to translation (see table 6.2, previous page) with each scale, and finally for all scales attempted. The analysis of the back translations provided by the seven BTC shows that they translated 92.4% of the questions. The poorest performer, the BTC who translated the fewest questions did so by choice. Excluding this BTC from the analysis, the percentage of questions translated rose to 94.8%. The youngest BTC translated the fewest questions and the questions that were not translated or poorly translated were in the final sections of the questionnaire suggesting responder fatigue, which was confirmed when I asked the BTCs during their debrief.

## Body Pain (BP)

Body Pain is a two item scale (BP), the first item seeks the level of pain and the second the frequency of pain, over a four-week recall period. Both of the questions were not translated by BTC-7. BTC-6 provided the following translation for the recall of level of pain, illustrating that the competency to express their idea in English was a challenge perhaps an explanation for the non-translation of some items.

> In fwor weeks that had past, how is the paine relly feal like. (BTC 6 – verbatim quotation)

The uniformly low translation scores were reflected in the low average of 2.2. Although all but one translation was completed the low average score indicted that the BTCs' translations were not well matched with the original text. The variety of responses indicated the BTC expressed differing understandings of the scale, both in terms of recall level and the frequency of pain. No BTC had reported recent illness in their completed questionnaire that would explain a recent history of pain.

There was however an error included in this question. The error arose from a formatting mistake in the first draft of the translation (see Table 6.3). The unanticipated result was the back-translation of the response (by all but BTC-7) that reflected the item rather than the item-response text provided in error. The children maintained the direction of the response (from none to daily) using terms that better

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fitted the question to match its meaning.

**Table 6.3      Back-Translation for response to frequency of pain item**

| Responses | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| None | Just a few time | Little bit | Not much | Not really | A little bit | Only a few times |
| A few times | Sometimes | Sometimes | At time | Sometimes | Sometimes | Sometime |
| Fairly often | A lot | Sort of everytime | Sometimes | Yes, really | Most of the times | A few times |
| Very often | Most of the time | Most of the time | Most of the time | Most of the time | | Kind of all the time |
| Every day or almost every day | Nearly every day | Almost everday | Almost every day | Nearly everyday | Nearly everyday | Nerll all day |

Analysis of the responses of the BTC to the error with the BP frequency response scale suggested that the pain questions were understood at a higher level than could be expressed in English.  The validity of the scale and the scale assumption will be further discussed later in the chapter when the psychometric properties of the questionnaires are described and analysed (see p. 179).

## Change in Health (CH)

Change in Health (CH), a single item scale, was back-translated by all seven BTC. Most provided a translation that was consistent with the original text as reflected by the average score of 2.7.  The CH scale is perhaps the most complex in construction because the question relates contemporary health to how the child felt a year ago. The BTCs' understanding of both the question and each response was required to translate this one-off response set (see Table 6.4b, p. 160).  Repetition of the timeframe in the response reinforced the direction of recall and lessened possible confusion.  The translation of this question was challenging because of the translation of a retrospective time frame might have been misinterpreted in the relatively short single phrase question, translated independently of the response set.

The range of scores for this item was 2 to 3, with an average of 2.7 which reflected the closeness of meaning between the two language-versions of the question.  Some scales performed much better in terms of score average.  However they did not face the same anticipated challenge for translation brought about by having a complex response.  Body Pain was the only other single item with a unique response set (see p. 159).

## Family Activities (FA) and Family Cohesion (FC)

The Family Activities (FA) Scale (four items) and Family Cohesion (FC) Item are

strengths of the CHQ but are the last questions in the standard form of the CHQ and were therefore the last to be translated. The FA scale is one of the poorer performing scales with an average score of 2.1 (range of 1 to 3). The four questions of the FA scale were the most incompletely translated with 71% back-translated questions completed. The FA scale was the last scale in the questionnaire and the combination of the high responder burden of translating a long questionnaire and resultant responder fatigue, may explain the poor performance in terms of completion and quality. Closer inspection of the back-translations reveals that the question was one that combined recall of the effect of health and behaviour on the relationship and activities the child had with the household. In contrast to the FC item, the FA questions interrogated some concepts that were alien to the group of children who provided the back translation; where a child's behaviour dictated their relationship with those around them challenge their values of cooperation and sharing. In contrast the FC question interrogated the quality of relationships within the family,

*Sometimes families may have difficulty getting along with one another. They do not always agree and they may get angry. In general, how would you rate your family's ability to get along with one another?*

The FC item was well rated in terms of consistency with the original text as reflected in the average score of 2.7 and 86% (6/7) completed back translations. BTC 1 provided no response and this was perhaps consistent with a falling response rate in the last two sections of the questionnaire.

> Some time it is hard for farmerlly to get on. They don't always think the same and they get angry some times. How well douse you farmerlly get on whith ichother. (BTC 6 –verbatium responce)

The remaining translators provided translations that were consistent with the statement and final question.

> Sometimes its hard for the family to stay together. You can't not stay angry. How well can your family relate to the another?
>
> Sometimes its hard for the family to stay as one, wont stay on the same thought, angry. How good is your family at working together?
>
> Sometimes it's hard for whānau to get on with each other. They don't always agree and can get mad. How does your whānau get on or work together.
>
> Sometimes its hard for the family to work together. They don't always agree on the same things because of anger. How well does your family work together
>
> How is your family at working together? (All BTC responses)

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The three sentence construction of the FC item made translation relatively straight-forward for the children. The two sentence explanation prior to the question about Family Cohesion, was present (above) with the translation of the question. Translation was aided by the quality of relationships reflected in each response. The responses were already familiar to the translators because they are the same set used for the General Behaviour Scale (GB) and Global Health (GH) items (see Table 6.5, p. 173 and Appendix 3, p. 315).

## General Behaviour (BE)

General Behaviour (BE) comprises a scale of sixteen items and a global behaviour item. Translation scoring averages for the scale and global item were 2.6 and 2.4, and completion of the translation of the questions were 91% and 100% respectively. There were three low scoring items in the scale. The notion of "feeling clumsy" was the term that performed the worst. Testing with adults had shown the term was specific to clumsy behaviour however it was found to be unusual for the child translators. The use of "ahua pakihawa" to mean "clumsy" confused all but one of the child translators. As a result a note was provided in the pre-interviewing briefing to ask participants responding in Māori what they would call the behaviour of someone who is "ahua pakihawa". Other questions in the BE Scale that performed poorly included "not doing what the teacher asked" and "wanting to be alone" scoring average of 1.9 and 2.0 respectively. Like the Family Activities scale, the association between behaviour and the relationship with other people was a concept that was counter to the values of the schools the translators attended. The poor scoring of the translation of the questions about "wanted to be alone" and "hard to be with other" reflects the underlying value of group cohesion.

## General Health (GH)

General Health (GH) comprises two parts, a single item question and an eleven question scale. The first health question in the CHQ is the global health question, followed by eleven questions on the child's perception of health.

The single global health question was well translated by six of the seven BTC. The responses to this question posed little difficulty, all but BTC-3 providing very good translations as reflected in the average score of 2.8,

> In your own head, how well do you think your health is? (BTC-2)

The GH scale was almost as well translated with 90.5% (76/84) responses providing an average scale score of 2.7.  BTC-1 had the most difficulty with these questions, providing translations to six of the eleven items.  The first question of this scale provided the most challenge with no BTC providing an equivalent translation.  All BTC scored 2 by virtue of recalling their health as being very good when excellent was the standard set for this question.  The first question is "my health is excellent?"  The BTCs translated the global health question as,

> Very good health?
> Is my health really good?
> My health is very good?
> I am really healthy
> My health is great
> My helf is really good
> My health is very good? (BTC-1 to BTC-7)

Most (90%) of the following four questions ('b' to 'e', see Appendix 3, p. 315) were translated with a low average score of 2.6, below the average for this scale of 2.67.  The remaining items in the scale had higher average scores, with one exception all were translated.  The item with the lowest translation proportion was "I always seem to get sick" (f).  It had an average score of 2.8, the same average score achieved by the remaining five items.  The items in this scale that were simple statements about current health were better translated by the BTC than the items regarding comparative health status. For example the apparently complex item "I think I will be less healthy when I get older" translated by all BTC scored  2.8 compared with "I do not seem to get very sick" which was answered by six of the BTC with a translation score of 2.3.  The translated responses to "I do not seem to get very sick" (average score 2.3) were;

> I have never been caught a sickness.
> I still haven't felt very bad feelings
> I don't really get sick
> I have not any serious illness
> I don't get really sick
> I haven't yet experienced a hard death (BTC-1 to BTC-6)

The translations of "I think I will be less healthy when I get older" (average score 3.0) were:

> In my own thoughts, my life shortens as I grow older?
> I think that when I get older I'm going to be more sick.
> I think I get less fit when I am older.

> I think I'm get sicker as I get older
> I think my health get worse as I get older
> I think that I will get sick when I get older
> I think my health will drop when I grow up. (BTC-1 to BTC-7)

The difference in translation scores between these two questions about general health indicate that the notion of time and state of health in the same statement do not seem to be problematic when translating health states by BTC. The interference of a health state comparison with others presented a challenge for BTC; the same for the first general health statement - "my health is excellent" (average score 2.0).

All BTC translated the final general health scale statement "I think I worry about my health more than other kids" providing an average translation score of 2.4. The BTC wrote

> Mown a lot about my health and in I'm even same age as other kids.
> I am very worried about my health specially with other children my age.
> I worrie more about my health then other kids the same age as me.
> I worry more about my health than other kids my age
> I worrie more than other kids my age
> I worry more helf then children my age.
> I am very worried about my health as other kids the same age are healthier than me. (BTC-1 to BTC-7)

To translate this statement the BTC were required to understand an explicit comparison of health status in this scale and express it in English. The notion of a comparison ("more than other" or similar) was absent from three of the response of the BTC, and one who mentioned "more than other" did not mention health. All BTC translated the response-set accurately.

The series of general health questions followed the Mental Health and Self Esteem questions. Being similar in format but differing in response-set, the first five items generated some confusion for all BTC. After rereading the response-set BTC indicated they had changed their answer to the "my health is excellent" response having recognised the format of the response-set had changed. The nature of the response-set was a challenge to some of the BTC but when asked what they would change: all said the response-set was fine as it was. The items that slowed both adults and children responses were the items about how the child's health was assessed in relation to others (k) and the state of the child's health in the future (items g & h),

> Very true

> True
> I don't no
> Its wrong
> Very wrong (BTC-2)

Although BTC-1 wrote the comment "being less healthy than other kids I know" indicating these questions were initially difficult to understand, the wording for this item was not changed.

> The other kids are <u>more</u> healthier than me.
> Other kids are healthier than me.
> Other kids seem to be healthier than me
> Other children healthier than me
> Other kinds are healthier then me
> Other childrens health are more healthier then me. (BTC-2 to BTC-7)

Emphasis was added by underlining the operational word in each item in the scale in order to reduce confusion.

## Mental Health (MH)

The Mental Health (MH) scale is a multi-item scale of sixteen items. Most (92.9%) of the items are translated and scores range from 1.8 to 3.0, with a scale average of 2.65. Six items scored the maximum average score and reflected behaviour with which the BTC were most familiar (sad, crying, afraid, felt happy, and feel cheerful). Scoring above average were also items describing feeling lonely, enjoying things they do, and headaches. The remaining five poorest performing items were "feel nervous" (1.8), "feel bothered or upset" (2.0), "have fun" (2.2), "feel jittery or restless"(2.2) and "like your self" (2.0) as translated by BTC-5 (in brackets is the item text).

> Anxious/troubled (feel nervous)
> Depressed/heavy hearted (feel bothered or upset)
> Entertaining/encourage (have fun)
> Been anxious or worried (feel jittery or restless)
> Thought only of yourself (like yourself)

Thirty four (of forty two, 81%) translations were completed and the five lowest scored an item average of 2.02. The translation for 'have fun' was based on a term that included the celebration of success suggesting a new term could be substituted. With the exception of "have fun" the four remaining poor scoring items were terms used in a context with which the BTC were not familiar. The item "like yourself" literally ran counter to the valued and taught characteristic of personal modesty; so

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the term initially did not make sense.

## Physical Functioning (PF)

The PF scale was the one that presented the most initial challenges with face validation and was the easiest to address by the substitution of new terms. By changing the sports and domains of exercise to language more familiar with the environment around New Zealand schools and adjusting the distances the face validity of this section was quickly improved. The PF scale is made up of nine items recalled over a four week period. The BTC translated all the questions to an average scale score of 2.7. With the exception of BTC-2 and BTC-6 all others achieved one translation score of 1 in this scale. This scale was the first multi-item scale and the BTC attempted all the items. The second item had a lower than expected item score because two BTC did not translate the activities that differentiated this item form the first four items in this scale. Both BTC appeared to be familiar with the variety of sport judging from their success in translating other activities therefore must have forgotten to write in the activities and were scored 1 for their translation.

The questions that posed the most difficulty to the BTC were also the most difficult to translate. Although "stairway" and "stoop" were translated; the terms used were not well understood by the BTC. When a picture of a stairway was shown the meaning became apparent but the stoop was interpreted as a head movement. For example, two BTC provided the following translations,

> In the last four weeks, has it been difficult for you to bend over, lift thing up or tilt your head. (BTC-3)

> In the past 4 weeks, has it been difficult to tilt, lift or bow your head. (BTC-4)

The items about self care (in the past four weeks, was it hard for you to get in or out of bed due to health problems?) were well translated (average score 3.0) and interpreted with a humorous tone,

> In the last 4 weeks, has it been hard for you to look after yourself, like easting, put on clothes, bath (shower), or go to the toilet

> In the past four weeks, is it hard for you to get into bed or to get out of bed? (BTC-2)

Feed back on these items was positive where they had been within the

experience of the BTC.

## Role Emotional (RE) and Behaviour (RB)

Translation of the Role Emotional (RE) and Role Behaviour (RB) items from English to Māori was straight forward however the BTC had difficulty translating these questions. This multi-item scale comprised two sub-scales (feeling sad or worried, and problems with your behaviour) each with three items. Both sub-scales are similar in construction with three items that seek the degree of difficulty for activities with friends or school work.

Most (95.2%) of the items were back translated but the average score was low at 2.1 (range from 1.9 to 2.4). BTC-1 and BTC-2 were not able to achieve an equivalent translation for the whole scale. The remaining BTC had better success but the score average scores and the scores for each BTC showed that age was a factor. The complexity of the scale made back-translation difficult for the BTC and no changes were suggested.

## Role Physical (RP)

Role Physical (RP) is a three item scale similar in construction to the RB and RE scales. This multi-item scale comprised three items that sought the degree of difficulty due to the child's physical health for activities with friends or school work . The three items were kinds of work, the amount of work and if the work can be done at all. Four BTC provided the following translations of the item regarding kinds of work.

*In the past four weeks, was it hard for you to spend the usual AMOUNT of time on your school work or activities with friends because of problems with your PHYSICAL health?* [CHQNZ Item]

> In the past four weeks, was it hard for you to waste the MOST of your of your time on school work, fooling around you're your friends because your body feels uncomfortable?
>
> In the past four weeks, has it been hard for you to finish MOST of your school work, or be a nuisance with your friends because you feel sick?
>
> In the last 4 weeks is it hard for you to spend your time doing all your school work or just mucking around with your friends cause your body is sick?
>
> In the last four weeks has it been difficult for you to spend MOST of your time on your school work, or hanging out with your friends because your body is in pain?

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> In the past 4 weeks, has it been difficult for you to do all your school work, or hang out with friends because your body is in pain
>
> In fwor weeks that had past, is it hard for you to wast your energy nerlly all the time to do school work, mucking around whith your friends because your body is sick? (BTC 1-6)

As this scale shared the same basic construction with RB and RE as well as the complexity of the scale, the difficulty the BTC had in providing equivalent translations for each item was expected. Having item-responses that were similar to the previous two scales was of little assistance in the case of the three Role Scales. The unique meaning of each scale had been disguised by the presence of a third identical item-response set. The translation provided by six of the BTC (BTC-7 provided no translation) represented a high response from the BTC but the average score for this scale of 2.1. The low score was due to the BTC describing the <u>most work</u> rather than the <u>amount of work</u> as described in the item. The translations were otherwise accurate.

## Self Esteem (SE)

Self Esteem (SE) is the scale was almost completely translated (96.9%) and had the highest average translation score of any scale in the CHQNZ of 2.9. There are fourteen items in this scale so some of the translations may have been expected to be poorly completed because of the relatively large number of items. The BTC appeared to understand the items quickly and were not confused by the item response scale which was unique to this scale and simpler than the Role response-items. Translation of the self image item, how good or bad have you felt about your "body and your looks?"

> Your look and body?
> The way your bodies built?
> Your looks and your body?
> Your body and your looks?
> Your body and your looks
> The look of your body?
> Your looks and your body?
> (BTC-1 to BTC-7)

Being described as a two-way response-scale the item-response scale gave the BTC a point of reference with which to translate without difficulty suggesting this scale preformed very well in terms of face validity.

The psychometric properties of the CHQNZ are an important aspect of its validation. An important psychometric property of the CHQ is its two-factor structure. Factor analysis testing will confirm whether the two principle factors in the CHQNZ. The design of CHQNZ was the same as the CHQ (Landgraf, 1996). The two factor framework should be evident in summary data generated from the data collected from questionnaire-based interviewing. The next section of this chapter describes the data collected from the school survey, how the data were analysed, and the summary statistics.

# Mahi-ā-Kura –School Work

Three surveys were undertaken as part of this research, a pilot survey, survey of adults and a survey of children. The pilot survey was undertaken in order to test the draft version of the CHQNZ that had been translated into Māori. The school selected for the pilot offered a mono-lingual environment. The school was small and taught solely in te reo Māori. The pilot study was carried out under the supervision of Mrs Julia Taiapa and Mr Pareiha Kunaiti solely in Māori.

Two classroom sessions were observed and written notes supplemented a recording of feedback provided by the students and the kaumatua present. This data provided rich feedback on the concerns and comments made during and after the sessions. Analysis of these comments provided useful information about the questionnaire; and its delivery how to keep children interested, and how well the protocols for returning consents and questionnaires worked.

## *Te Tikanga-ā-Mahi - Survey Administration*

The adult questionnaire (CHQNZ-PF28) is a bilingual version of the parent questionnaire (PF28). This questionnaire, information sheets and consent forms were taken home by children participating in the surveys. In school, the child survey was delivered to classroom groups of students. In the pilot survey the first class were senior students (10-13 years). The CF-Māori questionnaire was initially read aloud to the class with a Power Point presentation (Microsoft, 2007) synchronised to the delivery of each item and item response. This first classroom very quickly found the approach tedious and some students lost interest. Noticing that noise levels were rising and students had started to work independently, the class was instructed to stop. With the attention of the class, staff instructed the students to self complete the questionnaire in their own time without the power point presentation. Students who had any difficulty were instructed to raise their hand. Few students sought help from the staff and completed the questionnaire within the hour allotted.

The second class in the pilot survey, junior students (8-11 years), were provided the questionnaire, a short explanation of what the study was about and instructed to start answering the questions. Aside from the occasional pencil replacement, the class completed the questionnaire within 45 minutes. The quality of the responses for

both classes was very high with more than 95% of the item responses completed. The second class's protocol was used for the rest of the study where children were recruited and interviewed at school. The pilot survey was the first survey reported to use the CHQ in Māori in a class were te reo Māori was the only language used. The pilot survey was completed, as it started with a waiata and a mihi whakatau.

Initial testing identified poor reading skills as a potential problem. Students with poorer than expected reading age experienced difficulty reading the questions during the pilot survey, suggesting younger students would require help. The help suggested by Landgraf (1996) was to reread the question to the student. Staff were prompted to read the question to students who indicated they did not understand a question. In no cases was the question reinterpreted.

Assistance with reading the item, and sometimes the item responses, was requested by a minority of students, some of whom were unsure if they were providing the correct answer. The students were reassured to pick the answer with a response that fitted best for them. Those students who had difficulty were identified by staff before the class began and reminded that they could ask for help any time.

Completing the questionnaire in the classroom setting was not a silent exercise. While some students read questions out loud some 'silent' readers complained. The children worked on their individual questionnaire and discussed the questionnaire with their neighbours as they progressed through it.

The majority of students read to themselves silently. There appeared to be no obvious copying of responses as the pace of student's varied. Once a questionnaire was completed it was handed to the staff and the student waited for the class to finish.

The classroom method for surveying the health of children proved to be an efficient method for interviewing students who had consented to take part. Carried out at school, the interviews took participating students from their routine teaching programme for one teaching period. For most students this was not an imposition. Some students did not take part because they were absent from school due to illness, appointments away from the school, or sports and cultural commitments. Non-participants were not in class for a number of reasons and these included practice for kapa haka (cultural performance festival) or the Manu Korero (oratory competition).

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These activities were a significant component of the curriculum at the time of the survey and a feature of the commitment to teaching te reo Māori in many schools and kura. All schools were scheduled at least two visits to ensure that as many children as possible could be interviewed in order to account for absence from school.

## Ngā Utu - Responses from Parents and Children

Feed back from the children and the adults who took part in this research project was positive. The study was voluntary and took less than an hour to deliver in a class setting. Parents indicated that finding the time to read the questionnaire was more of an obstacle than completing the questionnaire –often parents were reminded by their children. Parents wrote notes on the questionnaire and some parents spoke with the research team at school, most often providing additional information regarding the child. Parents spoke positively about child health and those who completed the PF questionnaire thought the quality of the translation was adequate but could be improved by using local dialectic terms, references and phrasing. Most parents who provided feedback found the survey interesting and some were surprised how well the children had responded to what they described as a long questionnaire.

Children who took part in the survey found the questionnaire long and some of the words difficult. The students were interested in the survey about health. They were attentive during the class, asking questions about the questionnaire as they progressed though the items and pages.

After the next section on the characteristics of the schools invited to be in the survey the characteristics of the student who took part will be presented and then the analysis of the data collected to test the validity of the CHQNZ.

## Te Āhua o Ngā Kura - School Characteristics

Primary schools and Kura Kaupapa Māori in the Manawatū and Eastern Bay of Plenty were invited to take part in the survey. The purpose of the survey was explained face to face (although initially by telephone) with the Principal and a follow-up letter was posted for the school's consideration. Eighteen kura and schools were approached (see Table 6.5, p. 173). According to the 2004 Ministry of Education School Statistics they had an average roll of 111 pupils. Eight of the schools were decile one schools. The total number of students was estimated at 1999 of which 794 students were estimated to be eight years and older.

**Table 6.5     Schools Invited For Survey**

| School/Kura Kaupapa Māori | Roll [1] | Decile |
|---|---|---|
| Galatea School | 158 | 3 |
| Kutarere School | 31 | 2 |
| Mana Tamariki | 39 | 7 |
| Murupara School | 256 | 1 |
| St James School | 260 | 10 |
| Taneatua School | 167 | 1 |
| Tawera Bilingual School | 65 | 2 |
| Te Kura Kaupapa Māori o Huiarau | 87 | 1 |
| Te Kura Kaupapa Māori o Manawatū | 132 | 5 |
| Te Kura Kaupapa Motuhake o Tawhiuau | 119 | 1 |
| Te Kura Māori-a-Rohe o Waiohau | 57 | 1 |
| Te Kura o Matahi | 28 | 2 |
| Te Kura o Waikaremoana (new in 2005) | 50 | 1 |
| Te Kura Toitu o Te Whaiti-nui-a-Toi | 114 | 1 |
| Te Mahoe School | 84 | 1 |
| Te Wharekura o Rūātoki | 209 | 1 |
| Waimana School | 107 | 2 |
| Waiotahe Valley School | 86 | 4 |
| Total | 1999 | |

Twelve schools, five kura and seven primary, agreed to take part. Five were decile one institutions. Once interviewing was scheduled at all twelve schools and kura, three decile one schools withdrew because of unexpected acceleration of building

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[1]     Based on 2004 roll, Ministry of Education. Te Kura o Waikaremoana was established on the site of Kokako School after combining rolls with Tuai School in 2005.

programmes to provide new classrooms. All three decile one schools asked if they could take part after their building programme was completed. Rescheduling these schools proved impossible before the end of the survey period. One school withdrew during interviewing after concern about consultation with an iwi education authority was raised by a Board of Trustees member. Data from the schools and kura that withdrew and the pilot study school are not included in psychometric analysis of the CHQNZ.

## Scheduling Survey Schools

To be eligible for the survey students were required to be eight or more years old, have the consent of a parent and be willing to take part in the study. For each participant student a parent questionnaire and consent package was sent home with the child. In order to manage the study the goodwill of the staff was essential. Therefore it was important to outline clearly what was expected of the school. To this end a booklet was prepared and made available on request (see Appendix 6, p. 375). The distribution of consent forms and information sheets started once the school had agreed to take part and a date for the classroom interviews was set. The first task was to send home the CHQNZ-PF with the consent forms ten days before the anticipated class survey. On the day of the class survey students with consent were then interviewed at school and follow up visits were carried out to interview absentees. The survey was carried out in the second and third term of the school year with catch-up interviews in the fourth term. The fourth term was avoided for the bulk of the interviewing because it was the term in which schools had many out of school activities. Competition for the student's attention in the face of a summer camp would have made the survey difficult to manage with little time for catch up interviews for absentees before the six week summer break.

In addition to the forms completed at schools and by parents, forms were also completed by children and adults who took part in focus groups and children who had assisted with translation of the CHQNZ.

## *Te Āhuatanga o Ngā Kaituhi – Participant's Demographic Data*

The data from the questionnaire were double entered by John Waldon onto a computer using Key Point Software (Yeneralski, 2003). The Key Point software was

used to format the printed CHQNZ-CF questionnaires. The data entered were printed and each response was hand-checked against the corresponding questionnaire.

**Table 6.6        Student Age and Gender**

| Student Age (years) | Student Gender | | | Total |
| --- | --- | --- | --- | --- |
| | Female | Male | unknown | |
| 7 | 3 | 2 | | 5 |
| 8 | 7 | 7 | | 14 |
| 9 | 16 | 15 | | 31 |
| 10 | 26 | 21 | 3 | 50 |
| 11 | 16 | 9 | | 25 |
| 12 | 8 | 6 | | 14 |
| 13 | 3 | 6 | | 9 |
| 14 | 1 | 4 | | 5 |
| 15+ | 3 | 1 | | 4 |
| Testing | 11 | 11 | 1 | 23 |
| Age Unknown | | 1 | | 1 |
| Grand Total | 94 | 83 | 4 | 181 |

Omissions and mistakes were noted on printout and corrected in the respective KeyPoint file before the file was exported to an Excel spreadsheet.  The advantage with KeyPoint is the presentation of the data in the same form it appears on the printed questionnaire –making checking for accuracy straight forward and therefore less time consuming.  Items were rescaled using the algorithms devised by Landgraf and totals, averages and standard deviations were calculated for each scale (Landgraf et al., 1996). Summary statistics were calculated from the data collected for each CHQNZ-CF/CHQNZ-PF form and formatted onto a single spreadsheet. Each record, representing a parent-child pair of forms, had a unique identity code. Each record also contained the age, date of birth, gender, language of form and related demographic variables collected for each adult and child interviewed.  The spreadsheet provided the raw data file for export to SAS (SAS Institute, 2001) for the determination of the principle components analysis, correlation coefficients and variance statistics.  The data presented here describe the characteristics of the students and the adults who participated in the study.

The age range for students completing this survey was limited by the recruitment policy.  Five students who completed the CHQNZ-CF were under the age of eight years (see Table 6.6, previous page).  They are included because they were in a class that were predominantly eight years old and had provided full consent to take part in

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this study.  The 9 students over the age of thirteen years were those who helped with the survey at their school.

**Table 6.7        Survey Completion Summary**

| School | CF forms | PF forms | CF-PF Pair |
|---|---|---|---|
| A | 24 | 34 | 21 |
| B | 16 | 16 | 15 |
| C | 6 | 6 | 6 |
| D | 19 | 17 | 15 |
| E | 27 | 28 | 25 |
| F | 13 | 13 | 13 |
| G | 21 | 21 | 16 |
| TESTING | 56 | 57 | 47 |
| Grand Total | 182 | 192 | 158 |

A total of 192 CHQNZ-PF parent questionnaires and 182 CHQNZ-CF child questionnaires were completed (Table 6.7). Due to absentees and the voluntary nature of this study fewer than expected pairs of questionnaire could be collected in order to estimate the correlation between the CHQNZ-PF and the CHQNZ-CF.

The relatively greater number of CHQNZ-PF forms completed was also due to more than one parent completing a form for the corresponding child (Table 6.7).

**Table 6.8        Responses from Children by Language**

| School | English | Māori | Total |
|---|---|---|---|
| A* | 0 | 24 | 24 |
| B | 13 | 3 | 16 |
| C | 2 | 4 | 6 |
| D | 19 | 0 | 19 |
| E | 23 | 4 | 27 |
| F | 11 | 2 | 13 |
| G | 19 | 2 | 21 |
| TESTING** | 26 | 30 | 56 |
| Grand Total | 113 | 69 | 182 |

Almost twice as many students (113) completed the CHQNZ-CF English language version (CF-English) than the CHQNZ-CF Te Reo Māori version (CF-Māori) (48). The majority of CF-Māori questionnaires were completed at Kura Kaupapa Māori (* see Table 6.8).  When combined with questionnaires from Immersion Te Reo Māori Units at Primary schools made a total of 48 completed. The responses categorised as Testing (**see Table 6.8) were children participating in focus groups, testing the questionnaires and the seven who had translated the CHQNZ-CF Māori into English as part of the back translation and validation reported earlier in this

chapter (see p. 147). The parent data were collected from all the PF forms returned to the school and where possible each CHQNZ-PF was matched to a corresponding CHQNZ-CF. The additional recruitment of child-parent pairs to increase the numbers of te reo responses from parents provided the balance of the group who were not interviewed in a school or kura environment in order to provide sufficient responses to undertake a reliable psychometric analysis of the performance of the CHQNZ by language version and compare adult and child responses by language.

Responses by parents were recorded on the CHQNZ-PF (Table 6.9, below). The CHQNZ-PF is a bilingual questionnaire (PF-Bilingual, see Appendix 2) providing the parent with a choice of responding in English or te reo Māori. Table 6.9 indicates that most parents completed the English version of the questionnaire although some parents responded in both languages. A minority of parents completed their questionnaire solely in Māori. During a focus group interview parents were asked about their language preferences (see p. 154).

**Table 6.9**  **Responses from Parent by Language**

| School | English | Maori | Total |
|---|---|---|---|
| A | 25 | 9 | 34 |
| B | 14 | 2 | 16 |
| C | 5 | 1 | 6 |
| D | 15 | 2 | 17 |
| E | 25 | 3 | 28 |
| F | 11 | 2 | 13 |
| G | 16 | 5 | 21 |
| TESTING | 49 | 8 | 57 |
| Total | 160 | 32 | 192 |

Most had not consciously chosen to respond in English. A participant in the Adult Focus group (FG-M) (a parent who also took part in the study) suggested that the format of the questionnaire may have contributed to starting the parent response in English. The format of the CHQNZ-PF (see Appendix 2, p. 314) set the English language questions on the left facing page and te reo Māori version on the right facing page. The parent explained that reading from left to right started the survey in English. This pattern of completion is supported by responses to the survey. Three parents started the survey in English and then answered the remaining survey in Māori, responding to the first page of questions twice.

Table 6.10 provides a breakdown of the language-versions used in the parent-student pairs by school. The recruitment of additional pairs was not successful as can be

seen in the TESTING** row of the table below.

**Table 6.10     Responses for Parent-Child Pairs by School and Language**

| CF School | English | Māori | Total |
|---|---|---|---|
| A | 14 | 7 | 21 |
| B | 13 | 2 | 15 |
| C | 5 | 1 | 6 |
| D | 13 | 2 | 15 |
| E | 22 | 3 | 25 |
| F | 11 | 2 | 13 |
| G | 13 | 3 | 16 |
| TESTING** | 22 | 4 | 26 |
| Total | 113 | 24 | 137 |

The analysis of the student-parent questionnaire pairs reflects the influence of child absentees and preference of parents to complete the English version of the PF-Bilingual.  Child absentees were not able to complete the questionnaire to match the response by their parent, reducing the numbers of pairs available to compare child and adult assessments.  Although there were relatively fewer te reo Māori pairs, there are sufficient to undertake an analysis of the responses to determine the degree of variation between the two translations of the same instrument, it is also possible to review the degree of variation between the child-parent pairs who responded in different languages (Table 6.11).

**Table 6.11     Responses for Student-Parent Pairs by Language**

| | Parent Language version | | |
|---|---|---|---|
| Student Language version | English | Māori | Total |
| English | 85 | 9 | 94 |
| Māori | 28 | 15 | 43 |
| Total | 113 | 24 | 137 |

Establishing the validity of the CHQNZ-CF was an important precursor to addressing the principal research question.  The validation of the CHQ-CF is done by comparison.  Comparison of the student's self assessment with that parent's assessment of the child's health raises two issues for validity, that each version approximates the same theoretical framework and that they also are comparable with the data already published for the CHQ.  Comparing both versions of the CHQNZ will indicate how much agreement there is between the two instruments and what parents and students think about child health.  An analysis of the comparison of the two versions of the CHQNZ was under taken followed by a comparative analysis of the performance of each version of the CHQNZ with the

respective CHQ instruments.  Starting with the items and then the scales the two versions of the CHQNZ were compared with available data from studies published on research in Australia and the United States of America.

**Table 6.12     Demographic Comparison with other studies**

|  | Parent Form (PF) | | | Child Form (CF) | | |
|---|---|---|---|---|---|---|
|  | New Zealand | Australia | USA | New Zealand | Australia | USA |
| Sample size | 197 | 249 | 398 | 182 | 171 | 278 |
| **Child** | Primary School | Primary School | Population Survey | Primary School | Secondary School | Secondary School |
| Mean age (years) | **10.6** | 8.8 | 12.0 | **10.5** | 13.9 | 13.1 |
| Age Range (years) | 7-13 | 5-12 | 4-19 | 7-13 | 12-18 | 10-15 |
| Male (%) | 46.4 | 62.5 | 55 | 46.1 | 48.0 | 42.2 |
| **Parent** |  |  |  |  |  |  |
| Mean age (years) | **39.1** | 37.9 | 37 |  |  |  |
| Age Range (years) | 22-69 | 16-60 | 18-72 |  |  |  |
| Female (%) | 83 | 87.1 | 64.2 |  |  |  |

Source of USA and Australian Data, Waters, 2001

The comparison of both versions is confirmed by principle component factor analysis mapping their respective scales into the two summary scores, Physical Health Scale (PhH) and Psycho-Social Health Scale (PsH). Landgraf found that 59% of the variation in the scales is explained by the principle component factor analysis (Landgraf et al., 1996) and this was confirmed by Waters (Waters, 2001).

The New Zealand study cohort data share similar demographic characteristics with the Australian-PF and the USA-PF form data; a high percentage of female responders to the PF form in a school setting and an average parent age close in value (see Table 6.12).  The relatively lower proportion of female adult responders in the USA may have been due to the data collection using a population survey.  The mean age of the students and children completing the CF form is higher in Australia and USA from the contribution of students' from secondary schools. Where the CF form was completed in primary schools the average age and age range were similar, although higher in New Zealand because some primary schools include years six

and seven (twelve and thirteen year olds).

# He Whakaaturanga Tamariki - Psychometric Properties of CHQNZ

## *Data Analysis*

The psychometric validation of the CHQNZ-CF is the penultimate step in its validation. This psychometric validation is a confirmatory validation. Where the CHQNZ equals or exceeds the results published for developers and translators of the CHQ's the validation is assured. The CHQNZ-PF is briefly compared with the CHQNZ-CF raw score data and then with Australian and USA raw score data to provide the perspective of the parents of the children in the study and similar data overseas however the focus of the validation is the CHQNZ-CF. The criteria developed by Landgraf (1998) provide a number of perspectives with which to view the degree of discrimination the instrument can provide by analysis of the properties of the items and scales used in the CHQ.

An analysis strategy is outlined next with a fuller explanation in the Methods Chapter (see p.106). The estimation of the correlation of the descriptive statistics from the responses to the CHQNZ instrument with those reported in the literature was the first step. This has been reported in the previous section. The second step was testing for internal consistency for each item. A Pearson item correlation of at least 0.4 was considered an acceptable correlation. The third step was an estimation of the contribution each item made to the scale it represented. The estimation of equal item contribution was carried out by a Pearson correlation of the item with the other multi-item scale. The fourth step tested how different each item was from other outside the scale in with they belonged, a complementary test for the first step which compares the correlation of the item to its own scale with other scales. Where an item was not theoretically correlated with another scale, the difference should be of the order to two standard errors. The fifth test compared the floor and ceiling effect for each item to ensure the full range of values in each item was used while maintaining the specificity of each item – no floor or ceiling values could indicate that the instrument was not sensitive to all states of health. The sixth step was testing for internal consistency using Cronbach's alpha coefficient ($\alpha$) which is a test for reliability. The seventh step was to see how well the scales correlated using the

mean of the Pearson correlation coefficient for the items within the scale. This inter-scale correlation was proven when each Pearson correlation coefficient (item compared with other scales) was less that their respective Cronbach's alpha for each scale. The eighth test was a test for external validity and that required the testing using a Cronbach α Correlation Coefficient between the scores and the observed illness reported by the parent. For this thesis those children who were reported to have two or more illness (n= 47) were compared with those who had no illness reported (n= 132). The final two tests for validity compared the response by the children with those of the parents, and the last test was to see if the responses of the parents and the children fitted the two factor structure proposed by Landgraf (Landgraf et al., 1996). This final step investigated the fit each version has to the two summary scales; the Physical (PhS) and Psycho-social (PsS) summary scores will be presented in the next chapter.

## Descriptive Statistics

### Scale Comparisons CHQNZ-CF and CHQNZ-PF

Comparing the data provided by the two CHQNZ forms with the data published by the developers of the CHQ illustrates commonality and difference. The average scores of the scales were compared between the two versions of the CHQNZ. Where single items were reported the average within the item responses was reported and the average number of items responded was noted with "SI" to note a single item scale. The comparison between the scales of the Parent Form with that of the Child Form of the CHQNZ showed close agreement in average scores for both dental items and total score, Behaviour, Family Cohesion, Global Health, Physical Function and Self Esteem, all falling within five points of each other. The remaining scales were all within one standard deviation of each other however most exhibited a standard deviation in excess of 20 (the exception being Role Emotional).

**Table 6.13    Scale Comparisons for CHQNZ CF and PF**

| CHQNZ-CF standardised | | | | CHQNZ-PF standardised | | | |
|---|---|---|---|---|---|---|---|
| Child Form | Score | Item | SD | Parent Form | Score | Item | SD |
| Behaviour | 73.4 | 16.85 | 15.47 | Behaviour | 68.2 | 3.97 | 25.27 |
| Body Pain | 76.3 | 2.00 | 9.62 | Body Pain | 82.3 | SI | 20.04 |
| Dental Total | 69.4 | 7.86 | 18.99 | Dental Total | 69.3 | 7.87 | 17.36 |
| Family Activities | 66.2 | 6.12 | 25.32 | Family Activities | 83.9 | 1.97 | 7.75 |
| Family Cohesion | 77.7 | SI | 27.06 | Family Cohesion | 78.3 | SI | 20.04 |
| Global Health | 78.2 | SI | 23.68 | Global Health | 78.3 | SI | 15.52 |
| General Health | 53.7 | 10.88 | 31.50 | General Health | 67.9 | 3.94 | 39.53 |
| Mental Health | 64.8 | 15.92 | 21.34 | Mental Health | 80.5 | 2.96 | 12.74 |
| Phys Function | 85.1 | 8.87 | 15.05 | Phys Function | 89.5 | 3.00 | 5.07 |
| | | | | Parent Emotional | 79.3 | 1.96 | 14.11 |
| | | | | Parent Time | 83.7 | 1.97 | 8.46 |
| Role Emotional | 81.4 | 2.98 | 9.82 | Role Emotional | 89.6 | 2.00 | 8.46 |
| Role Behaviour | 85.5 | 2.98 | 8.90 | | | | |
| Role Phys | 80.2 | 4.94 | 16.13 | Role Phys | 71.1 | 4.97 | 20.86 |
| Self Esteem | 80.4 | 13.93 | 16.71 | Self Esteem | 83.4 | 2.94 | 8.88 |
| Average | **74.8** | | | | **78.9** | | |

The Parent Form had fewer items per scale so a greater degree of variation was expected within scales. This may explain some of the variation between the Child and Parent Forms.  All the average scores for Australian children were reported higher from the proxy data collected from parent (see Table 6.13) and this was also observed in the data Waters collected from primary school children when compared with New Zealand children in this research study (see Table 6.14) (Waters, 2001).

**Table 6.14    Scale comparisons for CHQNZ-CF and CHQAU-CF**

| | Average Standardised Scale Score | | | | Standard Deviation (SD) | | | |
|---|---|---|---|---|---|---|---|---|
| | CHQCF-NZ | | CHQCF-AU | | CHQCF-NZ | | CHQCF-AU | |
| | Female | Male | Female | Male | Female | Male | Female | Male |
| Behaviour | 75.32 | 71.42 | 77.93 | 77.09 | 13.45 | 17.31 | 13.90 | 13.60 |
| Body Pain | 76.88 | 74.88 | 73.56 | 72.05 | 29.35 | 27.12 | 20.47 | 21.15 |
| Family Activities | 66.15 | 61.65 | 72.68 | 72.32 | 20.82 | 23.61 | 15.80 | 16.05 |
| Family Cohesion | 76.34 | 78.98 | 73.35 | 69.12 | 26.96 | 27.32 | 24.98 | 26.90 |
| General Health | 55.10 | 55.92 | 69.36 | 66.91 | 13.85 | 15.95 | 15.06 | 15.94 |
| Mental Health | 65.84 | 63.61 | 78.10 | 71.71 | 9.86 | 10.58 | 14.14 | 17.63 |
| Phys Function | 84.18 | 87.18 | 94.60 | 94.99 | 20.74 | 17.47 | 9.59 | 9.59 |
| Role Emotional | 81.23 | 85.95 | 89.62 | 87.76 | 22.58 | 19.49 | 18.02 | 19.02 |
| Role Behavioral | 86.40 | 84.95 | 91.62 | 93.84 | 20.14 | 19.20 | 16.79 | 14.96 |
| Role Physical | 82.45 | 84.12 | 94.73 | 94.43 | 23.82 | 21.39 | 14.49 | 15.08 |
| Self Esteem | 76.63 | 74.21 | 77.20 | 72.08 | 14.34 | 16.52 | 16.40 | 17.35 |
| Average | **75.1** | **74.8** | **81.2** | **79.3** | **19.6** | **19.6** | **16.3** | **17.0** |

The data report by Dr Elizabeth Waters from the *Health of Young Victorian's Study* included reports from the parents for children under the age of 13 years from Australia and additional data from the USA (Green et al., 2003; Haby et al., 2002; Roseby et al., 2002; Roseby et al., 2003; Wake, Hesketh, & Waters, 2003; Wake et al., 2002; Waters et al., 2000; Waters et al., 2003; Waters, 2001; Waters et al., 2001).

The data reported by Waters were used for external comparison in this study for children whose average age was 11.58 years for the CHQAU-PF and 15.13 years for the CHQAU-CF.

**Table 6.15    Scale comparisons for CHQNZ-PF and CHQAU-PF**

| Average Score and Standard Deviation | | | | | |
|---|---|---|---|---|---|
| CHQNZ-PF28 (<13 years) | | | Australia-PF50 (<13 years) | | |
| *Parent Form* | *Score* | *SD* | *Parent Form* | *Score* | *SD* |
| Behaviour | 68.2 | 25.27 | Behaviour | 76.18 | 15.01 |
| Body Pain | 82.3 | 20.04 | Body Pain | 84.68 | 17.63 |
| Family Activities | 83.9 | 7.75 | Family Activities | 85.51 | 16.82 |
| Family Cohesion | 78.3 | 20.04 | Family Cohesion | 77.23 | 19.68 |
| General Health | 67.9 | 39.53 | General Health | 77.14 | 16.25 |
| Mental Health | 80.5 | 12.74 | Mental Health | 79.94 | 11.84 |
| Phys Function | 89.5 | 5.07 | Phys Function | 95.20 | 14.73 |
| Parent Emotional | 79.3 | 14.11 | Parent Emotional | 81.77 | 19.73 |
| Parent Time | 83.7 | 8.46 | Parent Time | 90.84 | 17.49 |
| Role Emotional | 89.6 | 8.46 | Role Emotional | 94.11 | 16.68 |
| Role Phys | **71.1** | 20.86 | Role Phys | **95.12** | 16.10 |
| Self Esteem | 83.4 | 8.88 | Self Esteem | 82.53 | 15.88 |
| average | 79.8 | 15.93 | average | 85.02 | 16.49 |

The CHQNZ-PF performed at about the same order for average score, rating nominally higher than the Australia sample in Family Cohesion (FC), Mental Health (MH) and Self Esteem (SE) and lower for all other scales with Role Physical (RP) more than one SD lower for the CHQNZ-PF.    The measure of variation with each scale, standard deviation for the CHQNZ scales was lower for Family Activities (FA), Physical Functioning (PF), Parent Impact–emotional (PE), Parent Impact – time (PT), Role Emotional (RE) and Self Esteem (SE).  Variation was higher in Behaviour (BE), Body Pain (BP), Family Cohesion (FC), General Health (GH), Mental Health (MH) and Role Physical (RP).

Comparing the CHQPF score averages and standard deviations between the New Zealand and Australia data provides a comparison of the child form data between the two countries (see Table 6.15).  Body Pain, Family Activities and Family Cohesion fell within the 5 points (margin for clinical significance) as did Mental Health, Parent Impact (emotional), Role Emotional and Self Esteem.  In a similar manner to the comparison with the CHQNZ-CF, those CHQNZ-PF's scales that fell outside the 5 point range (±2.5 point) were within the order of a single standard deviation of the Australian values.

## *Te Rarangatanga - Equal Contribution Concept*

Te Rarangatanga in the context of this study is a balanced approach to assessment.

This property of an instrument is important because the equal contribution by each item should ensure a balance of perspectives is maintained without sacrificing the richness a variety of measures can bring to an analysis. Diversity can increase responder burden if it requires long questionnaires or seemingly irrelevant questions. Therefore the composition of the questionnaire (items) and how these items are arranged in scales forms part of the assessment of the CHQNZ-CF. The same approach is brought to the psychometric analysis of the properties of the CHQNZ-CF. Maintaining a balanced perspective when considering the psychometric properties permits the consideration of the contribution from each property to the assessment of the CHQNZ-CF and the CHQNZ-PF.

**Table 6.16    Item internal consistency, item discriminant validity**

| | | Parent Form Report  (PF report) | | | | |
|---|---|---|---|---|---|---|
| | Age range | NZ Māori 7-13 yrs | NZ English 7-13 yrs | NZ All 7-13 yrs | Australia 5-11 yrs | USA 5-18 yrs |
| | Sample size | n=33 | n=160 | n=193 | n=166 | n=380 |
| Item internal consistency | Item r<0.4 in scale (%) | 82.6 | 100 | 100 | 96.0 | 90.0 |
| | Items with r<0.4 out of scale | 9/28 | 2/28 | 7/28 | 2/50 | 5/50 |
| Discriminant validity | Items [1] with higher correlation +2 SE for r<0.40 within own scale (%) | 73.7[2] | 100 | **100** | 99.1 | 37 |
| | Range (%) | 25-100 | 100 | 100 | 90-100 | 82.0-100 |
| | | Child Form Report  (CF report) | | | | |
| | Sample size | n=65 | n=114 | n=179 | n=166 | n=273 |
| Item internal consistency | Item r<0.4 in scale (%) | 75.9 | 90.4 | 88.0 | 84.0 | nr |
| | Items with r<0.4 out of scale | 59/83 | 45/83 | 67/83 | 14/80 | 19/83 |
| | | | | | | |
| Discriminant validity | Items [1] with higher correlation +2 SE for r<0.40 within own scale (%) | 70.3 | 89.4 | **89.4** | 97.6 | Nr |
| | Range (%) | 5.9-100 | 58-100 | 68-100 | 94-100 | nr |

Source: Australian and USA data Waters, 2001 (Table 3, p. 80)

(nr =not reported)

[1] Item with r<0.40 plus 2 standard error (SE) for variable across all scales.

[2] Discriminant validity score for CHQNZ-PF item correlation of 1 SE is 84.2%, r<0.40.

The contribution each item makes to a scale was determined by comparing Pearson correlation coefficients for each item corrected for overlap with other items within the same scale. Table 6.16 provides an analysis of the psychometric properties of the CHQNZ (CF and PF) compared with the CHQAU-PF and the CHQUS-PF. Although there are fewer Māori language responders, the performance of the

CHQNZ appears to be similar to that of the CHQAU-PF.

Differences arise with internal consistency for some items to their respective scale were lower than expected from the overseas data, demonstrating that the CHQNZ in English exceeds that item internal consistency and discriminant validity of the Australian instrument. Although the score for the te reo Māori version of the CHQNZ has lower values than the Australian instrument, the combination of the English and te reo Māori data suggests that this may be more a reflection of the number of questionnaires analysed.

Item discrimination between scales of the CF-Māori shows that despite a range of 5-100%, 70.3% of items correlated strongest with their own scale. Strong correlation with items out of scale decreased the discriminant validity of some of the scale in the CF-Māori. The items that proved the most strongly correlated in the CHQ-NZ over several scales are the same scales that performed the strongest in the Australian (CHQAU-CF) and USA (CHQUS-CF) forms –Physical Function and Behaviour.

Interestingly the CHQUS –CF performed in a similar manner to the CF-Māori. The lower item internal consistency for the CF-Māori contributed strongly to the relatively lower discriminant validity values of the CF-Māori by reducing the number of items that score r<0.40.

Item internal consistency will be further analysed when the scale correlations are presented (see appendixes Tables 6.23, 6.24 and 6.25 (pp. 394-396)). The performance of the two versions of the CHQNZ forms relative to the equivalent CHQAU and CHQUS versions will now be explored in more detail (see Table 6.17, p. 389). The CHQ PF-50 is a 50 item proxy questionnaire developed in the USA (PF-50US)(Landgraf et al., 1996; Landgraf et al., 1998) and adapted in Australia (PF-50AU) (Wake et al., 2002; Waters et al., 2000; Waters et al., 2000).

The PF-50AU is compared with the CHQNZ-PF for scale average correlation value, scale standard deviation and scale floor and ceiling effect. The PF-50US contributes the floor and ceiling effect and scale correlation coefficient. The value of each scale in the CHQ is the sum of its hypothesised component items. Comparing the 28 item CHQNZ-PF with the 50 item CHQ-PF 50 was difficult because there were comparatively fewer items in most scales of the CHQNZ-PF and the scale data presented raw for the CHQ-PF 50 were not presented as a transformed scale (0-100).

In most cases the raw scale averages are of a similar order when the number of items is taken into account. The scale ranges reflect the number of items in each scale however the relationship each scale's raw scale range and standard deviation with Ceiling and Floor effects suggest the scales of the CHQNZ-PF is functioning in a similar manner to the Australian version.

Observed (in the English version, Table 6.19, p. 391) is a relative increase in ceiling effect for Behaviour, Mental Health, Self Esteem, General Health and Parent Impact (Emotional). The CHQNZ-PF has a relatively lower ceiling effect for the Parent Impact-time scale when compared with the CHQAU-PF. When this is considered along side the overall lower standard deviation for each scale the CHQNZ-PF appears to respond over a wide range of the scale commensurate with the few items per scale. The correlation (Cronbach α) between scales of the CHQNZ-PF is the same order or slightly lower than the US and Australian versions.

A more detailed comparison between the US and Australian version is carried out by comparing these to the te Reo Māori (See Table 6.21, p. 393) and English (see Table 6.22, p. 393) versions of the CHQNZ-PF. Both perform in a slightly different manner when compared with the CHQAU-PF and CHQUS-PF. Both CHQNZ-PF versions shared the same trend in slightly lower correlation for most scales with Behaviour, Mental Health and Self Esteem the three scales that were consistent with the CHQAU-PF and CHQUS-PF through the comparison of floor and ceiling effect.

This pattern is due to nearly identical floor and ceiling effects in both the Māori and English version, with greater ceiling effect for the scales General Health, Parent Impact –Time and Family Activities. The two CHQNZ-PF forms were compared directly for scale correlation later in the chapter (see Table 6.27, p. 398). The performance of CHQNZ-PF is comparable with the PF-50US and PF-50AU.

## *Relative Performance of the Child Form*

The next stage is to consider the comparison of the CHQNZ-CF with the Australian and USA versions. The Australian version of the CHQ-CF is the eighty item questionnaire (CHQAU-CF80). It has fewer items than the New Zealand and US (CHQUS-CF87) versions that share a total of 87 items. For this analysis, presented on Tables 6.20 (p. 393), 6.21 (p. 393) and 6.22 (p. 393), are the Cronbach α coefficients CHQUS-CF87 for comparision.

The analysis of variation in raw scale averages was more straight-forward with all instruments sharing a similar number of items in all scales. The general trend is a reduction in scale average raw score between the Australian and New Zealand versions, with seven scales having a lower average across the two versions of the CHQNZ. Most of the raw scale scores were within a standard deviation of the CHQAU-CF. The Physical Function, Role Physical and Family Activities scales in the CHQNZ-CF were lower in comparison to the Australian score (see Table 6.20, 393). The standard deviation of the scales averages was greater across nine of scales for the CHQNZ-CF, with the exception being the Mental Health scale (see Table 6.20, p. 393). Floor effects for eight scales of the CHQNZ-CF are greater when compared with the same CHQAU-CF scales, with ceiling effects greater in six scales of the CHQNZ-CF. The difference in ceiling and floor effects between the NZ and Australian data may explain some of the observed increase in the standard deviation for the raw scale scores.

Five of the CHQNZ-CF scale correlation coefficients (Cronbach α) were lower than their respective scales compared with the CHQAU-CF and CHQUS-CF and of the same order for the remaining four scales -Physical Function, Role Behaviour, Role Emotional and Body Pain. The recruitment of children with known illness to test for clinical validity contributed to the higher scale correlation coefficients for most scales for both the CHQAU-CF and the CHQUS-CF. Differences in correlation between the scales for each version of the CHQNZ-CF were very consistent with very small changes for the Physical Function and Family Activities scales. The correlation coefficient for the remaining scales decreased or stayed about the same order.

Comparing each version of the CHQNZ-CF with the CHQAU-CF revealed minor

differences in the average scale scores. Both language adaptations for New Zealand performed in the same manner relative to the CHQAU-CF with the same three scales demonstrating a lower raw scale score.

Physical Functioning, Role Physical and Family Activities all had lower average raw scales scores of one standard deviation greater than the same scale in the CHQAU-CF. The standard deviation for all scales except the Mental Health scale increased in comparison to the respective Australian scale. The floor effects for each CHQNZ-CF version varied little from that of the combined CHQNZ-CF data. The floor effects of each version shared a similar pattern of change respective to the Australian values. Eight scales showing a greater proportion of the minimum value making up the respective scale (floor effect). The remaining two scales shared similar standard deviations for raw scale score (Role Emotional and Role Physical). The ceiling effects on the other hand varied with more scales demonstrating a greater ceiling effect for the English version when compared with the Australian scales. The Physical Functioning and Role Behaviour scales exhibited a great ceiling effect in English of the CHQNZ-CF than it did in Māori version or the CHQAU-CF. The general pattern of floor and ceiling effect was the same for both the Māori and English versions of the CHQNZ-CF. Differences are also observed when comparing the Cronbach α scale coefficients. The Physical Function, Role Emotional and Body Pain scales of the English version exhibit the same order of scale correlation relative to the CHQAU-CF. All of the scale correlation coefficients for the Māori version were lower than the respective Australian scale correlation coefficients. The relative performance of the English and Māori adaptations suggests that although the performance of the CHQNZ-CF is acceptable for most scales there are differences in psychometric performance that warrant further discussion/explanation. Widening of the ceiling and floor effects of the New Zealand version relative to the US and Australian data suggests the New Zealand versions of the CHQNZ-CF are attracting a wider range of responses by making more use of the minimum and maximum variables for each item in most scales. The variation in the pattern of ceiling and floor effects for the Australian CHQ-CF showed that one third of the scales exhibited floor and ceiling effects with two of the remainder showing ceiling effects greater than 50%. This indicated that two thirds of the Australian questionnaire did not use either the maximum or minimum values,

and one had 0% ceiling and floor effect.  In contrast the New Zealand forms were very consistent with all scales providing ceiling and floor effects of a similar order with Role Physical and Role Emotional providing the only floor effect of less than 1%.

The correlation between the scales of the CHQNZ was compared with the data published for the CHQAU-CF using inter-scale correlations.  Tables 6.23, 6.24 and 6.25 (pp. 394-396) provide an analysis of the Cronbach correlation coefficients between the data collected from the survey for all the students and children who took part (Table 6.23, p. 394), the te reo Māori responses (Table 6.24, p. 395) and the English language responses (Table 6.25, p. 396).  The order of the scales for the New Zealand data is altered because the inter-scale correlation order is dictated by the scales that interact the strongest.  Cronbach α is the correlation coefficient that a scale has with the items with it.  The correlation coefficients for other scales are listed in their column.  The interaction as measured by the correlation between scales is significant for a value greater than 0.40, p<0.0001.  These figures are in bold type. The pattern of interaction between scales and the Cronbach α coefficients indicate that the scales are significantly and recognisably distinct with interaction between scales that are expected to interact.  For example Physical Functioning is well correlated with the Role Physical.  Behaviour is correlated with Role Behaviour, and the Role scales are inter-correlated.  It was also expected that General Health would correlate well with the physical health scales as indicated by the Australian data but this was not observed in the New Zealand data.  The order of the scales for the analysis of the New Zealand data made comparison difficult with the Australian data because levels of significance were not recorded with the Australian data and it cannot be assumed that every correlation coefficient over 0.40 is statistically significant.  The te reo Māori version had lower Cronbach α coefficients for each scale and fewer significant correlation coefficients between scales due to smaller numbers interviewed.  The relative relationship of the scales and coefficients was the same as the English language and total New Zealand data when compared with the correlation coefficients for the CHQAU-CF.

The next stage of this analysis is to compare the correlation performance between the translations of the two CHQNZ forms and then the external validation of the CHQNZ.

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Table 6.26 and 6.27 (p, 397 and p. 398 respectively) presents the inter-scale correlation coefficients (ICC) for the CHQNZ-CF and CHQNZ-PF respectively. The CHQNZ-CF data (Table 6.26) shows the breadth of inert scale correlation between the Physical Functioning scale and Role Physical scale. The Role Emotional Scale interacts with the Role behaviour scale and there is some interaction between the Self Esteem scale and the Mental Health scale. The reassuring pattern in this table is the low level of interaction between scales, and with the exception of te reo version's Behaviour scale all the Cronbach α correlation coefficients exceed the minimum r<0.70 for acceptable inter-scale correlation.

The implication of the interaction between scales forms the part of the discussion on the validation of the CHQNZ-CF so will feature in the next chapter. The ICCs for the CHQNZ-PF are presented to show that there are fewer inter-scale correlations for this form and this pattern is consistent across the three sets of data. There remains the inter-scale correlation between the Physical Function and Role Physical Scales, and between the Role Emotional and Role Behavioural scales as observed with the CHQNZ-CF. The interaction between the Parent Impact –Time scale and Parent Impact-Emotional for the te reo Māori responses was unexpected as was the interaction between the Patent Impact-time and Family Activities scales. There were a number of other high, but statistically significant correlations that are difficult to explain because the values have an unknown error and the corresponding values for the two remaining versions are substantially lower suggesting a random effect.

The final stage of the validation of the CHQNZ is the assessment for external validity by testing the scales against an external variable. For the purposes of this study a set of questions were posed to the parents about the health history of their children. A high level of reported illness was set at three or more reported health issues. The data were then assessed by comparing the responses those who reported no health issues against those who reported three or more health issues (Table 6.28, see below). The decrease in Cronbach α between the two groups when testing for the external validation of the CHANZ indicates that the scales function in a different manner when comparing those with report illness to those will less or no reported illness. It is expected that the Cronbach α would increase for each scale when illness was reported by the developers of the CHQ. The low Cronbach α for children with reported illness suggests that either the factor scale for which the

relationship between the scales is hypothesised may not be the same as the developers had used when developing the CHQ or the numbers of children reported to have illness three or times was insufficient to correlate the items with their relevant scale.

**Table 6.28**          **Assessment of External Validity for the CHQNZ-CF**

| | No Reported Illness | | | | Illness reported three or more times | | | |
|---|---|---|---|---|---|---|---|---|
| | n | Mean | SD | α | n | Mean | SD | α |
| Physical Function | 132 | 31.61 | 5.10 | **0.81** | 47 | 31.21 | 7.65 | 0.50 |
| Role Emotional | 132 | 10.36 | 2.18 | **0.81** | 47 | 10.23 | 2.44 | 0.67 |
| Role Behavioural | 132 | 10.83 | 1.72 | **0.81** | 47 | 10.30 | 1.98 | 0.67 |
| Role Physical | 132 | 10.23 | 2.32 | **0.80** | 47 | 10.57 | 2.00 | 0.53 |
| Body pain | 132 | 9.48 | 2.45 | **0.83** | 47 | 9.89 | 2.67 | **0.02** |
| Behavior | 132 | 65.90 | 10.69 | **0.80** | 47 | 67.22 | 10.62 | 0.50 |
| Mental Health | 132 | 57.32 | 7.16 | **0.83** | 47 | 56.98 | 6.70 | 0.42 |
| Self Esteem | 132 | 59.15 | 8.88 | **0.81** | 47 | 57.83 | 11.92 | 0.34 |
| General Health | 132 | 41.64 | 7.53 | **0.83** | 47 | 43.70 | 8.88 | 0.27 |
| Family Activities | 132 | 18.16 | 6.45 | **0.82** | 47 | 19.77 | 5.97 | 0.22 |
| Family Cohesion | 129 | 4.07 | 1.06 | **0.84** | 47 | 4.27 | 1.07 | **0.12** |
| | Cronbach α correlation coefficient | | | **0.83** | Cronbach α correlation coefficient | | | **0.73** |

# Summary

The CHQNZ has been validated using multiple perspectives. The methods described by MAPI and the developers of the CHQ are adapted to account for the school-based survey in New Zealand. The CHQNZ is designed to function as a population health survey tool. The analysis of the data collected from the survey demonstrates the high degree of external validity as indicated by the sharing of summary properties between the New Zealand versions and the Australian and USA version.

## *Validation of translation to target language*

The linguistic validation of the CHQNZ is complemented by a statistical evaluation of the relative properties of the English and te reo Māori versions. This second phase, the psychometric validation of a two-phase process, is termed a cultural adaptation (Acquadro et al., 2004). The results of the translation of the CHQNZ were mixed. While the translation process identified and resolved initial conceptual anomalies by having them "discussed with experts in Māori child health to reconcile or maintain conceptual equivalence" in order to maintain conceptual equivalence

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(refer to discussion on p. 92) the internal consistency and related psychometric properties shared by both translations varied. Nevertheless the variation was of a similar order to that observed between countries. This variation between translations was further explored with the back translations provided by children that indicated their understanding of the tool varied in places from that indicated by the adult back translation.

## *Participants*

The linguistic validation process was a collaboration in which each contributor provided a specific input. Landgraf (1996) developed the source instrument to be validated. The role of children in the validation of the CHQ is a new role and new methodology was developed and carried out successfully providing a new method for assessing the validity of the CHQ. The selection of schools for the survey was undertaken to poll as diverse range of schools within the geographic confines permitted within the research budget and time available for the study

## *Assessment of Validity and Reliability*

The CHQNZ was successfully translated and met most of the psychometric tests for validity and reliability. The CHQNZ failed the test for external validity which also contributed to construct validity. Construct Validity and the factor analysis data will be presented in the next chapter.

## *C h a p t e r   7*

### HE HUARAHI TĀPIRI – DISCUSSION
#### Multiple views of children

# Background

This Chapter, He Huarahi Tāpiri – Discussion, presents an analysis of the results of the research undertaken in this thesis. The data that informs the analysis in this chapter provide several views or perspectives and is drawn together to identify relationships and themes that influence the assessment of child health. The results of the research, presented in two chapters, are the qualitative interviews with key informants (Chapter 5, p. 103), the Back Translation by Children (BTC) and the focus group interviews along with the results of the survey that followed the pilot study of the CHQNZ (Chapter 6, p. 157). This research was carried out to address the research question "can the New Zealand Child Health Questionnaire (CHQNZ) be adapted as a validated tool for assessing the health of Māori speaking children?" The scope of the survey precluded generalisability to all the children of New Zealand.

# Approaches to this Research

The goal of this research was to develop a bilingual self-completed child health questionnaire for tamariki Māori who speak te reo Māori. The aims were to inform as fully as possible the development, testing and validation of a child health questionnaire in two languages. The source questionnaire was developed in English and therefore required translation to enable tamariki Māori, for whom te reo Māori was their first language, to contribute to the development of the child health questionnaire.

The validation of the child health questionnaire took into consideration a variety of views including those of children, their caregivers and key informants. Analysing and interpreting the data relied on methods consistent with the sources of the data, type of data collected and the end-use of the analysis. Comparing the responses of children with those of adults is a robust method for determining validity. The normative values in other studies tended to be those of adults. In terms of

comparison of translated versions, there was an opportunity for children as well as adults when making the comparison with the original questionnaire. For the statistical data, comparison was made using correlation between scales and items in both the child and adult questionnaire, between translations as well as comparing summary statistics with international data where available.

The qualitative data were analysed to better understand those factors and determinants that influence the health and wellbeing of tamariki Māori from key informants, the caregivers and parents of children interviewed, as well as the translation of the child health questionnaire by tamariki Māori.

## *He Whakaturanga mo te Hauora Tamariki - The Child Health Questionnaire*

The child health questionnaire (CHQ) developed by Jean Landgraf was selected because it was well supported with a comprehensive user's manual, had been translated into several languages and had involved children in the construction of the questionnaire. The CHQ was available in an adult form (CHQ-PF) as well as a self-complete child form (CHQ-CF), had several length-versions and had also been validated in Australia. Validation of the CHQ in Australia and the USA provided two perspectives with which to compare the responses from this study. In addition the Australian study provided data from a very comprehensive adaptation analysis that included a substantial school-based cohort, a feature lacking with many other child health instruments. From a Māori perspective the CHQ also interrogated family-based activities including an assessment of family cohesion from both the child and the adult's perspective.

### Translation

Translation from English to te reo Māori was informed from the input and feedback of both adults and children during the CHQ's testing phase to establish face and content validity. The translated questionnaires were then used for the survey. The study was able to report for the first time the use of a bilingual questionnaire that quantifies the health status of New Zealand children in te reo Māori and English. The contribution children have made to the validation of the CHQ in the international literature has very rarely been reported other than as questionnaire responders.

The translation was undertaken for equivalence of meaning and the back translation processes ensured that inconsistencies were addressed to maintain meaning of the item and conceptual equivalence within each scale. The opinion of the language experts confirmed that the language used was appropriate and most of the vocabulary was suitable for the target age group (8 to 13 years). The translators identified a few phrases that were Tūhoe specific. While, for some respondents this dialectic preference would make understanding the questions less intuitive, it would not change the meaning. The overall assessment of the language experts was that the quality of the translation was high, and aside from some corrections for grammar and macrons, the questionnaires were sound translations. Comparing the back translation with the original text of both the child and parent questionnaire proved to be a challenge for both the child and adults translators.

## Back Translation and Validation

Interpreting the back translation, translation from Māori to English, meant comparing the text of the back translation with the original text. The back translations provided by the adults involved a straight forward comparison with the original questionnaire item by item. The back-translation provided by children opened a new aspect to this research providing insights into how children interpreted the questions and the responses to the questions in the CHQNZ-CF. The new view that children were able to provide with their interpretation of the CHQNZ-PF from te reo Māori to English was a test of their comprehension of the question, and test of their ability to express their thoughts in English without recourse to the original version of the question. The translation performance in terms of items and responses demonstrated a high level of understanding. There was variation between the BTC and this appeared to be age-related, the youngest children providing the lowest proportion of correct translation attempts.

## *The Psychometric Properties of the CHQNZ*

The validity and reliability of the CHQNZ was determined by applying several psychometric tests to the survey data collected during this research study. The lack of sufficient numbers of adults replying in Māori precluded the determination of the test-retest reliability to the CHQNZ. However the data from Australia and USA suggest it has acceptable stability over time for determining health states.

A panel of six tests formed the basis of the analysis strategy for determining the validity and reliability of the NZCHQ (see p. 179). The tests in summary were Pearson Item Correlation, Cronbach $\alpha$ to test scale correlation, floor and ceiling effect, equal item contribution and an overall comparison with other published data. The ultimate goal was to determine whether the CHQNZ would conform to the two factor scale theorized by the developers of the CHQ. In order to ascertain that the factor structure was sensible for CHQNZ several intermediate observations were required.

## Validity and Reliability

In order to assess the reliability of the CHQNZ the data was tested for item correlation (Pearson Correlation statistic) and scale correlation (Cronbach $\alpha$). The CHQNZ was also compared with the performance of the same questionnaire from data published from Australian and USA research.

The average scales scores (see Table 6.14, 6.15) were comparable and of the same order as the Australian and USA data, with a standard deviation lower in value. Comparing CHQNZ data at a scale level with the Australian and USA data required the use of raw data. This was straight forward to comparing the CHQ-CF data, however, comparing the CHQ-PF data with the Australian and US data was less direct. The number of items in the CHQNZ was 28 compared with the CHQ-AU and CHQ-US which referred to 50 item questionnaires. Aside from the difficulty comparing Australian scale averages and scale ranges (raw data) with CHQNZ, the correlation coefficients and Floor and Ceiling effect were found to be close in order, the New Zealand data having higher floor and ceiling effect as well as lower standard deviation and lower correlation coefficient (see Tables 6.17, 6.18 and 6.19 p.391) for the PF form.

The CHQNZ-CF data was compared with the Australian and USA data. The Cronbach $\alpha$ were found to be acceptable and of the same order in most scales. The CHQNZ-CF also had lower raw averages for most scales across all versions (see Table 6.20, 6.21 and 6.22, pp. 401-393). The CHQNZ-CF Ceiling and Floor effects were higher than the Australian data although scale ranges were narrower for some scales. The convergent validity CHQNZ-CF was similar in many aspects to the Australian data and the USA Cronbach $\alpha$. The CHQNZ also met the criteria for equal contribution with most multi-item scales (see Tables 6.26 and 6.27, p. 397-8);

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each item Pearson correlation coefficient contribution to its respective scale was compared with how the same item correlated with other scales (see Table 6.16, p. 184). Both te reo Māori versions exhibited a lower proportion of correlation coefficients within scale and higher correlation between scales than the English language version of the CHQNZ and the respective Australian and USA versions. This did not reduce the interscale correlation coefficients or Cronbach α (Tables 6.26 and 6.27) suggesting the relationship between the scale for both CHQNZ versions was fundamentally different to the theorized model.

The notion of equal contribution also extended to determining the interpretation of item scores and how this was reflected in the analysis of the contributions made by the items to their respective scales in the two language versions of the CHQ. These were found acceptable for all forms of the CHQNZ-CF in English and Māori (see Table 6.26). With the exception of the lower than expected Cronbach α (0.69, acceptable minimum is 0.70) for the Family Activities, Role Physical and Parent Impact (Emotional), scales of the English version of the CHQ-PF performed as well as the Māori version (see Table 6.27). Relatively fewer items per scale in the New Zealand PF version contributed to reduced reliability and therefore lower internal consistency for the CHQNZ-PF in te reo Māori.

The CHQNZ exhibited few differing psychometric properties compared with those published for Australia and the USA. Item Discriminant Validity (see Table 6.16, p. 184) for both the CF and PF forms was acceptable with all but the CHQNZ-CF-Māori and CHQNZ-PF Māori form were the item discriminant validity was lower than the Australian and USA values. The fewer items (28 versus 50, 82.6% and 96% respectively) in the CHQNZ-PF Māori may explain some of the difference when compared with the Australian data. For the CHQNZ-CF, the fewer items that correlated to acceptable levels with the scale in which they belonged was less than that published for the Australian data (75.9% v 84/0%). However the combined data from the CHQNZ-CF produced a higher level of items that correlated out of scale. This did not affect the overall Discriminant Validity. All the CHQNZ-CF versions have a Discriminant Validity of greater than 80% using a Standard Error margin. However with the more stringent 2-Standard Error margin, the Discriminant Validity for the CHQNZ-CF Māori in 70.3% and the CHQNZ-PF Māori is 73.7% compared with the Australian versions' (97.6% and 99.1%).

# Factor Analysis

The factors structure of the CHQNZ was a different matter. Although all versions of the CHQNZ do conform to a two factor structure, further analysis suggests that more factors would explain more of the variability between scales when all scales were incorporated. For the purposes of comparison, scale selections were limited to those selected by Waters (2001). Waters (2001) reported a Principle Components Factor Analysis of similar values to that reported by Landgraf (1996) using nine of the eleven scales available for the CF form.

**Table 7.1 CHQNZ-CF Principle Component Analysis (Two Factors)**

| | CHQNZ-CF | | | | | | CHQAU-CF | | | |
| | All Data | | No Illness | | 3 or More Illness | | All Data | | 3 or More Illness | |
| Scale | PsP | PsS | PsP | PsS | PsP | PsS | PsP | PsS | PsP | PsS |
|---|---|---|---|---|---|---|---|---|---|---|
| PF | **0.394** | *-0.259* | **0.396** | *-0.213* | **0.416** | *0.050* | **0.438** | *-0.175* | **0.460** | *-0.148* |
| RE | **0.377** | *-0.335* | **0.331** | *-0.426* | **0.461** | *-0.114* | **0.283** | *-0.028* | **0.095** | *0.169* |
| RB | **0.395** | *-0.324* | **0.361** | *-0.429* | **0.456** | *-0.175* | **0.196** | *0.074* | **0.146** | *0.105* |
| RP | **0.393** | *-0.230* | **0.383** | *-0.180* | **0.470** | *-0.006* | **0.472** | *-0.191* | **0.450** | *-0.117* |
| BP | **0.221** | **0.191** | **0.306** | *0.027* | *-0.167* | *-0.184* | **0.154** | *0.052* | **0.332** | *-0.073* |
| BE | 0.377 | 0.208 | **0.360** | **0.376** | **0.373** | *-0.037* | *-0.058* | **0.283** | *-0.088* | **0.298** |
| MH | **0.263** | **0.454** | **0.288** | **0.321** | 0.091 | **0.609** | *-0.122* | **0.338** | *-0.149* | **0.348** |
| SE | 0.290 | 0.337 | 0.297 | **0.394** | 0.079 | **0.563** | *-0.176* | **0.370** | *-0.160* | **0.342** |
| GH | 0.214 | **0.513** | 0.246 | **0.393** | -0.006 | **0.480** | *-0.070* | **0.260** | *0.053* | **0.163** |

The CHQ is hypothesised to fit a two factor model where all items could be explained by Physical Health (PsP) and Psycho-Social Health (PsS). This was demonstrated with the original form and the data that were collected in the USA carried out by Landgraf, partially supported by the Australian study carried out by Waters. Waters suggested three and four factor solutions that would explain the variability between scales. The New Zealand data can support a number of models. They can be forced into a two factor model (see table 7.1). When disaggregated into two groups, (for example those with three or more parental reported episodes of illness (Three Plus Illness), and those with fewer reported episodes of illness, the data will fit a two factor model. The test for external validity, three or more episodes of parent reported illness, relies on relatively small numbers (n=47), however high

internal consistency for both language versions of the CHQNZ and high inter-scale correlations are noted for the items in the domains Physical Functioning (PF), Role Emotional (RE), Role Behaviour (RB) and Role Physical (RP) (see Tables 6.22, 6.23 and 6.24). When compared with Australian and USA data the factor analysis for the CHQNZ-CF suggests the theoretical construct upon which the CHQ is based is also consistent with that for New Zealand children who have three or more episodes of parent reported illness.

The success of fitting a two factor model to those who have reported three or more episodes of parent reported illness suggests that there are acceptable levels of internal consistency for relatively well children (less than three episodes of reported illness). The observed inter-scale correlation for the items in the PF, RE, RB and RP scales across both language versions (see Tables 6.26 for the CHQNZ-CF comparison) suggests the hypothesised two factor scale may be more a reflection of the state of children who have experienced multiple episodes of illness in the past year rather than those who have not. The Australian and USA data included at least one cohort of children with a reported health state related to a contemporary diagnosed illness (including Asthma, Rheumatoid arthritis and attention-deficit hyperactivity disorder).

Should children with a known illness be included in the sample, the focus for children is on the scales that express many of the physically related health issues. When three or <u>more</u> episodes of illness are part of a child's health experience, social issues appear to correlate relatively well with their health status, improving the discriminant validity of the scales, more so than for children with <u>fewer</u> episodes of reported illness. For children who have fewer parent report episodes of illness, the relationship between the social scales appears diffuse and can be represented by models that have three or more factors as experienced by the Australians and here in this study. The interpretation of data from populations that present differing factor scores may produce difficulties for the assumption of conceptual equivalence where the differentiating issue is a threshold for reported illness. This appears to be the case for the New Zealand data and consistent if health state is to be the outcome variable.

The reliability and consistency of the CHQNZ across two languages suggests that the change in summary factors' relationship to specific scales may be influenced by

the choice of item responses. This issue would have to be explored in a new study as indicated by the translation provided by the BTC of the CHQNZ. When the mistaken response for pain frequency was translated the BTC all interpreted the response in the context of the item and not what was literally (and mistakenly) provided in the response box. The translations provided by the BTC suggest they may interpret responses to other questions in the same manner. The differing view of children in terms of establishing equivalence is an indicative finding that should be further tested. It suggests that children respond to question-response sets in a manner that can lead to a different interpretation of the data they provide when answering the questions in the CHQ. If this is so, there is room for misinterpreting the responses provided by children when their comprehension of the item and related item response has not been validated independently. Introducing the opportunity for interpreting the meaning attributed by children can be done by asking the children their understanding. In terms of the validation of the two language versions of the CHQNZ, the issues that affect the interpretation of the CHQ data remain:

1. correlation between adult and child forms,

2. estimation of population and sub-population summary data, and

3. international comparison where factor analysis suggests differing models for children who experience illness over a known threshold.

The CHQNZ has demonstrated properties similar to those used in Australia and the USA. The remaining issue is the comparison of the responses of children and the adults.

## Parent-Child Agreement

Using intra-class correlation the degree of agreement between child and parent assessment for scale by scale comparison is poor (see Table 7.2, next page). The validation of the child form against the parent form was a test for external validity and one the CHQNZ was expected to pass but this was not the focus of the validation exercise other than to demonstrate properties similar to that of the Australia and USA version of the CHQ.

Correlation between both versions improved when using paired Student t-test and

Wilcoxon t-test.  The paired Student t-test showed adequate levels of correlation
between scales with Role Physical, Behaviour, Mental Health, General Health and
Family Activities proving they were significantly correlated.  Wilcoxon t-test with
the exception of Family Activities, showed no significant correlation between the
remaining scales.

**Table 7.2     ICC and t-test comparison between PF and CF Scales**

| CHQ Scales | Wilcoxon t-test (p) (most NS) | ICC -all (All NS) | ICC -3 or more illness (All NS) | t-test -all (dof) | t-test -3 or more illness (dof) |
|---|---|---|---|---|---|
| PF | 12.22 (0.20) | 0.68 | 0.57 | 1.70 (NS) | 0.04 (NS) |
| RP-Social | 3.83 (0.28) | 0.67 | 0.56 | 2.47 (109) | 1.29 (NS) |
| Body pain | 6.79 (0.15) | 0.68 | 0.52 | 2.23 (111) | 1.20 (NS) |
| Behaviour | 7.58 (0.11) | 0.65 | 0.54 | 1.54 (NS) | 4.55 (28) |
| Mental health | 27.66 (0.32) | 0.59 | 0.52 | 9.78 (111) | 2.9 (28) |
| General Health | 6.21 (0.10) | 0.56 | 0.47 | 10.96 (111) | 1.84 (NS) |
| Family Activities | *17.08 (0.02) | 0.52 | 0.40 | 9.43 (109) | 1.26 (NS) |
| Family Cohesion | 1.28 (0.87) | 0.55 | 0.45 | 0.48 (NS) | 0.47 (NS) |

NS=correlation not significant, * = p<0.05 .

The explanation for the difference between the methods appears to be the
distribution of the data and it appears the categorical nature of the data defeated the
strengths of the Wilcoxon t-test as illustrated by the frequency graph for General
Health (see Figure 7.1, next page).  These two scales illustrate the distribution of
data between the two forms of the CHQ by three or more reports of illness from the
child's parent (see Figure 7.1, next page).

Figure 7.1 illustrates the distribution of the responses for the Mental Health Scale for
CHQNZ-CF against parent reported child reported ill health of three of more
episodes.  The distribution of responses represents the parental report of three or
more reports of illness.  The distribution of data although skewed approximates a
normal distribution for the plots labelled '.',  '0' and '1' representing parental
responses reporting three or more health conditions (1), less than three (0) or no
response to the question (.).

**Figure 7.1** **Mental Health CF versus PF reported Illness**
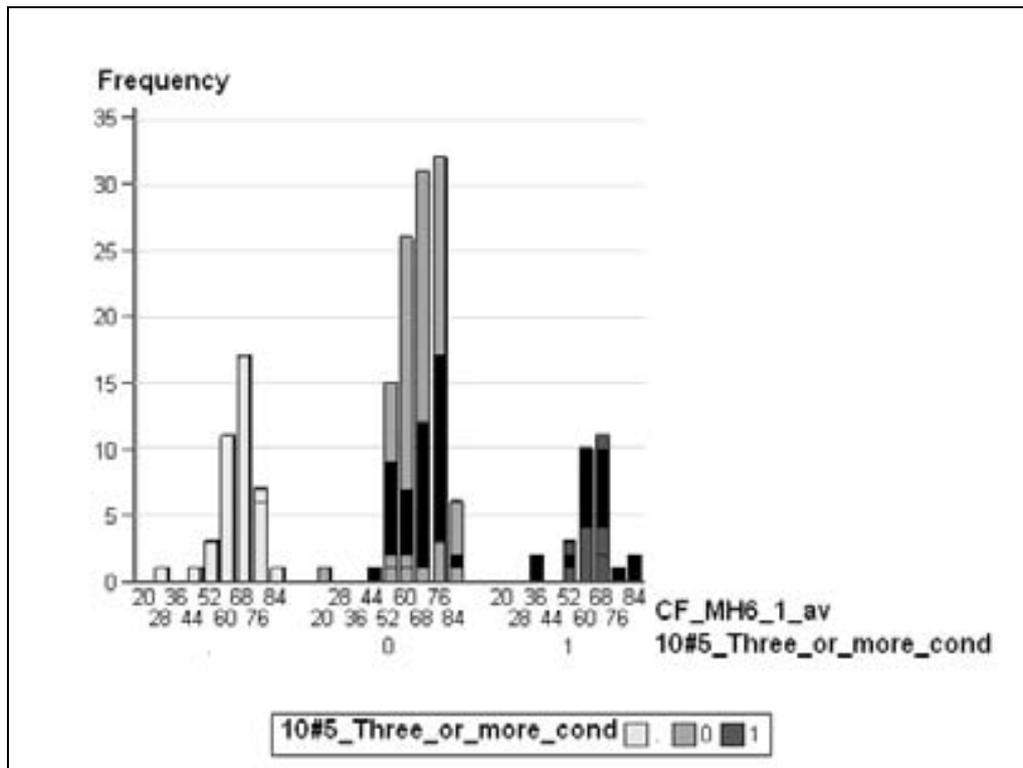


Comparing correlation between the child and adult data using a two sample Inter-Class Correlation or Wilcoxon t-test identified few, if statistically correlated scales, suggesting either the data were not correlated or the distribution of the data was also influenced by higher than expected cross-correlation of items between scales or the highly clustered nature of the data that defeated attempts to measure correlation factors. The data for CHQ were derived from Likert Scale responses so the discrete clustered nature the raw data remains evident in the standardised averages that form the scale and therefore is unlikely to form a smooth distribution when there are few items per scale. The discrete nature of the data in the scales suggests a rank-order correlation test is best suited. However, comparing PF and CF scales is more problematic because the PF scales have fewer items therefore a more direct comparison was required - item by item. Although the specificity of the Student t-test is improved with samples of greater than 100 observations, it was used to test the relationship between scales and items.

The Paired-Sample Student t-test (table 7.2, p. 200) proved sensitive to sample size but identified more scales that correlated between the CHQNZ-CF and CHQNZ-PF

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(Role Physical, Body Pain, <u>Mental Health</u>, General Health and Family Activities), and for children with three or more reported health conditions (Behaviour and Mental Health). Testing for correlation of CHQNZ-PF items with CHQNZ-CF items using Student t-test showed many of the items within each scale were correlated between the PF and CF form. Correlation between parent and child items was supported by the lower than expected discriminant validity (correlation of items outside their theorised scale, see Table 6.16, p. 184). Most items in all of the scales correlated well ($p<0.01$), with correlations also presented at the language level although few numbers may have defeated the Paired Sample Student t-test in some cases. This satisfies the test for correlation between Parent form and Child form. To address the issue of the effect of respondent characteristics on the responses to the CHQ we have to consider what differences emerged from the analysis of the tests for validity using the two language versions. It appears that the disease state of the child influences the factor analysis of the CHQNZ. Children with three or more parent reported illnesses appear to correspond to a two factor model than do the children who have been reported to experience less illness: whether the response from the child is in English or Māori. The effect of age is less easily determined because the age range of the respondents was narrow and younger than reported in other studies. However from the back translations there appears to be a degree of respondent fatigue that diminishes the quality of the responses near the end of the questionnaire. The quality of survey data from the children who completed the questionnaire was very high, no forms were rejected and completion rates were higher than 95%. Comparing internal consistency and Inter-class correlations by language and age showed no difference supporting the construct validity of the CHQNZ-CF.

In summary, the CHQNZ-CF correlated adequately with the CHQNZ-PF given the limitations of the failure of the CHQNZ to correlate across all scales using an inter-class correlation. Both forms correlated well across most items and this level of correlation extended to most items when the correlation was tested in English and Māori. The failure of some items to exhibit significant degrees of correlation at a language level may be due to relatively fewer responses. The internal validity of the CHQNZ-CF is adequate in both English and Māori, although lower than acceptable discriminant validity was demonstrated with the CHQNZ-CF Māori version. This

lower discriminant validity should be considered if a discrete analysis of data is required at the component scale level. The internal consistency of the CHQNZ-CF matched that of the data published for the Australian and USA forms although there appears to be high levels of correlation for the Physical Functioning items and the Behaviour scales. The CHQNZ-CF has matched in most cases the psychometric properties of the CHQ-CF as published.

## Key Person Interviews

Selection of key person interview candidates meant making some assumptions about the relevance of the research question to their interests in child health, how their interests in child health may inform the interpretation of the scores from the CHQ-NZ and how demographic analysis may be interpreted. A framework was developed from the analysis of the interviews provided by the key people interviewed for this study. The framework was heavily influenced by the interviews with Tūhoe kaumātua, but all key informants informed a framework for analysis – Te Aho Tangata. The four domains of the framework were Mana Whenua, Tikanga, Kawa and Hauora. These four domains captured the thoughts of a wide range of informants' understanding of the health and wellbeing of children, starting with those things they saw as influencing the health and wellbeing of children. The inclusion of specific child health issues in the second interview added some detail to the rich descriptions already provided by these experts. The key informants reflected more on things that influence the health and well being rather than factors that described the health and well being of children. This was helpful in understanding the context in which information regarding the health and wellbeing of children may be understood, but offered little in suggesting how the data collected using instruments such as the CHQNZ could be interpreted. The framework took into account the notion of consultation, both talking with children in order to become a 'trusted friend' as suggested by Dr Wills (personal communication, 27 May 2004), or 'nga tangata tika ki te tepū' (Mr John Grant, personal communication, 6 April 2004. For the purpose of making sure consultation not only included Māori but also the people who had the most interest in the participating child and in the development of policy that affected tamariki Māori, as suggested by Mr John Grant (Director General of Social Welfare, member of

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Advisory Committee that produced the report *Puao Te Ata Tu*), the four domains that arose from the data form a complementary schema upon which to consider how the CHQNZ may dovetail into the landscape of child health and wellbeing assessment.

Perhaps it was naive to carry out preliminary interviews with key informants in an unstructured manner before introducing the topic of child health using a structured interview schedule. The benefit was to subject the priorities of the informants to a greater exposure of analysis, and to this end this strategy was successful. Although the key person interview strategy addressed some of the domains and scales of the CHQNZ, it did provide sufficient data to indicate that the instrument, if applied correctly, could better inform policy planning. Further research is required in order to test the scale assumptions of the CHQNZ against the four domains of *Te Aho Tangata*. This approach would provide an integrative perspective that is lacking in this thesis due the purposive selection of the CHQ as a starting point for the translation and validation of a child health questionnaire in te reo Māori.

## *Translation of the CHQNZ*

The health and wellbeing of tamariki Māori was the target population of choice and the two languages used most often by this population, and that of their parents and caregivers were English and te reo Māori. Face to face interviews and questionnaire-based survey were the two general methods of data collection. These methods were informed by the research question regarding the development and translation of a survey questionnaire, as well as the testing the health domains implicit in the selection of the CHQNZ as the survey questionnaire.

Translation of the CHQNZ provided a new element in the interpretation of the data that was collected as part of this research study. The translation of the CHQNZ also assisted with integrating the findings around themes that emerged from the data by providing new views of child health, most importantly the views of children.

The steps to achieve the aims of this study were first to test and validate the CF and PF questionnaires that would be used to assess the health status of tamariki Māori. The testing included the adaptation to New Zealand terminology and then translation into te reo Māori in terminology relevant to Māori. In order to answer the research question the first step of the validation was a pilot study to make sure the

questionnaires delivered in a classroom setting met the needs of Māori speaking children.

The relevance to the health and wellbeing of tamariki Māori was four fold;

1. characterising Māori child health

2. accessing child health assessment tools

3. customising child health assessment tools and

4. utilising the customised tools within a Māori child health context.

The Pilot Study established the method for undertaking the survey in schools where te reo Māori was the language of instruction.  The Pilot Study also enabled the interviewing team to adjust interview methods to fit with the school environment while maintaining the rigor required for collecting data that was consistent from school to school.  This consistency was required in order to combine the data for analysis and during the analysis allow sensible disaggregation of data in order to test for correlation or differences between items and sub-samples of the surveyed children.  Correlation of data was used to test for validity and reliability.  The scales and items of the child health questionnaires included some of the features of tamariki Māori by virtue of the translation process.  The relationship between the features of health and wellbeing for tamariki Māori was first assessed for the adaptation of the child health questionnaires during this research programme with testing and then retrospectively from the analysis of key person interviews and focus group interviews.

The resulting research data disclosed a range of perspectives on child health.  Chapter 5 presented the key-person interviews.  Chapter 6 includes the data from the back translation as well as the validation of the questionnaires.  In order to better understand the CHQ's capacity as a reliable child health assessment tool for use as a population monitoring tool for such programmes the New Zealand Health Monitor (NZHM) these perspective are now discussed with this end use in mind (Ministry of Health, 2007).

### *The End Use of the CHQNZ*
As with the other health measures used to monitor population health, the NZCHQ is a multidimensional measure of health that requires the users to interpret the results in

a way that is meaningful to health care providers, policy makers, and researchers, alongside the parents and children.

While the majority of child health assessment instruments, including the CHQ, provide data in the form of standardised categorical scores that appear to be continuous, on multidimensional scales[1], few have been tested and validated with children acting as either translators or informants. Each of the scales measures a dimension of health as experienced by children. In the context of the daily lives of tamariki Māori, the testing of the CHQ included a test for reliability informed by adults for external validity.

## *CHQNZ Performance*

Reporting separate scores for the different scales aids with the understanding of the interaction of the items within the multi-item scales, but also between scales and with selected items included in the survey (in this case dental beliefs), and items associated with health behaviours and determinants (such as parental educational status). Health areas such as physical functioning, body pain, emotional wellbeing, parental perspectives and related family activities are important to understanding child health. With the exception of the Factor Analysis (which is reported earlier in this chapter) the scale comparisons demonstrated variation expected between populations.

### Demographic Features

The populations recruited for all the data reported from Australia and USA were comparable but in comparison, the NZ population was slightly younger. The cohort of students recruited into the New Zealand study had a greater proportion of Primary School Children responding to the CF form. While gender of participants was of a similar order for the CF forms, relatively fewer male students responded in New Zealand to the PF form (see Table 6.12, p. 179). Parental responses to the PF form for all three countries were difficult to compare because the reported age of parents in Australia and USA included parents as young as 16 and 18 years who had children in the study whose age minimas were 16 and 18 years respectively.

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[1] This is an artefact of the use of Likert type scales. Likert scales offer a range of discrete values that are discrete and not continuous therefore have to be treated as descrete variable during the analysis.

Australia and New Zealand parent responders were overwhelmingly female (87 and 83%).

## Scales

Comparing both the CHQNZ-CF and CHQNZ-PF with the respective scale data from Australia and the USA revealed generally higher scores for Self Esteem, Family Activities and Body Pain for the PF, as described in Chapter 6. Once languages were taken into account (see Tables 6.26 (CF) see p. 396, and Table 6.27 (PF), p. 398) the variation in scales between the New Zealand language versions explained most of the differences between the New Zealand forms and their respective Australian form. The New Zealand forms demonstrate internal consistency of a similar order when comparing the Cronbach α Correlation Coefficient for each of the scales. The correlation between scales for the New Zealand forms was lower for all scales of the PF due in part to fewer items per scale, with almost half the scales in the Māori translation of the PF achieving coefficients of a similar order to both the Australian and USA forms. While the variation between scales for each country was anticipated, the wider range of responses for the New Zealand forms suggested by the Floor and Ceiling effects, while reflecting a similar pattern of response to the USA data, demonstrated a wider range of the response scale.

Interpretation of the items that were varied within scales indicated children interpreted the questions in a manner that was not evident in the preliminary testing in New Zealand, or in the literature. These subtle but important variations between the two translations of the CHQNZ-CF were uncovered but within the allowable 5 point range (raw score) of difference and often within one point for summary data.

The CHQNZ correlates well across populations as the literature has demonstrated. Translation of the CHQ has introduced a description of how different groups or individuals view health and wellbeing across the multiple dimensions by enabling the use of the CHQ in different languages therefore increasing the appeal of the CHQ to different cultures, national and ethnic groups.

# Population Survey Application of CHQNZ

The views of child health and well-being that were gained as a result of this study fall in to three areas reflecting the manner in which they were gained. This proposed model, Te Aho Tangata is an ecological finding, a finding that was coincidental to the main research question. Te Aho Tangata is proposed as a framework from which the validity and reliability of the scales and items of the CHQNZ may be tested and assessed in the future. For now the four domains of Te Aho Tangata provide some perspective on child health that contrasts with the domains of the CHQNZ. There is overlap between both models however the degree of overlap was not tested in this thesis.

A number of approaches have potential to improve understanding of the CHQNZ scores and to interpret the data in a meaningful way for future users especially to understand the needs of Māori for whom te reo Māori is a first language. One approach is to employ scientific method and assumptions whereby measures of health are cross-referenced to determine the degree of association to confirm or refute a theoretical relationship. Using views as a point of reference, or a navigation marker, this approach assumes that with a durable point of reference changes or differences can be measured and noted. These values are tested for degree of difference or association by statistical power. A score associated with an outcome provides a point of reference from which to interpret changes of a single post intervention observation or along a time series of multiple observations.

Small differences in mean scores for each scale are likely to be meaningful at the population level, yet may not have clinical significance at the level of the individual. This analogy is akin to the example of a vaccine-induced antibody, where a small increase in sero-conversion across the population has an impact on public health, but no clinical significance. The general health population studies in New Zealand have used self-assessed health status for adults but not for children. Immunisation has successfully taken a proxy role in child health as a health status indicator alongside adult-informed proxy for health surveys.

## *Agreement between Parental and Child Assessment*
Within acceptable ranges for most items, the comparison of child assessed health with that of parents demonstrated that parents have similar views of the health of the

respective child in this survey. However, when comparing mean scores and standard deviations, parents report an overall health status higher than reported by the children themselves. When individual scales were compared children reported higher scores for Role Physical and the Behaviour Scale, similar scores (within one point) for Dental Health, Family Cohesion and Global Health, and lower scores for the remaining scales (see Table 6.13, p. 181). Variation in standard deviation for corresponding scales was of the same order or lower for the PF when compared with the corresponding CF scales. The scales where the standard deviation for the PF was higher than the CF, as would be expected because of fewer items per scale were, Behaviour, Body Pain, General Health, and Role Physical. The CF scales had higher standard deviation for the following scales, Family Activities, Family Cohesion, Global Health, Mental Health, Physical Functioning and Self Esteem. With the exception of Self Esteem, the scales where the variance for the CF was higher than the PF were single-item to three-item scales suggesting there was less agreement between PF and CF scales were scales had more than three items.

Non-parametric testing revealed less than adequate correlation between relevant scales for the CF and PF forms as well as comparable items using Wilcoxon t-test. Some studies report correlation coefficients between PF and CF forms, with most reporting a comparison of mean scales scores and sometimes a parametric analysis is undertaken comparing items and scale averages using two-sample Student t-test. Testing relevant CF scales against the corresponding PF scale demonstrated good levels of correlation at the item level but not at the scale level suggesting the distribution of scales is highly variable between the CF and PF form. Although the PF form showed acceptable levels of internal consistency, the relatively fewer items per scale may have contributed to the lack of correlation between the scales of the CF and PF forms aside from their relatively similar means.

## Summary

The CHQNZ-CF has acceptable psychometric properties and these are not only evident from the internal consistency and validity of the CHQNZ-CF but also in its performance relative to the Australian and USA versions. Although comparison is difficult because of varying numbers of items in comparable scales, the overall pictures created by each have a reasonable level of consistency. The strength of the

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relationship between the assessment of child and parent assessed health status for a child is variable, due in part to the differing numbers of items on comparable scales and in part to the differing perspectives. While General Health and Mental Health appear to be well correlated there remains a difference in other scales that warrants further investigation as suggested by the interpretation provided by the children who back translated the CHQNZ-CF. These children provided insight with their understanding of the questions and response items. The translation of the CHQNZ-CF was successful but would benefit from adaptation at a regional level to ensure the tone of the questionnaire reflects local idiom and dialectic preferences.

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# *C h a p t e r  8*

## TE TAMAITI - A PICTURE OF CHILD HEALTH

This thesis describes in detail an investigation into the validation of a child health questionnaire, the CHQNZ. Like the flight of the Skylark (*Alauda arvensis sp.*) the CHQNZ provides an observation of a state of being. From these observations, theory can be developed and from the testing of the theory new knowledge evolves. The knowledge, gained from listening to the 'Skylark', enabled Māori to take new protective measures. The CHQNZ is much like the Skylark. However this theory is new and has developed from observing tamariki Māori who speak Māori and their English speaking peers. Sufficient data have been gathered to say with confidence the CHQNZ is an adequate measure in that it has equivalent properties in both languages and performs as expected from research undertaken in Australia and USA. It would however, benefit from changes that reflect local idiom. The translation of the CHQNZ proved no more difficult than experienced by others who have translated the CHQ however the new role in the validation process for children has identified new issues regarding the understanding of the CHQ. This thesis reports those new issues.

In the case of the CHQNZ the state of being is that of a child's health related quality of life. Health related quality of life tools introduce a new set of indicators as well as validation methods into Māori health research. This approach combines a quantitative approach to health with an understanding of wellbeing of tamariki Māori. The representation of indicators are like traditional points of reference, landmarks or navigational aids that provide reference points to locate the lost, establish boundaries or confirm identify. In the case of child health these new indicators may lead to a better understanding of what health means to children. This may then inform how child health changes, how it can be evaluated and how effective are interventions aimed at improving child health. The representation of new indicators is a challenge that Shane Cotton portrayed in the painting "Whakapiri Atu Te Whenua", using the same metaphors created by the painters of Rongopai marae (see p. viii) to represent their changing world.

However the interpretation of the observations in this research is also validated with the views of key informants and experts in child health and welfare, as well as those of children. The views of children incorporate their understanding and interpretation of health and wellbeing into the translation and validation of the CHQNZ. The numbers of children in the survey are relatively small when compared with previous studies (Waters, 2001; Landgraf, 1996) though were sufficient to validate the CHQNZ-CF in te reo Māori and English (see Table 6.16, p. 184).

In order to mitigate the factors that threaten the success of future generations there must be better understanding of the environment in which children live and how this influences their health and well being. In order to do this, we must observe child health and well being in new ways and "listen" to the views of children in order to validate observations. In the past my tipuna sang the waiata (which introduced this thesis) in order to ensure that knowledge that could prevent frost damage to food crops was minimised. Like good food security, the understanding of child health and well being is still necessary for planning for the future. In order to meet cultural obligations and participate fully in society while also maintaining culture and a secure identity, children will need to be adjusted to their world - good health is an important determinant. How society protects children is determined by how it assesses need and the resources society will commit to meet these needs. This is done with the best information available. Children younger than 16 years are rarely interviewed about their health; parents or caregivers tend to supply the answers.

In this country, children identified as Māori are reported to have lower health status than many of their peers. This may be due in part to how their health is understood and the use of standards that are adult – rather than child-centric. Because they have few opportunities to inform policy makers about their situation, children's views are largely excluded from policy development. Historically, this was often the case for Māori health generally and those who described Māori health generally understood very little about Māori and were given to describing how Māori were different. Being different is unsatisfactory if the standard is a negative one. The active engagement of Māori in health and related social areas has seen a greater level of consultation between Māori and others wishing to understand the needs of Māori. The case of child care and protection championed by Messer's John Grant and John Rangihau provide a precedent for Māori consultation in social policy that

complemented the investigation of the Royal Commission on Social Policy. A few years later when hepatitis B became a health issue, a ministerial inquiry was commissioned. The investigation by Professor Eru Pomare led to a national immunisation programme to prevent hepatitis B infection that now has the potential to reduce liver disease and deaths from liver cancer. These two Ministerial investigations saw the engagement of the populations at risk in a consultative process that led to a better understanding of the needs of Māori in terms of child care and protection, social policy development and protection against infectious disease. All three inquiries also included children; those to be cared for and protected, those in need of adequate welfare, or those who could be immunised against a serious infection.

There are now more examples where tamariki Māori are excelling in a manner that reflects well on their health and wellbeing. This may continue to improve if children are included in consultation. In this research programme children have proven to be motivated, knowledgeable and generous participants, and by virtue of their participation they have contributed to the development of a new approach for the testing and validation of psychometric tools, the child back translation. These children have also helped develop a useful child health assessment tool for all the children of New Zealand.

The main objective of this thesis was to produce a self completed child health self assessment tool using the Child Health Questionnaire (CHQ) as source document and translate it into te reo Māori in order to assess the health status of children whose first language is Māori. The CHQ was translated and validated by comparing child (proximal) and adult (proxy) assessment of health status. A new validation process was pioneered where children validated the translation.

The self assessed status of tamariki Māori who speak English as a second language is now available and adds to the research undertaken by Dr Cindy Kiro (Kiro et al., 2004) and Dr Peter Watson and Dr Sue Crengle (Walker et al., 2005; Watson et al., 2003). This thesis has demonstrated the validation and testing of a bilingual child health self-assessment tool. Translation for equivalence was a practical solution to comparing self assessed health status for children who speak English as a second language with those who speak English as their 'mother tongue'. This has practical application elsewhere where tools are to be developed for children who do not speak

or read English at all.

Adapting a new tool to plan for the future is an intended outcome of this thesis. An advantage of planning for child health is that preventative action can be taken in order to reduce the load of morbidity later in life and reduce premature mortality. Childhood is a stage in the life where care and protection is critical to a child's development and success later in life. Also important is the relationship between the child and adults who care for the child. As societies develop and successive generations plot their paths along their life course, the relationship between generations changes as care and development pathways reverse – children become the carers.

It is hoped that this new tool, the translation for the CHQNZ-CF, will contribute to a better understanding of child health and with that knowledge the health and well being of all children will improve without fear or favour. In order to continue the journey that was begun by my ancestors we have to share an understanding of new points of reference – this should include child health.

The navigation instructions given to Kupe and passed onto Toroa (see p. iv) to aid in the journey from Polynesia to the home-base of modern day Māori were deceptively simple and are validated daily by Māori vitality.

'Waiho i te taha katau o te rā, o te marama, o Kōpū rere ai.'

'Let it be to the right of the sun, of the moon, of the Morning Star on high.'
The CHQNZ-CF may provide the indicators and points of reference that can help policy makers plot a path for the future health and well being of the children of New Zealand.

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# *Appendix 1*

## Child Health Questionnaires – CHQNZ-CF

1       CHQNZ-CF English

2       CHQNZ-CF-Māori

# He Whakaturanga mo te Hauora Tamariki

# A Picture of Child Health

## Child Questionnaire

## He Rārangi Pātai ma Te Tamaiti

*A survey of the health and well being of some Primary School children in New Zealand*

*He rangahau hauora o ētahi tamariki o ngā Kura Tuatahi ō Aotearoa*

*Ko taku ingoa / My name is:* _____

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## A Picture of Children

### Welcome
#### Instructions:
The questions in this booklet asks about your health and well being.
It is private and your individual answers will not be shared with anyone.
Some questions may look alike but each one is different. Some questions
may ask about things you do not have. That is fine, but it is important
for us to know. Please answer each question.
There are no right or wrong answers. If you are unsure how to answer
the question, please give the best answer you can and write a comment at
the side of the page.

**Q1.** Todays date

Q1.1. The date today? _____

Q1.2. This month? _____

Q1.3. This year? (2005) _____

**Q2.** Are you a boy or a girl?

☐ Girl    ☐ Boy

**Q3.** What ethnic group do you belong to?

☐ New Zealand European    ☐ Tongan

☐ Maori    ☐ Niuean

☐ Samoan    ☐ Chinese

☐ Cook Island Maori    ☐ Indian

☐ other (such as Dutch, Japanese, Tokelauan),
Please state: _____

**Q4.** What is your date of birth?

| The day? Q5.1. | The month? Q5.2. | The year? Q5.3. | I do not remember? Q5.4. |
|---|---|---|---|

1

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**A**

In general, would you say your health is:

☐ Excellent   ☐ Very Good   ☐ Good   ☐ Fair   ☐ Not That Good

---

**PART 2**
The following questions ask about physical activities you
might do during the day.

---

**B**

In the past four weeks, was it hard for you to
play any sport that can make you tired easily like
rugby, running, or long distance walking due to
health problems?

☐ Yes, very difficult   ☐ Yes, not that difficult   ☐ Yes, a little difficult   ☐ No, not difficult.

**C**

In the past four weeks, was it hard to do things
that take some energy such as riding a bike or
roller blading due to health problems?

☐ Yes, very difficult   ☐ Yes, not that difficult   ☐ Yes, a little difficult   ☐ No, not difficult

**D**

In the past four weeks, was it hard for you to
walk a long distance to town, or walk up a long
stairway?

☐ Yes, very difficult   ☐ Yes, not that difficult   ☐ Yes, a little difficult   ☐ No, not difficult

**E**

In the past four weeks, was it hard for you to
walk home or to the park due to health

☐ Yes, very difficult   ☐ Yes, not that difficult   ☐ Yes, a little difficult   ☐ No, not difficult.

2

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**1** In the past four weeks, was it hard for you to walk across the playground or up one step due to health problems?

- Yes, very difficult.
- Yes, not that difficult.
- Yes, a little difficult.
- No, not difficult.

**2** In the past four weeks, was it hard for you to do your tasks at home due to health problems?

- Yes, very difficult.
- Yes, not that difficult.
- Yes, a little difficult.
- No, not difficult.

**3** In the past four weeks, was it hard for you to bend, lift or stoop due to health problems??

- Yes, very difficult.
- Yes, not that difficult.
- Yes, a little difficult.
- No, not difficult.

**4** In the past four weeks, was it hard for you to eat, dress, bath or go to the toilet by yourself due to health problems?

- Yes, very difficult.
- Yes, not that difficult.
- Yes, a little difficult.
- No, not difficult.

**5** In the past four weeks, was it hard for you to get in or out of bed due to health problems?

- Yes, very difficult.
- Yes, not that difficult.
- Yes, a little difficult.
- No, not difficult.

3

## PART 3
## SCHOOL WORK AND ACTIVITIES

**A** In the past four weeks, was it hard for you to do certain KINDS of school work or activities with friends because of problems with FEELING SAD or WORRIED?

- [ ] Yes, very difficult.
- [ ] Yes, not that difficult.
- [ ] Yes, a little difficult.
- [ ] No, not difficult.

**B** In the past four weeks, was it hard for you to spend the usual AMOUNT of time on your school work or activities with friends because of problems with FEELING SAD or WORRIED?

- [ ] Yes, very difficult.
- [ ] Yes, not that difficult.
- [ ] Yes, a little difficult.
- [ ] No, not difficult.

**C** In the past four weeks, was it hard for you to get your school work DONE at all or do any activities with friends because of problems with FEELING SAD or WORRIED?

- [ ] Yes, very difficult.
- [ ] Yes, not that difficult.
- [ ] Yes, a little difficult.
- [ ] No, not difficult.

**D** In the past four weeks, was it hard for you to do certain KINDS of school work or activities with friends because of problems with your BEHAVIOUR?

- [ ] Yes, very difficult.
- [ ] Yes, not that difficult.
- [ ] Yes, a little difficult.
- [ ] No, not difficult.

4

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**1**

Part 3.3a

In the past four weeks, was it hard for you to spend the usual AMOUNT of time on your school work or activities with friends because of problems with your BEHAVIOUR?

☐ Yes, very difficult.   ☐ Yes, not that difficult.   ☐ Yes, a little difficult.   ☐ No, not difficult.

**2**

Part 3.3b

In the past four weeks, was it hard for you to get your school work DONE at all or do any activities with friends because of problems with your BEHAVIOUR?

☐ Yes, very difficult.   ☐ Yes, not that difficult.   ☐ Yes, a little difficult.   ☐ No, not difficult.

**3**

Part 3.3c

In the past four weeks, was it hard for you to do certain KINDS of school work or activities with friends because of problems with your PHYSICAL health?

☐ Yes, very difficult.   ☐ Yes, not that difficult.   ☐ Yes, a little difficult.   ☐ No, not difficult.

**4**

Part 3.3d

In the past four weeks, was it hard for you to spend the usual AMOUNT of time on your school work or activities with friends because of problems with your PHYSICAL health?

☐ Yes, very difficult.   ☐ Yes, not that difficult.   ☐ Yes, a little difficult.   ☐ No, not difficult.

**5**

Part 3.3e

In the past four weeks, was it hard for you to get your school work DONE at all or do any activities with friends because of problems with your PHYSICAL health?

☐ Yes, very difficult.   ☐ Yes, not that difficult.   ☐ Yes, a little difficult.   ☐ No, not difficult.

5

# PART 4
# PAIN

**A**

**In the past four weeks, how *much* body pain or discomfort have you had?**

| None | Very Mild | Mild | Moderate | Severe | Very Severe |
|------|-----------|------|----------|--------|-------------|
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**B**

**In the past four weeks, how *often* have you had pain or discomfort?**

| None | Once or Twice | A Few Times | Fairly Often | Very Often | Every Day or Almost Every Day |
|------|---------------|-------------|--------------|------------|-------------------------------|
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

# PART 5
# YOUR BEHAVIOUR

Below is a list of items that describe children's behaviour or problems they sometimes have.
In the past 4 weeks how often did each of the following statements describe you?

**C**

**Acted too young for your age?**

| Very Often | Fairly Often | Some-Times | Almost Never | Never |
|------------|--------------|------------|--------------|-------|
| ☐ | ☐ | ☐ | ☐ | ☐ |

**D**

**Argued or moody?**

| Very Often | Fairly Often | Some-Times | Almost Never | Never |
|------------|--------------|------------|--------------|-------|
| ☐ | ☐ | ☐ | ☐ | ☐ |

**E**

**Is it hard for you to pay attention?**

| Very Often | Fairly Often | Some-Times | Almost Never | Never |
|------------|--------------|------------|--------------|-------|
| ☐ | ☐ | ☐ | ☐ | ☐ |

6

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**1** Did not <u>do</u> what your teacher or parent asked you to do?

- [ ] Very Often
- [ ] Fairly Often
- [ ] Some-Times
- [ ] Almost Never
- [ ] Never

**2** Wanted to be alone?

- [ ] Very Often
- [ ] Fairly Often
- [ ] Some-Times
- [ ] Almost Never
- [ ] Never

**3** Lied or cheated?

- [ ] Very Often
- [ ] Fairly Often
- [ ] Some-Times
- [ ] Almost Never
- [ ] Never

**4** Had a hard time getting others to like you?

- [ ] Very Often
- [ ] Fairly Often
- [ ] Some-Times
- [ ] Almost Never
- [ ] Never

**5** Felt clumsy?

- [ ] Very Often
- [ ] Fairly Often
- [ ] Some-Times
- [ ] Almost Never
- [ ] Never

**6** Ran away from home?

- [ ] Very Often
- [ ] Fairly Often
- [ ] Some-Times
- [ ] Almost Never
- [ ] Never

**7** Had speech problems?

- [ ] Very Often
- [ ] Fairly Often
- [ ] Some-Times
- [ ] Almost Never
- [ ] Never

7

**A**  Stole things at home?

▢ Very Often  ▢ Fairly Often  ▢ Some-Times  ▢ Almost Never  ▢ Never

**B**  Stole things outside home?

▢ Very Often  ▢ Fairly Often  ▢ Some-Times  ▢ Almost Never  ▢ Never

**C**  Acted mean or moody if you did not get what you wanted?

▢ Very Often  ▢ Fairly Often  ▢ Some-Times  ▢ Almost Never  ▢ Never

**D**  Got really mad when you did not get what you wanted?

▢ Very Often  ▢ Fairly Often  ▢ Some-times  ▢ Almost Never  ▢ Never

**E**  Found it hard to be around others?

▢ Very Often  ▢ Fairly Often  ▢ Some-Times  ▢ Almost Never  ▢ Never

**F**  Had a hard time getting along with others?

▢ Very Often  ▢ Fairly Often  ▢ Some-Times  ▢ Almost Never  ▢ Never

**G**  Compared with other children your age, in general would you say your behaviour is?

▢ Excellent  ▢ Very good  ▢ Good  ▢ Fair  ▢ Poor

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## PART 6

The questions below are about children's moods and feelings.

In the past four weeks, how often do you have these feelings?

**1** Feel sad?

- [ ] All of the time
- [ ] Very Often
- [ ] Some-times
- [ ] A little of the time
- [ ] Almost Never

**2** Feel like crying?

- [ ] All of the time
- [ ] Very Often
- [ ] Some-times
- [ ] A little of the time
- [ ] Almost Never

**3** Feel afraid or scared?

- [ ] All of the time
- [ ] Most of the time
- [ ] Some-times
- [ ] A little of the time
- [ ] None of the time

**4** During the past four weeks, have you worried about things too much?

- [ ] All of the time
- [ ] Most of the time
- [ ] Some-times
- [ ] A little of the time
- [ ] None of the time

**5** Feel lonely?

- [ ] All of the time
- [ ] Most of the time
- [ ] Some-times
- [ ] A little of the time
- [ ] None of the time

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**A** — Feel unhappy?

All of the time | Most of the time | Some-times | A little of the time | None of the time

**B** — Feel nervous?

All of the time | Most of the time | Some-times | A little of the time | None of the time

**C** — Feel bothered or upset?

All of the time | Most of the time | Some-times | A little of the time | None of the time

**D** — In the past four weeks, how often have you felt happy?

All of the time | Most of the time | Some-times | A little of the time | None of the time

**E** — Feel cheerful?

All of the time | Most of the time | Some-times | A little of the time | None of the time

**F** — Enjoy the things you do?

All of the time | Most of the time | Some-times | A little of the time | None of the time

**G** — Have fun?

All of the time | Most of the time | Some-times | A little of the time | None of the time

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**1** Feel jittery or restless?

| All of the time | Most of the time | Some-times | A little of the time | None of the time |

**2** How well have you slept in the past four weeks?

| All of the time | Most of the time | Some-times | A little of the time | None of the time |

**3** Do you have headaches?

| All of the time | Most of the time | Some-times | A little of the time | None of the time |

**4** Like yourself?

| All of the time | Most of the time | Some-times | A little of the time | None of the time |

## PART 7
## SELF ESTEEM

How do you feel about yourself, school, and others? It may be helpful to keep in mind how other children your age might feel about these areas. During the past four weeks, how good have you felt about:

**5** yourself?

| Very good | Some what good | Neither good nor bad | Some -what badly | Very badly |

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**1**

Part 7 1a

your school work?

☐ Very good   ☐ Some-what good   ☐ Neither good nor bad   ☐ Some-what badly   ☐ Very badly

**2**

Part 7 1b

your ability to play sports?

☐ Very good   ☐ Some-what good   ☐ Neither good nor bad   ☐ Some-what badly   ☐ Very badly

**3**

Part 7 1c

your friendships?

☐ Very good   ☐ Some-what good   ☐ Neither good nor bad   ☐ Some-what badly   ☐ Very badly

**4**

Part 7 1d

the things you CAN do?

☐ Very good   ☐ Some-what good   ☐ Neither good nor bad   ☐ Some-what badly   ☐ Very badly

**5**

Part 7 1e

In the past four weeks, how good or bad have you felt about the way you get along with others?

☐ Very good   ☐ Some-what good   ☐ Neither good nor bad   ☐ Some-what badly   ☐ Very badly

**A**

your body and your looks?

☐ Very good ☐ Some what good ☐ Neither good nor bad ☐ Some what badly ☐ Very badly

**B**

the way you seem to feel most of the time?

☐ Very good ☐ Some what good ☐ Neither good nor bad ☐ Some what badly ☐ Very badly

**C**

the way you get along with your family?

☐ Very good ☐ Some what good ☐ Neither good nor bad ☐ Some what badly ☐ Very badly

**D**

the way life seems to be for you?

☐ Very good ☐ Some what good ☐ Neither good nor bad ☐ Some what badly ☐ Very badly

**E**

During the past four weeks, how good have you felt about your ability to be a friend to others?

☐ Very good ☐ Some what good ☐ Neither good nor bad ☐ Some what badly ☐ Very badly

**F**

the way others seem to feel about you?

☐ Very good ☐ Some what good ☐ Neither good nor bad ☐ Some what badly ☐ Very badly

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**1**

your ability to talk with others?

| ☐ Very good | ☐ Some-what good | ☐ Neither good nor bad | ☐ Some-what badly | ☐ Very badly |

**2**

your health in general?

| ☐ Very good | ☐ Some-what good | ☐ Neither good nor bad | ☐ Some-what badly | ☐ Very badly |

## PART 8
### Your Health
The following statements are about health in general.
How true or false is each statement for you?

**3**

My health is excellent.

| ☐ Definitely true | ☐ Mostly true | ☐ Don't know | ☐ Mostly false | ☐ Definitely false |

**4**

I was so sick once I thought I might die.

| ☐ Definitely true | ☐ Mostly true | ☐ Don't know | ☐ Mostly false | ☐ Definitely false |

**5**

I do not seem to get very sick.

| ☐ Definitely true | ☐ Mostly true | ☐ Don't know | ☐ Mostly false | ☐ Definitly false |

**6**

I seem to be less healthy than other kids I know.

| ☐ Definitely true | ☐ Mostly true | ☐ Don't know | ☐ Mostly false | ☐ Definitely false |

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**A**     I have never been very, very sick.

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

**B**     I always seem to get sick.

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

**C**     I think I will be <u>less</u> healthy when I get older.

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

**D**     I think I will be <u>very</u> healthy when I get older.

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

**E**     I <u>never</u> worry about my health.

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

**F**     I think I am healthy <u>now</u>.

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

**G**     I think I worry about my health <u>more</u> than other kids.

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

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**1**

8.2 Compared to one year ago, how would you rate your health now?

☐ Much better than 1 year ago

☐ Somewhat better now than 1 year ago

☐ About the same now as 1 year ago

☐ Somewhat worse now than a year ago

☐ Much worse now than 1 year ago

## PART 9
## YOU AND YOUR FAMILY.
During the past 4 weeks, how often did your health or behaviour...

**2**

9.1c limit the types of activities you could do as a family?

☐ Very Often    ☐ Fairly Often    ☐ Some-times    ☐ Almost Never    ☐ Never

**3**

9.1d interrupted various everyday family activities (eating meals, watching TV)?

☐ Very Often    ☐ Fairly Often    ☐ Some-Times    ☐ Almost Never    ☐ Never

**4**

9.1e limited your ability as a family to 'pick up and go' in a moment's notice?

☐ Very Often    ☐ Fairly Often    ☐ Some-times    ☐ Almost Never    ☐ Never

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**A**

9.1f cause tension or conflict in your home?

☐ Very Often ☐ Fairly Often ☐ Some-times ☐ Almost Never ☐ Never

**B**

9.1g been a source of disagreements or arguments in your family?

☐ Very Often ☐ Fairly Often ☐ Some-times ☐ Almost Never ☐ Never

**C**

9.1h caused your family to cancel or change plans at the last minute?

☐ Very Often ☐ Fairly Often ☐ Some-times ☐ Almost Never ☐ Never

Sometimes families may have difficulty getting along with one another. They do not always agree and they may get angry.

**D**

9.2 In general, how would you relate your family's ability to get along with one another?

☐ Very good ☐ Quite good ☐ Good ☐ Fair ☐ Poor

**E**

9.3 Who are your friends?

☐ Maori only          ☐ Maori and Pakeha
☐ Pakeha only         ☐ Other

_____
_____
_____

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**1** | 9.4 | What is *the* most important thing you do with your friends?

☐ Games and sport      ☐ School work

☐ Work at home      ☐ Work at the marae

☐ To go places with my friends      ☐ To talk with about anything

☐ Other

## Dental Health
### How important is it for you to....

**Q94**

**brush your teeth for a healthy mouth?**

☐ Not at all important    ☐ Slightly important    ☐ Somewhat important    ☐ Important    ☐ Very important

**Q95**

**floss your teeth for a healthy mouth?**

☐ Not at all important    ☐ Slightly important    ☐ Somewhat important    ☐ Important    ☐ Very important

**Q96**

**get good nutrition for a healthy mouth?**

☐ Not at all important    ☐ Slightly important    ☐ Somewhat important    ☐ Important    ☐ Very important

**Q97**

**go to the dentist to check your teeth and gums?**

☐ Not at all important    ☐ Slightly important    ☐ Somewhat important    ☐ Important    ☐ Very important

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## Dental Health continues
### How important is it for you to....

**Q98.**

improve your appearance by having healthy teeth and gums?

1 ☐ Not at all important  2 ☐ Slightly important  3 ☐ Somewhat important  4 ☐ Important  5 ☐ Very important

**Q99.**

to learn about proper care for your mouth?

1 ☐ Not at all important  2 ☐ Slightly important  3 ☐ Somewhat important  4 ☐ Important  5 ☐ Very important

**Q100.**

to know that sweet foods might decay your teeth?

1 ☐ Not at all important  2 ☐ Slightly important  3 ☐ Somewhat important  4 ☐ Important  5 ☐ Very important

**Q101.**

to avoid bad breath?

1 ☐ Not at all important  2 ☐ Slightly important  3 ☐ Somewhat important  4 ☐ Important  5 ☐ Very important

# Thank you for your help.

**Please remember to write your name in the box on the front page...**

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# *Appendix 1B*

## Child Health Questionnaire CHQNZ-CF Māori

# He Whakaturanga mo te Hauora Tamariki

## He Rārangi Pātai ma Te Tamaiti

He rangahau hauora o ētahi tamariki o ngā Kura Tuatahi o Aotearoa

Ko tāku ingoa ko: _____

## Te Āhuatanga o Te Waiora o Te Tamaiti ✓

### WHĀRANGI WHAKAMĀRAMA
Te whārangi pae whakarite pātai ki tā te tamaiti

Ko ngā kairangahau:
John Waldon            | Hārangi Biddle            | Pareiha Kunaiti
Te Pūmanawa Hauora, Te Pūtahi-ā-Toi.
Nama wāea (06) 3505799, tari 2538

*He aha te kaupapa o tēnei rangahau?*
Ko te kaupapa o tēnei rangahau ko te hauora me te ōranga o te tamaiti. Ko ngā whakautu, me ngā kōrero ka kohia mai i tēnei rangahau hei āwhina ki te whakapakari i te hauora o te tamaiti.

*Ngā whakahaere*
1. Ka pātaitia atu koe mehemea ka whakaae anō koe ki te whakautu i ētahi pātai me te whakahoki i te rārangi kōrero ki ō mātua. Ko tēnei rārangi kōrero hei hari atu ki ō mātua, kaitiaki rānei.
2. Ki te whakaae koe me tō mātua, mā tō mātua e whakakii tērā atu pepa māu.
3. Kāre e whakaputatia ō whakautu. E kore tētahi atu e kite i ngā tuhinga mou. Ka noho pūmau ēnei kōrero mo te rima tau. I muri iho i te rima tau ka whakakorea aua kōrero.
4. Ki te whakaae koe ki tēnei kaupapa:
    a. Ka tōea e koe te taka huri tō whakaaro mo tēnei kaupapa inā hiahia koe
    b. Ka āhei koe kia kaua e whakautu i te pātai kāre koe e hiahia
    c. Ka āhei koe ki te puta mai ki waho i tēnei kaupapa rangahau
    d. Ka āhei koe ki te whakaputa i ētahi pātai inā hiahia koe, ā,
    e. Kāre tō ingoa e whakaputatia, e whakamāhia rānei

He mea tātari, he mea whakaae tēnei kaupapa rangahau e te ohu kaitātari o te Human Ethics ohu o Te Kunenga ki Pūrehuroa, PN Tikanga 00\130.
Mēnā he amuamu, e pōnānā ana koe mo te whakahaere o tēnei kaupapa rangahau me whakapā atu ki a Āhorangi Sylvia V Rumball, Te Tūru o Human Ethics ohu: Papa-i-ōea, nama wāea 06 3505249, ī-mēra humanethicspn@massey.ac.nz

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## Te Āhuatanga o Te Waiora o Te Tamaiti ✓

### TE RĀRANGI WHAKAAE A TE TAMAITI

Ko taku ingoa ko (tamiti): _____

E _____ taku pakeke

Taku rā whānau _____ te marama _____ te tau _____

☑ Ki te whakaae koe tohua te pouaka kei raro nei

☐ E whakaae ana au ki ēnei pātai.
☐ E whakaae ana au kia kōrero taku matua i ētahi kōrero mōku.
☐ E whakaae ana au ki te kaupapa o tēnei rangahau, inā kua whakamāramatia mai ki au.
☐ E whakaae ana au ka āhei au ki te whakamutu i ēnei pātai inā kāre e pai ki au.

*(Ko ngā kohinga kōrero o tēnei rangahau, me ngā tuhinga kōrero ka āhei noa iho mo tēnei kaupapa rangahau)*

Waitohu i tō ingoa (tamiti) _____

Te rā _____ te marama _____ te tau _2005_____

Ingoa (Pakeke) _____

He mea tātari, he mea whakaae tēnei kaupapa rangahau e te ahu kaitātori o te Human Ethics ahu o Te Kunenga ki Pūrehuroa, PN Tikanga 00\130.

Mēnā he amuamu, e pōnānā ana koe mo te whakahaere o tēnei kaupapa rangahau me whakapā atu ki a Aharangi Sylvia V Rumball, Te Tūru o Human Ethics ahu: Papa-i-ōea, nama wāea 06 3505249, i-mēra humanethicspn@massey.ac.nz

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## Te Ahuatanga o Te Tamaiti

### Tena koe
#### Nga Tohutohu:

Ko tenei panui e pa ana ki te hauora me te oranga wairua o te tamaiti.
Ka noho tapu o whakautu korero. Kaorekau he whakautu tika, he whakautu
he ranei. Mehemea kaore koe i te tino marama, heoi ano, me whakautu
tonu mai nga patai.
He mea nui me whakautu **katoa** nga patai

Mehemea, he pai tenei mahi ki a koe, tuhia mai te tohu tika mo ia patai ki roto i te
tapawha

| 1. | Tuhia mai te ra? | | 2. He tane, he wahine ranei koe? |
|---|---|---|---|
| He aha tenei ra? | He aha tenei marama? | He aha tenei tau? | |
| 1.1. | 1.2. | 1.3. | ○ Wahine  ○ Tane |

**3. Ko tehea momo tangata e whai panga atu ana koe?**

☐ Pakeha          ☐ Tonga
☐ Maori           ☐ Niue
☐ Hamoa           ☐ Hainamana
☐ Kuki Airani     ☐ Inia

☐ Tetahi atu (pera i Tatimana, Hapanihi, Tokelau).
Tuhia mai................................

**4. Tuhia mai to ra whanau?**

| He aha te ra? | He aha te marama? | Te aha te tau? |
|---|---|---|
| 4.1 | 4.2 | 4.3 |

| Kaore au e mohio? | |
|---|---|
| | 4.4 |

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**A** | Ki ou ake whakaaro, he pehea te ahua o to hauora?

☐ Tino pai rawa ☐ Tino pai ☐ Pai ☐ Ahua pai ☐ Kaore i te pai

## Wahanga 2
### Ko nga patai e whai ake nei e pa ana ki o mahi-a-tinana mo ia ra.

**E** | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te takaro i nga takaro hakinakina tino kaha te whakapau hau penei i te takaro whutu-paoro, omaoma, hikoi roa ranei?

☐ Ae, tino uaua ☐ Ae, ahua uaua ☐ Ae, paku nei te uaua ☐ Kao, karekau he uaua

**I** | I roto i nga wiki e wha kua pahure ake nei, e uaua ana ki a koe te takaro i nga takaro ahua whakapau hau penei i te eke paihikara, retireti ranei?

☐ Ae, tino uaua ☐ Ae, ahua uaua ☐ Ae, paku nei te uaua ☐ Kao, karekau he uaua

**O** | I roto i nga wiki e wha kua pahure ake nei, e uaua ana ki a koe te hikoi tawhiti haere i te taone, piki ara-tepe teitei?

☐ Ae, tino uaua ☐ Ae, ahua uaua ☐ Ae, paku nei te uaua ☐ Kao, karekau he uaua

**U** | I roto i nga wiki e wha kua pahure ake nei, e uaua ana ki a koe te hikoi haere i te wa kainga, i te papa-takaro ranei?

☐ Ae, tino uaua ☐ Ae, ahua uaua ☐ Ae, paku nei te uaua ☐ Kao, karekau he uaua

2

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**1**

I roto i nga wiki e wha kua pahure ake nei, e uaua ana ki a koe te hikoi haere i tetahi wahanga kotahi o te taone, piki ranei i tetahi ara-tepe?

- [ ] Ae, tino uaua.
- [ ] Ae, ahua uaua.
- [ ] Ae, paku nei te uaua.
- [ ] Kao, karekau he uaua.

**2**

I roto i nga wiki e wha kua pahure ake nei, e uaua ana ki a koe te mahi haere i o mahi o te kainga?

- [ ] Ae, tino uaua.
- [ ] Ae, ahua uaua.
- [ ] Ae, paku nei te uaua.
- [ ] Kao, karekau he uaua.

**3**

I roto i nga wiki e wha kua pahure ake nei, e uaua ana ki a koe te tuohu, hiki, tupou ranei?

- [ ] Ae, tino uaua.
- [ ] Ae, ahua uaua.
- [ ] Ae, paku nei te uaua.
- [ ] Kao, karekau he uaua.

**4**

I roto i nga wiki e wha kua pahure ake nei, e uaua ana ki a koe te tiaki i a koe ano, penei i te kai, whakakuhu kakahu, whakakaukau, haere ranei ki te wharepaku?

- [ ] Ae, tino uaua.
- [ ] Ae, ahua uaua.
- [ ] Ae, paku nei te uaua.
- [ ] Kao, karekau he uaua.

**5**

I roto i nga wiki e wha kua pahure ake nei, e uaua ana ki a koe te kuhu ki to moenga, heke mai ranei i to moenga?

- [ ] Ae, tino uaua.
- [ ] Ae, ahua uaua.
- [ ] Ae, paku nei te uaua.
- [ ] Kao, karekau he uaua.

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## Wahanga 3
Ko nga patai e whai ake nei e pa ana ki nga mahi-a-te tamaiti ia ra

**A**

I roto i nga wiki e wha kua pahure ake nei, e uaua ana ki a koe te mahi i etahi TUMOMO mahi- kura, haututu ranei me o hoa no te mea e pouri ana to ngakau, e awangawanga ana ranei o whakaaro?

| Ae, tino uaua | Ae, ahua uaua. | Ae, paku nei te uaua | Kao, karekau he uaua. |

**I**

I roto i nga wiki e wha kua pahure ake nei, e uaua ana ki a koe te whakapau i te NUINGA o te wa ki runga i nga mahi-kura, haututu ranei me o hoa no te mea e pouri ana to ngakau, e awangawanga ana ranei o whakaaro?

| Ae, tino uaua. | Ae, ahua uaua. | Ae, paku nei te uaua. | Kao, karekau he uaua. |

**E**

I roto i nga wiki e wha kua pahure ake nei, e uaua ana ki a koe te WHAKATUTUKI i o mahi-kura, haututu ranei me o hoa no te mea e pouri ana to ngakau, e awangawanga ana ranei o whakaaro?

| Ae, tino uaua. | Ae, ahua uaua. | Ae, paku nei te uaua. | Kao, karekau he uaua. |

**O**

I roto i nga wiki e wha kua pahure ake nei, e uaua ana ki a koe te mahi i etahi TUMOMO mahi-kura, haututu ranei me o hoa no te mea e weriweri ana te ahua o to wairua?

| Ae, tino uaua. | Ae, ahua uaua. | Ae, paku nei te uaua. | Kao, karekau he uaua. |

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**1**

I roto i ngā wiki e whā kua pahure ake nei, e uaua ana ki a koe te whakapau i te NUINGA o te wā ki runga i ō mahi-kura, haututu ranei me ō hoa nā te mea e weriweri ana te āhua o tō wairua?

- Āe, tino uaua.
- Āe, āhua uaua.
- Āe, paku noa te uaua.
- Kāo, kārekau he uaua.

**2**

I roto i ngā wiki e whā kua pahure ake nei, e uaua ana ki a koe te WHAKATUTUKI i ō mahi-kura, haututu ranei me ō hoa nā te mea e weriweri ana te āhua o tō wairua?

- Āe, tino uaua.
- Āe, āhua uaua.
- Āe, paku nei te uaua.
- Kāo, kārekau he uaua.

**3**

I roto i ngā wiki e whā kua pahure ake nei, e uaua ana ki a koe te mahi i ngā TŪMOMO mahi-kura me te haututu me ō hoa nā te mea kei te māuiui tō tinana?

- Āe, tino uaua.
- Āe, āhua uaua.
- Āe, paku nei te uaua.
- Kāo, kārekau he uaua.

**4**

I roto i ngā wiki e whā kua pahure ake nei, e uaua ana ki a koe te whakapau i te NUINGA o te wā ki runga i ō mahi-kura, haututu ranei me ō hoa nā te mea kei te māuiui tō tinana?

- Āe, tino uaua.
- Āe, āhua uaua.
- Āe, paku nei te uaua.
- Kāo, kārekau he uaua.

**5**

I roto i ngā wiki e whā kua pahure ake nei, e uaua ana ki a koe te WHAKATUTUKI i ō mahi-kura, haututu ranei me ō hoa nā te mea kei te māuiui tō tinana?

- Āe, tino uaua.
- Āe, āhua uaua.
- Āe, paku nei te uaua.
- Kāo, kārekau he uaua.

## Wahanga 4

Whai ake nei, me panui atu au he rarangi korero e pa ana ki te ia o te mamae o te tamariki i etahi wa.

**A**

I roto i nga wiki e wha kua pahure ake nei, pehea rawa te *kaha* o te mamae kua pa atu ki a koe?

- Paku noa nei.
- Ahua paku
- Ahua kaha tonu
- Tino kaha
- Tino kaha rawa
- Kore rawa.

**I**

I roto i nga wiki e wha kua pahure ake nei, pehea rawa te *wa* o te mamae kua pa atu ki a koe??

- Paku noa nei
- Ahua paku
- Ahua kaha tonu
- Tino kaha
- Tino kaha rawa
- Kore rawa

## Wahanga 5

Whai ake nei, me panui atu au he rarangi korero e pa ana ki te ia o te wairua o te tamariki i etahi wa.

I roto i nga wiki e wha kua pahure ake nei, ko ehea o enei korero e hangai ana ki a koe i etahi wa?

**E**

Tino whakatamariki ana i a koe?

- Nuinga o te wa
- Ia te wa
- Etahi wa
- Ahua kore
- Kore rawa

**O**

Tautohetohe?

- Nuinga o te wa
- Ia te wa
- Etahi wa
- Ahua kore
- Kore rawa

**U**

Tino uaua ki te whakarongo?

- Nuinga o te wa
- Ia te wa
- Etahi wa
- Ahua kore
- Kore rawa

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**1** Kaore e whakarongo ki nga tohutohu a to kaiako, a o maatua ranei?

- Nuinga o te wa
- Ia te wa
- Etahi wa
- Ahua kore
- Kore rawa

**2** Hiahia kia noho ko koe anake?

- Nuinga o te wa
- Ia te wa
- Etahi wa
- Ahua kore
- Kore rawa

**3** Korero rukahu i mahi taruweku ranei?

- Nuinga o te wa
- Ia te wa
- Etahi wa
- Ahua kore
- Kore rawa

**4** Uaua ki te whakahoahoa?

- Nuinga o te wa
- Ia te wa
- Etahi wa
- Ahua kore
- Kore rawa

**5** Ahua pakihawa?

- Nuinga o te wa
- Ia te wa
- Etahi wa
- Ahua kore
- Kore rawa

**6** Oma atu i to kainga?

- Nuinga o te wa
- Ia te wa
- Etahi wa
- Ahua kore
- Kore rawa

**7** Uaua ki te korero, penei i te kiikiki te korero?

- Nuinga o te wa
- Ia te wa
- Etahi wa
- Ahua kore
- Kore rawa

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**A**

Whanaako taonga mai i te kainga?

☐ Nuinga o te wa ☐ Ia wa ☐ Etahi wa ☐ Ahua kore ☐ Kore rawa

**I**

Whanaako taonga mai wahi ke?

☐ Nuinga o te wa ☐ Ia wa ☐ Etahi wa ☐ Ahua kore ☐ Kore rawa

**E**

Pukuriri keo mehemea kaore i rite ki to hiahia?

☐ Nuinga o te wa ☐ Ia wa ☐ Etahi wa ☐ Ahua kore ☐ Kore rawa

**O**

Tino pukurir koe mehemea kaore i rite ki to hiahia?

☐ Nuinga o te wa ☐ Ia wa ☐ Etahi wa ☐ Kore rawa ☐ Ahua kore

**U**

Uaua mehemea he hoa kei to taha?

☐ Nuinga o te wa ☐ Ia wa ☐ Etahi wa ☐ Ahua kore ☐ Kore rawa

**AA**

Uaua ki te whakawhanaunga?

☐ Nuinga o te wa ☐ Ia wa ☐ Etahi wa ☐ Kore rawa ☐ Ahua kore

**II**

Ki ou nei whakaaro, he pehea ake to ahua o tou wairua ki etahi atu tamariki he rite tonu nga tau ki ou?

☐ Tino pai rawa ☐ Tino pai ☐ Pai ☐ Ahu a pai ☐ Kaore pai

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## Wahanga 6

Inaianei, kei te panui au i etahi rarangi korero e pa ana ki te ngakau o te tamariki.

I nga wiki e wha kua pahure ake nei, pehea te nuinga o te wa e penei ana to ngakau

**1**

| | E papouri ana te ngakau? | | | |
|---|---|---|---|---|
| ☐ Nga wa katoa | ☐ Nuinga o te wa | ☐ Etahi wa | ☐ Paku nei te wa | ☐ Kore rawa |

**2**

| | Hiahia ki te tangi? | | | |
|---|---|---|---|---|
| ☐ Nga wa katoa | ☐ Nuinga o te wa | ☐ Etahi wa | ☐ Paku nei te wa | ☐ Kore rawa |

**3**

| | Tino mataku? | | | |
|---|---|---|---|---|
| ☐ Nga wa katoa | ☐ Nuinga o te wa | ☐ Etahi wa | ☐ Paku nei te wa | ☐ Kore rawa |

**4**

| | Pehea te nuinga o te wa e awangawanga ana ou whakaaro i roto i nga wiki e wha kua pahure ake nei? | | | |
|---|---|---|---|---|
| ☐ Nga wa katoa | ☐ Nuinga o te wa | ☐ Etahi wa | ☐ Paku nei te wa | ☐ Kore rawa |

**5**

| | Mokemoke? | | | |
|---|---|---|---|---|
| ☐ Nga wa katoa | ☐ Nuinga o te wa | ☐ Etahi wa | ☐ Paku nei te wa | ☐ Kore rawa |

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**A**

Kaore i te harakoa te ngakau?

| Nga wa katoa | Nuinga o te wa | Etahi wa | Paku nei te wa | Kore rawa |

**I**

Manukanuka nga whakaaro?

| Nga wa katoa | Nuinga o te wa | Etahi wa | Paku nei te wa | Kore rawa |

**E**

Pouri te ngakau?

| Nga wa katoa | Nuinga o te wa | Etahi wa | Paku nei te wa | Kore rawa |

**I**

I roto i nga wiki e wha kua pahure ake nei, pehea te nuinga o te wa e harikoa ana tou ngakau?

| Nga wa katoa | Nuinga o te wa | Etahi wa | Paku nei te wa | Kore rawa |

**O**

Ngakau harikoa?

| Nga wa katoa | Nuinga o o te wa | Etahi wa | Paku nei te wa | Kore rawa |

**U**

Tino harikoa i roto i o mahi?

| Nga wa katoa | Nuinga o te wa | Etahi wa | Paku nei te wa | Kore rawa |

**AA**

Mahi whakangahau?

| Nga wa katoa | Nuinga o te wa | Etahi wa | Paku nei te wa | Kore rawa |

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**1** Manukanuka o whakaaro?

- Nga wa katoa
- Nuinga o te wa
- Etahi wa
- Paku nei te wa
- Kore rawa

**2** He pehea te nuinga o te wa e uaua ana ki a koe te moe, i roto i nga wiki e wha kua pahure ake nei?

- Nga wa katoa
- Nuinga o te wa
- Etahi wa
- Paku nei te wa
- Kore rawa

**3** Anini to mahunga?

- Nga wa katoa
- Nuinga o te wa
- Etahi wa
- Paku nei te wa
- Kore rawa

**4** Matenui ki a koe ano?

- Nuinga o te wa
- Ia te wa
- Etahi wa
- Paku nei te wa
- Kore rawa

### Wahanga 7

Ko nga patai e whai ake nei, e pa ana ki ou whakaaro mou ano, mo to kura, me etahi atu. Me whakaaro tonu ki etahi atu tamariki he rite nga tau ki ou, ka mutu, he pehea o ratou whakaaro.

I roto i nga wiki e wha kua pahure ake nei, he pai, he weriweri ranei ou whakaaro mo:

**5** Mou ake?

- Tino pai
- Ahua pai
- Heoi ano
- Ahua weriweri
- Tino weriweri

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**1** | Wakaingo 7.10          O mahi-kura?

☐ Tino pai    ☐ Ahua pai    ☐ Heoi ano    ☐ Ahua weriweri    ☐ Tino weriweri

**2** | Wakaingo 7.11      To kaha ki te takaro hakinakina?

☐ Tino pai    ☐ Ahua pai    ☐ Heoi ano    ☐ Ahua weriweri    ☐ Tino weriweri

**3** | Wakaingo 7.12          O hoa?

☐ Tino pai    ☐ Ahua pai    ☐ Heoi ano    ☐ Ahua weriweri    ☐ Tino weriweri

**4** | Wakaingo 7.13      Nga mahi e mahia ana e koe?

☐ Tino pai    ☐ Ahua pai    ☐ Heoi ano    ☐ Ahua weriweri    ☐ Tino weriweri

**5** | Wakaingo 7.14     I roto i nga wiki e wha kua pahure ake nei, he pehea ou whakaaro, he pai, he weriweri ranei mo to kaha ki te whakawhanaunga?

☐ Tino pai    ☐ Ahua pai    ☐ Heoi ano    ☐ Ahua weriweri    ☐ Tino weriweri

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**A** | To ahua me to tinana?

□ Tino pai | □ Ahua pai | □ Heoi ano | □ Ahua weriweri | □ Tino weriweri

**E** | He pehea te ahua o tou ngakau i te nuinga o te wa?

□ Tino pai | □ Ahua pai | □ Heoi ano | □ Ahua weriweri | □ Tino weriweri

**I** | He pehea to whakawhanaunga me tou whanau?

□ Tino pai | □ Ahua pai | □ Heoi ano | □ Ahua weriweri | □ Tino weriweri

**O** | He pehea te ahua o tou ake ao?

□ Tino pai | □ Ahua pai | □ Heoi ano | □ Ahua weriweri | □ Tino weriweri

**U** | I roto i nga wiki e wha kua pahure ake nei, ki ou nei whakaaro he pai, he weriweri ranei to koha ki te noho hoa pumau ki etahi atu tangata?

□ Tino pai | □ Ahua pai | □ Heoi ano | □ Ahua weriweri | □ Tino weriweri

**AA** | Kei te rata mai te wairua o etahi atu tangata ki a koe?

□ Tino pai | □ Ahua pai | □ Heoi ano | □ Ahua weriweri | □ Tino weriweri

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**1** | To kaha ki te whakawhitiwhiti korero?

| ☐ Tino pai | ☐ Ahua pai | ☐ Heoi ano | ☐ Ahua weriweri | ☐ Tino weriweri |

**2** | Te ahua o tou hauora?

| ☐ Tino pai | ☐ Ahua pai | ☐ Heoi ano | ☐ Ahua weriweri | ☐ Tino weriweri |

## Wahanga 8

Nga korero e whai ake nei e pa whanui ana ki te hauora. He pehea rawa te pono, te he ranei o enei korero e hangai ana ki a koe?

**3** | Tino pai rawa toku nei hauora.

| ☐ Tino pono | ☐ He pono | ☐ Koore au e mohio | ☐ He he | ☐ Tino he |

**4** | Tino taumaha taku pangia e te mate i tetahi wa, ka pohehe au ka hemo au.

| ☐ Tino pono | ☐ He pono | ☐ Koore au e mohio | ☐ He he | ☐ Tino he |

**5** | Kaore noa au e pangia e nga mate taumaha.

| ☐ Tino pono | ☐ He pono | ☐ Koore au e mohio | ☐ He he | ☐ Tino he |

**6** | He kaha ake te ora o etahi atu tamariki tena i tooku.

| ☐ Tino pono | ☐ He pono | ☐ Koore au e mohio | ☐ He he | ☐ Tino he |

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**A** Karekau ano tetahi mate tino taumaha kua pa mai ki a au.

- ☐ Tino pono
- ☐ He pono
- ☐ Kaore au e mohio
- ☐ He he
- ☐ Tino he

**E** He pangia tonu au e te mate ia te wa.

- ☐ Tino pono
- ☐ He pono
- ☐ Kaore au e mohio
- ☐ He he
- ☐ Tino he

**I** Ki oku nei whakaaro, ka heke haere taku ora i te wa ka pakeke haere ahau.

- ☐ Tino pono
- ☐ He pono
- ☐ Kaore au e mohio
- ☐ He he
- ☐ Tino he

**O** Ki oku nei whakaaro, ka piki tooku hauora i te wa ka pakeke haere ahau.

- ☐ Tino pono
- ☐ He pono
- ☐ Kaore au e mohio
- ☐ He he
- ☐ Tino he

**U** Kore rawa au e awangawanga mo toku hauora.

- ☐ Tino pono
- ☐ He pono
- ☐ Kaore au e mohio
- ☐ He he
- ☐ Tino he

**AA** Ki oku nei whakaaro, i tenei wa kei te tino pai toku hauora.

- ☐ Tino pono
- ☐ He pono
- ☐ Kaore au e mohio
- ☐ He he
- ☐ Tino he

**II** He kaha ake toku awangawanga mo toku hauora tena i etahi atu tamariki he rite nga tau ki oku.

- ☐ Tino pono
- ☐ He pono
- ☐ Kaore au e mohio
- ☐ He he
- ☐ Tino he

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**1** Mehemea me hoki whakamuri kotahi tau, he pehea ake tou hauora inaianei?

☐ 1. Tino pai ake inaianei tena i te kotahi tau ki muri

☐ 2. Ahua pai ake inaianei tena i te kotahi tau ki muri

☐ 3. Ahua rite tonu inaianei tena i te kotahi tau ki muri

☐ 4. Ahua he ake inaianei tena i te kotahi tau ki muri

☐ 5. Tino he ake inaianei tena i te kotahi tau ki muri

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## Wahanga 9
Ko enei patai whakamutunga e pa ana ki a koe me to whanau.
I roto i nga wiki e wha kua pahure ake nei, e hia te wa nga tou hauora, te ahua ranei o tou wairua:

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**2** I whakaiti i te wa o nga mahi katoa e pa ana ki to whanau?

☐ Nuinga o te wa  ☐ Ia te wa  ☐ Etahi wa  ☐ Ahua kore  ☐ Kore rawa

**3** Whakaporearea i etahi mahi o ia ra a te whanau (noho ki te kai, mataki pouaka whakaata)?

☐ Nuinga o te wa  ☐ Ia te wa  ☐ Etahi wa  ☐ Ahua kore  ☐ Kore rawa

**4** Whakaiti i te wa e taea ai e tou whanau ki te "haere ohorere" ki tetahi atu waahi?

☐ Nuinga o te wa  ☐ Ia te wa  ☐ Etahi wa  ☐ Ahua kore  ☐ Kore rawa

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**A**

Whakahau to whanau ki te ohorere te whakakore, huri ranei i nga whakaritenga (a te whanau ake, mahi ranei)?

| Nuinga o te wa | Ia te wa | Etahi wa | Ahua kore | Kore rawa |
|---|---|---|---|---|

**B**

| Nuinga o te wa | Ia te wa | Etahi wa | Ahua kore | Kore rawa |
|---|---|---|---|---|

**C**

| Nuinga o te wa | Ia te wa | Etahi wa | Ahua kore | Kore rawa |
|---|---|---|---|---|

Etahi wa he tino uaua mo te whanau ki te noho tahi. Kaore e noho i runga i te whakaaro kotahi, ana pukuriri.

**E**

He pehea ake te kaha o tau whanau ki te mahi tahi?

| Tino pai rawa | Tino pai | Pai | Ahua pai | Kaore i te pai |
|---|---|---|---|---|

**I**

Ko wai ou hoa?

| He Maori anake | He Maori me he Pakeha |
|---|---|
| He Pakeha anake | Other |

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**1**

| He aha koe i whakaaro nui ai mo o hoa? |
|---|

☐ Mahi takaro  ☐ Mahi o tou kura

☐ Mahi o tou whare  ☐ Mahi o tou marae

☐ Te haere ki etahi oku wahi  ☐ Korero o nga mea noa iho

☐ Other _____
_____
_____
_____

## Oranga Niho

He pehea ou whakaaro kia whai oranga niho . . . . .

| Kia paraihe i ō niho kia whai ora tō waha? | | | | |
|---|---|---|---|---|
| ☐ Kaore noa iho he whai hua | 2 ☐ Paku nei te whai hua | 3 ☐ Ahua whai hua | 4 ☐ He whai hua | 5 ☐ Tino whai hua |

| Kia whakamino i ō niho kia whai ora tō waha? | | | | |
|---|---|---|---|---|
| ☐ Kaore noa iho he whai hua | 2 ☐ Paku nei te whai hua | 3 ☐ Ahua whai hua | 4 ☐ He whai hua | 5 ☐ Tino whai hua |

| te kainga i ngā kai e tika ana mo te hauora o tō hā? | | | | |
|---|---|---|---|---|
| ☐ Kaore noa iho he whai hua | 2 ☐ Paku nei te whai hua | 3 ☐ Ahua whai hua | 4 ☐ He whai hua | 5 ☐ Tino whai hua |

| Kia haere ki te tohunga tiaki niho ahakoa kaore noa iho he raruraru o ngā niho? | | | | |
|---|---|---|---|---|
| ☐ Kaore noa iho he whai hua | 2 ☐ Paku nei te whai hua | 3 ☐ Ahua whai hua | 4 ☐ He whai hua | 5 ☐ Tino whai hua |

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## Oranga Niho

He pehea ou whakaaro kia whai oranga niho .....

---

Ki te whakaatāhua ake i tō āhua, no te mea kei te tino ora ō niho me ō pūniho?

| ☐ Kaore noa iho he whai hua | 2 ☐ Paku nei te whai hua | 3 ☐ Ahua whai hua | 4 ☐ He whai hua | 5 ☐ Tino whai hua |

---

Kia akongia ki te āta tiaki i tō waha?

| ☐ Kaore noa iho he whai hua | 2 ☐ Paku nei te whai hua | 3 ☐ Ahua whai hua | 4 ☐ He whai hua | 5 ☐ Tino whai hua |

---

Kia mōhiotia ai koe, ka whakapirau ō niho e ngā kai whai huka?

| ☐ Kaore noa iho he whai hua | 2 ☐ Paku nei te whai hua | 3 ☐ Ahua whai hua | 4 ☐ He whai hua | 5 ☐ Tino whai hua |

---

Korohio i te hā haungā?

| ☐ Kaore noa iho he whai hua | 2 ☐ Paku nei te whai hua | 3 ☐ Ahua whai hua | 4 ☐ He whai hua | 5 ☐ Tino whai hua |

# Tena koe mo to tautoko mai.

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TE PŪTAHI-Ā-TOI
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Palmerston North
New Zealand
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http://maori.massey.ac.nz

## Te Āhuatanga o Te Waiora o Te Tamaiti

### HE WHĀRANGI WHAKAMĀRAMA MĀ TE TAMAITI
Roopu Kaiwhiriwhiri

**Ko ngā kairangahau:**

John Waldon · Hōrangi Biddle · Pareiha Kunaiti

Te Pūmanawa Hauora, Te Pūtahi-ā-Toi.
Nama wāea (06) 3505799, tari 2538

#### He aha te kaupapa o tēnei rangahau?

Ko te kaupapa o tēnei rangahau ko te hauora me te ōranga o te tamaiti. Ko ngā whakautu, ngā kōrero ka kohia mai i tēnei rangahau hei āwhina ki te whakapakari i te hauora o te tamaiti.

#### Ngā whakahaere

He tono tēnei kia whakaae mai koe kia hau mai ki roto i tēnei roopu kaiwhiriwhiri kōrero mo tētahi rārangi pātai e pā ana ki te hauora o te tamaiti. Ko ngā kōrero katoa ka kōrerotia ki roto i tēnei roopu kaiwhiriwhiri me ngā patapatai ka pupuritia ki roto i te roopu kaiwhiriwhiri. Kāre e āhei kia puta ēnei kōrero ki waho atu o te roopu kaiwhiriwhiri. Kāre e whakaaetia aua kōrero kia kōrerotia ki tētahi atu kāre nō roto i te roopu kaiwhiriwhiri.

Ka pātaitia atu koe kia whakaae mai kia hopukia o kōrero ki runga mīhini hopu kōrero i te wā e haere ana ngā pātai i roto i ngā roopu kaiwhiriwhiri. I konei ka āhei ngā kairangahau ki te āta whakarongo atu ki ō whakautu mo te kaupapa, hāngai ki te rangahau. Ka pātaitia atu mehemea ka whakaae anō koe kia tangohia he whiti whakaahua o te roopu kaiwhiriwhiri. Kia āhei ai ngā kairangahau kia kite ko wai kei te kōrero, kia mārama ai ki ngā kōrero o te kaikōrero kei roto i te roopu kaiwhiriwhiri.

Ko ngā kōrero katoa ka kōrerotia e koe ka pupuritia kia noho pūmau. E kore tētahi atu e āhei ki ō kōrero. Kāre hoki e tāea te tūhono i ō whakautu ki ngā pātai ki tō ingoa. Ka pupuritia ō kōrero ki roto i tētahi kapata pupuri kōrero mo te rima tau. Kia ea ana te rima tau ka whakakorea aua kōrero āu.

#### Ko ōu tikanga hāngai ki tēnei kaupapa rangahau:

- ka āhei koe ki te whakaputa mai ki waho o tēnei rangahau inā pīrangi koe
- ka āhei koe kia kaua e whakautu i te pātai kāre e pai ki ō koe
- ka āhei koe ki te puta mai i waho o te roopu kaiwhiriwhiri inā pīrangi koe
- ka āhei koe ki te whakaputa i ētahi pātai mo tēnei kaupapa i te wā pai ki ō koe
- e whakaae ana koe kia mau pūmau ngā kōrero o te roopu kaiwhiriwhiri
- ka whakaae koe kia puta ētahi kōrero āu, ēngari kia kaua tō ingoa e puta ki te tahu i aua kōrero. Mau rānā hei whakaae atu ki te kairangahau.

He mea tētari, he mea whakaae tēnei kaupapa rangahau e te ahu kaitātari o te Human Ethics ahu o Te Kunenga ki Pūrehuroa, PN Tikanga 00\130.

Mēnā he urupare, e pānā ana koe mo te whakahaere o tēnei kaupapa rangahau me whakapā atu ki a Ahorangi Sylvia V Rumball, Te Tūru o Human Ethics ahu: Papa-i-ōea, nama wāea 06 3505249, ī-mēra: humanethicspn@massey.ac.nz

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## Te Āhuatanga o Te Waiora o Te Tamaiti

### TE WHÂRANGI WHAKAMÂRAMA
Te roopu kaiwhiriwhiri-Pakeke

Mehemea ka whakaae koe:

☐ e mārama ana mātau ki te whārangi whakamārama

☐ e mārama ana mātau ka āhei au ki te puta mai i waho i tēnei rangahau inā hiahia au

☐ e mārama ana mātau kāre e āhei kia whakaputatia taku Ingoa, maku rānō e whakaae

☐ e whakaae ana mātau kia noho ngā kōrero katoa ki roto i tēnei roopu kaiwhiriwhiri

☐ e whakaae ana mātau kia hopukia te (reo kōrero noa iho)

☐ e whakaae ana mātau kia tangohia he whiti whakaahua (āhua, me te reo)

*(Ka ngā rārangi kōrero ka āhei noa iho me tēnei rangahau me ana tuhinga
kōrero mai i tēnei kaupapa rangahau)*

E whakaae ana mātau kia uru mai te tamaiti (te ingoa kei rārā) ki te roto i ngā roopu kaiwhiriwhiri kōrero.

Ko te ingoo o taku tamaiti ko _____

Ngā tau o taku tamaiti
(mai i tōna rā whānau whakamutunga) _____ te rā _____ te marama _____ te tau 2005 .

Te waitohu o te tamaiti (tuhia tō ingoa ki konei) _____

Taku matua\kaitiaki rānei ko _____

Taku matua\ kaitiaki tōna waitohu _____

Te rā _____ te marama _____ te tau 2005 _____

*Ka ngā whakaritenga kōrero katoa mai i ngā roopu kaiwhiriwhiri ka noho pūmau ki ngā kairangahau. E kore
rawa ētahi kōrero e puta ki roto i ētahi pūronga.*

He mea tātari, he mea whakaae tēnei kaupapa rangahau e te ohu kaitātari o te Human Ethics ohu o Te Kunenga ki Pūrehuroa, PN Tikanga 00\130.

Mānā he amuamu, e pānānā ana koe mo te whakahaere o tēnei kaupapa rangahau me whakapā atu ki a Ahorangi Sylvia V Rumball, Te Tūru o Human Ethics ohu: Papa-i-ōes, nama waea 06 3505249, i-māra: humanethicspn@massey.ac.nz

# *Appendix 3*

## Parent Form -CHQNZ

# He Whakāturanga mo te Hauora Tamariki
## A Picture of Child Health

## Parent Questionnaire
### He Rārangi Pātai mō Ngā Mātua

*A survey of the health and well being of some Primary School children in New Zealand*

*He rangahau hauora o ētahi tamariki o ngā kura tuatahi o Aotearoa*

*Ko te ingoa o te tamaiti ko/ My child's name is:* _____

## A Picture of Child Health ✓
### INFORMATION SHEET
### Adult Completed Questionnaire Survey

*The people who will be asking the questions are:*

John Waldon          Julia Tapiata          Pareiha Kunaiti

Te Pūmanawa Hauora, Te Pūtahi-ā-Toi.
Phone (06) 350 5799, extension 2538

### Purpose of the Study

This study endeavors to describe the health and well being of children by asking the parents or caregivers of children.

### What will happen next...

You will be asked to complete a health questionnaire about the health and well being of your child. This is not a test and you can answer as many questions as you are able. The answers you give are private.

You will be asked to give the researcher permission to record your child's immunisation status. If you provide permission the researcher will record this information from the immunisation record held at your child's school.

Your name will not be linked with your answers. The information you give will be kept for five (5) years in a locked cabinet and then it will be destroyed.

### Your rights:

- You may decline to participate at any time;
- You may refuse to answer any particular questions;
- You may withdraw from the study at any time;
- You may ask any questions about the study at any time during participation;
- You may provide information on the understanding that your name will not be used unless you give permission to the researcher.

This project has been reviewed and approved by the Massey University Human Ethics Committee, PN Protocol 00/130. If you have any concerns about the conduct of this research, please contact Professor Sylvia V Rumball, Chair, Massey University Campus Human Ethics Committee: Palmerston North, telephone 06 350 5249, email humanethicspn@massey.ac.nz

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## Te Āhuatanga o Te Waiora o Te Tamaiti

### HE WHĀRANGI WHAKAMĀRAMA
Tā te Pakeke Whakamutunga Uiuitanga Whakarite

**Ko ngā tāngata kei te whakaputa i ngā pātai:**

| John Waldon | Julia Tapiata | Pareiha Kunaiti |

Te Pūmanawa Hauora, Te Pūtahi-ā-Toi.
Nama wāea (06) 3505799, tari 2538

### He aha te kaupapa o tēnei rangahau?

Ko te kaupapa o tēnei rangahau he whakaatu i te hauora me te ōranga o te tamaiti he mea pātai ki ngā mātua me ngā kaitiaki o te tamaiti.

### Ngā whakahaere

Ka pātaitia atu koe kia whakautua he rārangi pātai mō ētahi pātai hauora me te ōranga o tō tamaiti. Ēhara tēnei i te whakamatautau, me ngana koe kia tāea te whakautu i ngā pātai katoa e hiahia ana koe. Ko ō whakautu ka noho pūmau.

Ka pātaitia atu koe kia whakaaetia te kairangahau ki te tuhi i ngā whakaritenga paerite mō tō tamaiti. Ki te whakaae koe ka tīkina e te kairangahau aua kōrero mai i ngā tuhinga kōrero paerite i te kura o tō tamaiti.

Kāre tō ingoa e honoa ki ngā whakautu. Ka pupuritia aua kōrero mo te rima tau ki roto i tētahi kapata raka. Eke ana te rima tau ka whakakorea aua kōrero tūturu.

### Ko ngā tikanga hāngai ki ā koe

- ka āhei koe ki te whakaputa mai ki waho o tēnei kaupapa inā pirangi koe.
- ka āhei koe kia kaua e whakautu i te pātai kāre e pai ki a koe
- ka āhei koe ki te puta mai i waho i te rangahau
- ka āhei koe ki te whakaputa i ētahi pātai mo tēnei kaupapa i te wā pai ki ā koe
- ka āheitia koe ki te whakaputa kōrero, ēngari kia kaua tō ingoa e puta ki te taha i aua kōrero. Māu rānō hei whakaae atu ki te kairangahau.

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## A Picture of Child Health ✓

CONSENT FORM: Parent(s)/Caregiver(s) interview

☑ if you agree

☐ I have read the *Information Sheet* and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time before the presentation of the final report.

☐ I agree to provide information about the immunisation status of the child.

☐ I understand I have the right to withdraw from the study at any time and to decline to answer any particular questions.

☐ I agree to provide information to the researcher on the understanding that my name will not be used without my permission.

☐ I agree to have my name included in the report as a participant.

*(The information will be used only for this research and
publications arising from this research project).*

**I agree to participate in this study under the conditions set out in the Information Sheet.**

Name (Adult): _____ Signed: _____

Name (Child): _____

Date: _____ 2005

This project has been reviewed and approved by the Massey University Human Ethics Committee,
PN Protocol 00/130. If you have any concerns about the conduct of this research, please contact
Professor Sylvia V Rumball, Chair, Massey University Campus Human Ethics Committee:
Palmerston North, telephone 06 350 5249, email humanethicspn@massey.ac.nz

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## Te Āhuatanga o Te Waiora o Te Tamaiti ✓

### TE WHĀRANGI WHAKAAETANGA:
Ngā\te Matua\Ngā\Te Kaitiaki ngā pātai

☑    Inā whakaae koe

☐    Kua pānuitia e au te *Whārangi Whakamārama*, ā, kua whakamāramatia mai ngā ritenga o tēnei rangahau ki au. Kua oti pai i au aku whakautu mo ngā pātai e ai ki taku hiahia, ā, e mārama ana au ka āhei au ki te whakaputa anō i ētahi pātai i mua i te whakaputa i whakataunga o te pūrongo whakamutunga.

☐    E whakaae ana au kia whakaputatia he kōrero mo te āhuatanga o te paerite o te tamaiti

☐    E mārama ana au ka āhei au ki te puta ki waho i tēnei kaupapa rangahau inā hiahia au, me taku kore e hiahia ki te whakautu ētahi o ngā pātai

☐    E whakaae ana au kia whakaputatia ētahi kōrero ki te kairangahau i runga i te mōhio kia kaua taku ingoa e kōrerotia, māku rānō e whakaae atu.

☐    E whakaae ana au kia tukua taku ingoa ki roto i te pūrongo he kaitāwari noa

*(Ko ngā kohinga kōrero o tēnei rangahau, me ngā tuhinga kōrero ka āhei noa iho mo tēnei kaupapa rangahau)*

E whakaae ana au hei kaitāwari ki roto i tēnei rangahau i raro i ngā whakataunga kua whakaritea ki roto i te Whārangi Whakamārama.

Ingoa (Pakeke) _____ Waitohu _____

Ingoa (Tamiti) _____

Te Rā _____ te marama _____ te tau ___2005_____

He mea tātari, he mea whakaae tēnei kaupapa rangahau e te ohu kaitātari o te Human Ethics ohu o Te Kunenga ki Pūrehuroa, PN Tikanga 00\130.

Mēnā he amuamu, e pānānā ana koe mo te whakahaere o tēnei kaupapa rangahau me whakapā atu ki e Ahorangi Sylvia V Rumball, Te Tūru o Human Ethics ohu: Papa-i-õea, nama waea 06 3505249, i-mēra humanethicspn@massey.ac.nz

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## A Picture of Child Health ✓

### INFORMATION SHEET
### Questionnaire Survey –Child

*The researchers are:*
John Waldon          | Julia Tapiata          | Pareiha Kunaiti
Te Pūmanawa Hauora, Te Pūtahi-ā-Toi.
Phone (06) 350 5799, extension 2538

*What is this research about?*
... the health and well being of children. The answers will be used to help improve health for children.

*What will happen next?*

1. You will be asked if you agree to take a form home for your parent. This 'take-away' form is for your parent or guardian.

2. If you and your parent both agree, your parent will fill in the other form about you.

3. Your answers will be kept private. No one else will see what is written about you. The information about you will be kept safely for five (5) years and then destroyed.

4. If you agree to take part:
   a. You can change your mind at any time,
   b. You can refuse to answer any questions,
   c. You can pull out of the study at any time,
   d. You can ask questions at any time, and
   e. Your name will not be used.

This project has been reviewed and approved by the Massey University Human Ethics Committee, PN Protocol 00/130. If you have any concerns about the conduct of this research, please contact Professor Sylvia V Rumbell, Chair, Massey University Campus Human Ethics Committee: Palmerston North, telephone 06 350 5249, email humanethicspn@massey.ac.nz

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## Te Āhuatanga o Te Waiora o Te Tamaiti ✓

### WHĀRANGI WHAKAMĀRAMA
#### Te whārangi pae whakarite pātai ki tā te tamaiti

**Ko ngā kairangahau:**

John Waldon | Julia Tapiata | Pareiha Kunaiti

Te Pūmanawa Hauora, Te Pūtahi-ā-Toi.
Nama wāea (06) 3505799, tari 2538

#### He aha te kaupapa o tēnei rangahau?

Ko te kaupapa o tēnei rangahau ko te hauora me te ōranga o te tamaiti. Ko ngā whakautu, me ngā kōrero ka kohia mai i tēnei rangahau hei āwhina ki te whakapakari i te hauora o te tamaiti.

#### Ngā whakahaere

1. Mena, ka whakaae koe, ka haria tētahi rārangi kōrero ki to kainga. Mā o mātua, kaitiaki rānei taua rārangi kōrero.
2. Ki te whakaae koe me tō matua, mā tō matua e whakakii tērā atu pepa māu
3. Kāre e whakaputatia ō whakautu. E kore tētahi atu e kite i ngā tuhinga mau. Ka noho pūmau ēnei kōrero mo te rima tau. I muri iho i te rima tau ka whakakorea aua kōrero.
4. Ki te whakaae koe ki tēnei kaupapa:
    a. Ka tāea e koe te taka huri tō whakaaro mo tēnei kaupapa inā hiahia koe
    b. Ka āhei koe kia kaua e whakautu i te pātai kāre koe e hiahia
    c. Ka āhei koe ki te puta mai ki waho i tēnei kaupapa rangahau
    d. Ka āhei koe ki te whakaputa i ētahi pātai inā hiahia koe, ā,
    e. Kāre tō ingoa e whakaputatia, e whakamahia rānei

He mea tātari, he mea whakaae tēnei kaupapa rangahau e te ohu kaitātari o te Human Ethics ohu o Te Kunenga ki Pūrehuroa, PN Tikanga 00\130.

Mēnā he amuamu, e pānānā ana koe mo te whakahaere o tēnei kaupapa rangahau me whakapā atu ki a Ahorangi Sylvia V Rumball, Te Tūru o Human Ethics ohu: Papa-i-ōea, nama wāea 06 3505249, i-mēra humanethicspn@massey.ac.nz

A Picture of Child Health ✓

## CHILD'S CONSENT FORM

My name (child) is:_____

I am _____ years old

My birthday is on  _____ / _____ / _____
                        day              month            / year

☑    if you agree place a tick (✓) in the boxes below

☐    I agree to this interview.

☐    I agree that my parent can provide information about me.

☐    I agree that the reason for this research has been explained to me

☐    I agree that I can stop this interview at anytime.

*The information will be used only for this research and publications arising from this research project.*

Sign my name:................................................................... ................

Date:        ................................................... /2005

My Parent/Caregiver's name is/are: ...............................................................

This project has been reviewed and approved by the Massey University Human Ethics Committee, PN Protocol 00/130. If you have any concerns about the conduct of this research, please contact Professor Sylvia V Rumball, Chair, Massey University Campus Human Ethics Committee: Palmerston North, telephone 06 350 5249, email humanethicspn@massey.ac.nz

## Te Āhuatanga o Te Waiora o Te Tamaiti ✓

### TE RĀRANGI WHAKAAE A TE TAMAITI

Ko taku īngoa ko (tamiti): _____

E _____ taku pakeke

Taku rā whānau _____ te marama _____ te tau _____

☑  Ki te whakaae koe tohua te pouaka kei raro nei

☐  E whakaae ana au ki ēnei pātai.
☐  E whakaae ana au kia kōrero taku matua i ētahi kōrero mōku.
☐  E whakaae ana au ki te kaupapa o tēnei rangahau, inā kua whakamāramatia mai ki au.
☐  E whakaae ana au ka āhei au ki te whakamutu i ēnei pātai inā kāre e pai ki au.

*(Ko ngā kohinga kōrero o tēnei rangahau, me ngā tuhinga kōrero ka āhei noa iho mo tēnei kaupapa rangahau)*

Waitohu i tō īngoa (tamiti) _____

Te rā _____ te marama _____ te tau __2005_____

Īngoa (Pakeke) _____

## The Questionnaire
## Parent Report

### -INSTRUCTIONS-

1. The following questions ask about your child's health and well–being. All your answers will be kept confidential.

2. If you choose not to participate that's fine, and we thank you for your time. However, it will not affect the care you receive.

3. If you choose to complete the questionnaire, please answer each question by marking the appropriate box ☑.

4. Some questions may look the same but each one is different. It is important therefore, that you try to answer each question as best you can.

5. There are no right or wrong answers. If you are unsure, give the best answer possible for your child and if necessary, write any additional comments in the margin.

6. All comments will be read, so please feel free to write as much as you want.

## He Rārangi Pātai
## Rīpoata Mātua

### Ngā Tohutohu

1. Ko ngā pātai e whai ake nei, e pā ana ki te hauora me te ōranga wairua o tō tamaiti. Ka noho matapū ōu whakautu.

2. Mehemea, kaore koe e hiahia ana ki te uru mai ki roto i tēnei mahi, kei te pai. He mihi aroha tēnei ki ā koe.

3. Mehemea, he pai tēnei mahi ki ā koe, tuhia mai te tohu tika mo ia pātai ki roto i te tapawhā ☑.

4. Ahakoa he ōrite te āhua o ētahi pātai, kei te rerekē tonu. No reira, tuhia mai he whakautu mo ia pātai koa.

5. Kaore he whakautu tika, whakautu hē ranei, no reira tuhia mai te whakautu pai mo tō tamaiti. He pai ki te tuhi ētahi atu pitopito kōrero kei te taha o tōu whakautu.

6. Ka pānuitia e mātou i ngā kōrero katoa, no reira kia kaha ki te whakatakoto i ōu ake whakaaro.

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## SECTION 1: YOUR CHILD'S OVERALL HEALTH

1.1    In general, would you say your child's health is:

☐       ☐       ☐       ☐       ☐
Excellent    Very good    Good       Fair       Poor

## SECTION 2: YOUR CHILD'S INVOLVEMENT IN PHYSICAL ACTIVITIES

The following questions ask about physical activities your child might do during a day

2.1    During the past 4 weeks, has your child been limited in any of the following activities because of health problems?

|  | Yes limited a lot | Yes, limited some | Yes, limited a little | No, not limited |
|---|---|---|---|---|
|  | ↓ | ↓ | ↓ | ↓ |
| a. Doing things that take a lot of energy, such as running | ☐ | ☐ | ☐ | ☐ |
| b. Doing things that take some energy such as riding a bike? | ☐ | ☐ | ☐ | ☐ |
| c. Bending, lifting light things. | ☐ | ☐ | ☐ | ☐ |

## SECTION 3: YOUR CHILD'S INVOLVEMENT IN EVERYDAY ACTIVITIES

3.1    During the past 4 weeks, has your child been limited in the AMOUNT of time he/she could spend on schoolwork or activities with friends because of EMOTIONAL or BEHAVIOURIAL problems?

☐       ☐       ☐       ☐
Yes, limited a lot    Yes, limited some    Yes, limited a little    No, not limited

3.2    During the past 4 weeks, has your child been limited in the KIND of schoolwork or activities he/she could do with friends because of problems with his/her PHYSICAL health?

☐       ☐       ☐       ☐
Yes, limited a lot    Yes, limited some    Yes, limited a little    No, not limited

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### WĀHANGA 1: TE HAUORA O TŌ TAMAITI

1.1 Ki ōu nei whakaaro he pēhea te hauora o tō tamaiti:

| ☐ | ☐ | ☐ | ☐ | ☐ |
|---|---|---|---|---|
| Tino pai rawa. | Tino pai | Pai | Āhua pai | Kaore i te pai |

### WĀHANGA 2: NGĀ MAHI –Ā-TINANA Ā TŌ TAMAITI

Ko ngā patai e whai ake nei, e pā ana ki ngā mahi–ā-tinana a tō tamaiti, i roto i te rā kotahi.

2.1 I roto i ngā wiki e whā kua pahure ake nei, he kōpiripiri noa te kaha o tō tamaiti ki te mahi ā tinana, no te mea he māuiui ia?

|  | Tino kaha te uaua. ↓ | He uaua ↓ | Paku nei te uaua ↓ | Korekau he uaua ↓ |
|---|---|---|---|---|
| a. He mahi tino kaha pera i te omaoma. | ☐ | ☐ | ☐ | ☐ |
| b. He mahi kaha pera i te eke paihikara? | ☐ | ☐ | ☐ | ☐ |
| c. He mahi pera i te tūpou i te tinana, hikitia, i nga mea māmā. | ☐ | ☐ | ☐ | ☐ |

### WĀHANGA 3: NGĀ MAHI A TŌ TAMAITI IA RĀ

3.1 I roto i ngā wiki e whā kua pahure ake nei, he kōpiripiri noa tō tamaiti mo te nuinga o te wā ki te mahi i āna mahi ā kura, mahi i te taha o ōna hoa, no te mea kei te POURI TONA WAIRUA, kei te WERIWERI TONA ĀHUA rānei?

| ☐ | ☐ | ☐ | ☐ |
|---|---|---|---|
| Tino kaha te uaua | He uaua | Paku nei te uaua | Korekau he uaua |

3.2 I roto i ngā wiki e whā kua pahure ake nei, he kōpiripiri noa tō tamaiti ki te mahia i etahi TUMOMO mahi ā kura, mahi i te taha o ōna hoa, no te mea kei te māuiui tana TINANA?

| ☐ | ☐ | ☐ | ☐ |
|---|---|---|---|
| Tino kaha te uaua | He uaua | Paku nei te uaua | Korekau he uaua |

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## SECTION 4: PAIN

4.1    During the past 4 weeks, how often has your child felt bodily pain or discomfort?

☐                ☐              ☐              ☐              ☐              ☐
None of the     Once or        A few times    Fairly often   Very often     Every/almost
time            twice                                                        every day


## SECTION 5: GETTING ALONG

Below are phrases that describe behaviour or problems children sometimes show.

5.1    How often during the past 4 weeks did each of the following statements describe your child?

|  |  | Very Often | Fairly often | Some Times | Almost never | Never |
|---|---|---|---|---|---|---|
| a. | argued a lot | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. | had difficulty concentrating or paying attention | ☐ | ☐ | ☐ | ☐ | ☐ |
| c. | lied or cheated | ☐ | ☐ | ☐ | ☐ | ☐ |

5.2    Compared to other children your child's age, would you say his/her behaviour is in general:

☐              ☐              ☐              ☐              ☐
Excellent      Very good      Good           Fair           Poor

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## WĀHANGA 4: NGĀ MAMAETANGA

4.1 I roto i ngā wiki e <u>whā kua pahure ake nei,</u> peheo te AUAU o te wa i whakamamaetia te tinana o tō tamaiti?

| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
|---|---|---|---|---|---|
| Karekau | Kotahi taima | Paku nei te wā | Ētahi wā | Nui te wā | Tata tonu ia rā, ia rā |

## WĀHANGA 5: WAIRUA MĀHAKI

E whai ake nei etahi kīanga hei whakaaturia i ngā raruraru me ngā whānonga o ngā tamariki i ētahi wa.

5.1 I roto i nga <u>wiki e whā kua pahure ake nei,</u> ko ēhea kōrero e hāngai ana ki to tamaiti?

| | | Ngā wā katoa. ↓ | Nuinga o te wā ↓ | Ētahi wā ↓ | Karekau naoiho ↓ | Kore rawa ↓ |
|---|---|---|---|---|---|---|
| a. | kaha ki te tautohetohe | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. | he uaua ki te hihiwa i āna mahi | ☐ | ☐ | ☐ | ☐ | ☐ |
| c. | i kōrero rukahu | ☐ | ☐ | ☐ | ☐ | ☐ |

5.2 Ki te titiro whānui koe ki nga tamariki o te reanga o tō tamaiti, he pēhea ake te wairua o tō tamaiti ki ēra?

| ☐ | ☐ | ☐ | ☐ | ☐ |
|---|---|---|---|---|
| Tino pai rawa | Tino pai | Pai | Ahua pai | Kaore i pai |

## SECTION 6: EMOTIONAL WELL-BEING

6.1 During the past 4 weeks, how much of the time do you think your child has:

| | All of the time | Most of the time | Some of the time | A little of the time | None of the time |
|---|---|---|---|---|---|
| a. felt lonely? | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. felt nervous? | ☐ | ☐ | ☐ | ☐ | ☐ |
| c. felt upset or bothered? | ☐ | ☐ | ☐ | ☐ | ☐ |

## SECTION 7: SELF CONFIDENCE

The following ask about your child's satisfaction with themselves, school, and others. Keep in mind how other children of your child's age might feel about these matters.

7.1 During the past 4 weeks, how satisfied do you think your child has felt about:

| | Very satisfied | Somewhat satisfied | Neither satisfied nor dissatisfied | Somewhat dissatisfied | Very dissatisfied |
|---|---|---|---|---|---|
| a. School | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. friendships | ☐ | ☐ | ☐ | ☐ | ☐ |
| c. life overall | ☐ | ☐ | ☐ | ☐ | ☐ |

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## WĀHANGA 6:  ŌRANGA NGAKAU

6.1     I roto i ngā <u>wiki e whā kua pahure ake nei</u>, ki ōu whakaaro, he pēhea te nuinga o te wā e pēnei ana tō tamaiti?

|  | | Ngā wa katoa. ↓ | Nuinga o te wā ↓ | Ētahi wā ↓ | Paku te wā ↓ | Korekau ↓ |
|---|---|---|---|---|---|---|
| a. | i noho mokemoke? | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. | kaore i te tau te wairua? | ☐ | ☐ | ☐ | ☐ | ☐ |
| c. | pouri ana te ngakau? | ☐ | ☐ | ☐ | ☐ | ☐ |

## WĀHANGA 7:  ŌRANGA WAIRUA

Ko ngā patai e whai ake nei e pā ana ki nga whakaaro ake o tō tamaiti - mōna, mō tōna kura, mō ōna hoa.  Me whakaaro tonu ki ngā whakaaro o ētahi atu tamariki he rite te reanga ki tōu tamaiti, mo ēnei kaupapa.

7.1     I roto i ngā <u>wiki e whā kua pahure ake nei</u>, kei te pai ki ā koe ngā whakaaro o tō tamaiti mō:

|  | | Tino pai ↓ | Ahua pai ↓ | He pai ↓ | Kaore i te pai ↓ | Tino kore i te pai ↓ |
|---|---|---|---|---|---|---|
| a. | tana kura | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. | ngā whakahoanga | ☐ | ☐ | ☐ | ☐ | ☐ |
| c. | tōna ake ao | ☐ | ☐ | ☐ | ☐ | ☐ |

## SECTION 8: HEALTH STATUS

8.1 How true or false are the following statements for your child?

| | Definitely True ↓ | Mostly True ↓ | Don't Know ↓ | Mostly False ↓ | Definitely False ↓ |
|---|---|---|---|---|---|
| a. My child seems to be less healthy than other children I know | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. My child has never been seriously ill | ☐ | ☐ | ☐ | ☐ | ☐ |
| c. I worry about my child's health more than other people worry about their children's health. | ☐ | ☐ | ☐ | ☐ | ☐ |

## SECTION 9: YOU AND YOUR FAMILY

9.1 During the past 4 weeks, how MUCH concern or worry did the following cause YOU?

| | None at all ↓ | A little bit ↓ | Some ↓ | Quite a bit ↓ | A lot ↓ |
|---|---|---|---|---|---|
| a. Your child's physical health | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. Your child's emotional well-being or behaviour | ☐ | ☐ | ☐ | ☐ | ☐ |

9.2 During the past 4 weeks, did YOU have less time for your own needs because of:

| | Yes, a lot ↓ | Yes, some ↓ | Yes, a little ↓ | No, not at all ↓ |
|---|---|---|---|---|
| a. Your child's physical health? | ☐ | ☐ | ☐ | ☐ |
| b. Your child's emotional well-being or behaviour | ☐ | ☐ | ☐ | ☐ |

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## WĀHANGA 8: ORANGA TINANA

8.1 Kei te tika, kei te hē rānei, ēnei korero mō tō tamaiti?

| | Tino pai ↓ | Ahua pai ↓ | He pai ↓ | Kaore i te pai ↓ | Tino kore i te pai ↓ |
|---|---|---|---|---|---|
| A He kaha ake te oranga tinana o ēra atua tamariki i tāku. | ☐ | ☐ | ☐ | ☐ | ☐ |
| B Kaore anō taku tamaiti i pāngia e tētahi mate kino. | ☐ | ☐ | ☐ | ☐ | ☐ |
| C He kaha ake taku āwangawanga mo te hauora o taku tamaiti, i etahi atu tangata mo a ratou tamariki. | ☐ | ☐ | ☐ | ☐ | ☐ |

## WĀHANGA 9: A KO KOE ME TŌ WHĀNAU

9.1 I roto i ngā wiki e whā kua pahure ake nei, he pēhea rawa te KAHA o TŌ awangawanga mō ngā āhuatanga e whai ake nei?

| | Karekau noiho ↓ | Ahua paku nei ↓ | Ahua kaha ↓ | Kaha ake ↓ | Tino kaha ↓ |
|---|---|---|---|---|---|
| a. Te oranga _tinana_ o tō tamaiti | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. Te oranga _ngakau_ o tō tamaiti | ☐ | ☐ | ☐ | ☐ | ☐ |

9.2 I roto i ngā wiki e wha kua pahure ake nei, pēhea rawa te UAUA mōu ki te whai wā hei tutuki i ŌU ake hiahia, i te mea i te māharahara e koe mā:

| | Kaha te uaua ↓ | Ahua uaua ↓ | Paku nei te uaua ↓ | Kaore he uaua ↓ |
|---|---|---|---|---|
| a. Te oranga _tinana_ o tō tamaiti? | ☐ | ☐ | ☐ | ☐ |
| b. Te oranga _ngakau_ o tō tamaiti? | ☐ | ☐ | ☐ | ☐ |

9.3　During the past 4 weeks, how often has your child's health or behaviour:

|  | Very often | Fairly often | Some Times | Almost never | Never |
|---|---|---|---|---|---|
| a. limited the type of activities you could do as a family? | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. interrupted everyday family activities (eg. eating meals, watching tv)? | ☐ | ☐ | ☐ | ☐ | ☐ |

9.4　Sometimes families may have difficulty getting along with each other. They do not always agree and they may get angry. In general, how would you rate your family's ability to get along?

| ☐ | ☐ | ☐ | ☐ | ☐ |
|---|---|---|---|---|
| Excellent | Very good | Good | Fair | Poor |

## SECTION 10: ABOUT YOUR CHILD

10.1　Is your child:

☐ Male　　☐ Female

10.2　Is your child (natural or adopted)?

☐ Yes　　☐ No

10.3　What is your child's date of birth?

☐☐ / ☐☐ / ☐☐
DAY　　MONTH　　YEAR

10.4　From the following list select the highest your child has completed? (Tick one box only)

| Kohanga Reo | ☐ | Year 6 | ☐ |
|---|---|---|---|
| Kindergarten | ☐ | Year 7 | ☐ |
| Year 1 | ☐ | Year 8 | ☐ |
| Year 2 | ☐ | Year 8 | ☐ |
| Year 3 | ☐ | Year 10 | ☐ |
| Year 4 | ☐ | Year 11 | ☐ |
| Year 5 | ☐ | Year 12 | ☐ |
| I Do Not Know | ☐ | Home school | ☐ |

9.3 I roto i ngā <u>wiki e wha kua pahure ake nei</u>, e hia ngā wā na te HAUORA me ngā WHĀNONGA o tō tamaiti :

|  | Nga wa katoa ↓ | Nuinga o te wā ↓ | Ētahi wā ↓ | Iti te wā ↓ | Kore rawa ↓ |
|---|---|---|---|---|---|
| a. I whakakōpiripiri i nga mahi a te whānau. | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. I whakaporearea ngā mahi a te whānau (te kai, matakitaki pauaka whakaata) | ☐ | ☐ | ☐ | ☐ | ☐ |

9.4 I te nuinga o te wa, e uaua ana ki te whakakotahi i te whānau. I ētahi wā, kei te hē ngā whakaaro o ētahi; kei te pukuriri tētahi ki tētahi ranei. He pehea ake te ahua o tou whanau ki te noho tahi?

| ☐ | ☐ | ☐ | ☐ | ☐ |
|---|---|---|---|---|
| Tino pai rawa | Tino pai | Pai | Ahua pai | Koore i te pai |

## WĀHANGA 10: NGĀ KŌRERO PONO MŌ TŌ TAMAITI

10.1 Ko tō tamaiti:  ☐ He tāne  ☐ He wahine

10.2 He tamaiti whāngai/whānau ranei?)  ☐ Āe  ☐ Kao

10.3 He aha te rā whānau o tō tamaiti?

| | | |
|---|---|---|
| RĀ | MARAMA | TAU |

10.4 Ko tehea taumata tino teitei i tutuki to tamaiti?  (Kotahi anake).

| | | | |
|---|---|---|---|
| Kohanga | ☐ | Tau 6 | ☐ |
| Kindergarten | ☐ | Tau 7 | ☐ |
| Tau 1 | ☐ | Tau 8 | ☐ |
| Tau 2 | ☐ | Tau 8 | ☐ |
| Tau 3 | ☐ | Tau 10 | ☐ |
| Tau 4 | ☐ | Tau 11 | ☐ |
| Tau 5 | ☐ | Tau 12 | ☐ |
| Kaore au i te mohio | ☐ | Kuraina i te kainga? | ☐ |

10.5 Have you ever been told by a teacher, school official, doctor, nurse or other health professional that your child has any of the following conditions?

| | | Yes | No |
|---|---|---|---|
| a. | Anxiety problems | ☐ | ☐ |
| b. | Asthma | ☐ | ☐ |
| c. | Attention problems | ☐ | ☐ |
| d. | Behavioural problems | ☐ | ☐ |
| e. | Chronic allergies or sinus trouble | ☐ | ☐ |
| f. | Chronic orthopaedic, bone or joint problems | ☐ | ☐ |
| g. | Chronic respiratory, lung or breathing trouble (NOT ASTHMA) | ☐ | ☐ |
| h. | Chronic rheumatic disease | ☐ | ☐ |
| i. | Depression | ☐ | ☐ |
| j. | Developmental delay or mental retardation | ☐ | ☐ |
| k. | Diabetes | ☐ | ☐ |
| l. | Epilepsy (seizure disorder) | ☐ | ☐ |
| m. | Hearing impairment or deafness | ☐ | ☐ |
| n. | Learning problems | ☐ | ☐ |
| o. | Sleep disturbance | ☐ | ☐ |
| p. | Speech problems | ☐ | ☐ |
| q. | Vision problems | ☐ | ☐ |
| r. | Does your child have any other chronic medical condition that is affecting what they do or how they feel? (Please describe below) | ☐ | ☐ |

10.6 Dental Health

| How important is it for your child to... | Not at all Important | Slightly Important | Somewhat Important | Important | Very Important |
|---|---|---|---|---|---|
| a. to brush their teeth for a healthy mouth? | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. to floss their teeth for a healthy mouth? | ☐ | ☐ | ☐ | ☐ | ☐ |
| c. to get good nutrition for good oral health? | ☐ | ☐ | ☐ | ☐ | ☐ |
| d. to get dental checkups even when there is nothing wrong? | ☐ | ☐ | ☐ | ☐ | ☐ |
| e. to improve their appearance by having healthy teeth and gums? | ☐ | ☐ | ☐ | ☐ | ☐ |
| f. to learn about proper care for their mouth? | ☐ | ☐ | ☐ | ☐ | ☐ |
| g. know that sweet foods might decay their teeth? | ☐ | ☐ | ☐ | ☐ | ☐ |
| h. avoid bad breath? | ☐ | ☐ | ☐ | ☐ | ☐ |

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10.5 Kua kī atu anō tētahi māhita, tākuta, nēhi, tangata hauora rānei ki a koe, kei te pāngia tō tamaiti e tetahi o ēnei mate?

| | | Āe | Kao |
|---|---|---|---|
| a. | He whakaaro mānukanuka | ☐ | ☐ |
| b. | Mate Hūango | ☐ | ☐ |
| c. | He uaua ki te aro atu ki tetahi. | ☐ | ☐ |
| d. | Ngā whānonga kino | ☐ | ☐ |
| e. | Mate Tūtohu | ☐ | ☐ |
| f. | Mate monomona, iwi ranei | ☐ | ☐ |
| g. | Mate pūkahukahu | ☐ | ☐ |
| h. | Mate Rumātiki | ☐ | ☐ |
| i. | Mate hinengaro | ☐ | ☐ |
| j. | He Tōmuri | ☐ | ☐ |
| k. | Mate Huka | ☐ | ☐ |
| l. | Mate Hūkiki | ☐ | ☐ |
| m. | Mate Taringa | ☐ | ☐ |
| n. | Uaua ki te Aka | ☐ | ☐ |
| o. | Uaua ki te Moe | ☐ | ☐ |
| p. | Uaua ki te Kōrero | ☐ | ☐ |
| q. | Mate whēkaro | ☐ | ☐ |
| r. | He mate anō kei tō tamaiti e whakauaua ana i ōna mahi, e whakararu ana i tona wairua? (Tuhia mai i raro ake nei) | ☐ | ☐ |

10.6 Oranga Niho

| | He pēhea ōu whakaaro kia whai oranga niho tō tamaiti: | Kaore noa iho he whai hua ↓ | Paku nei te whai hua ↓ | Āhua whai hua ↓ | He whai hua ↓ | Tino whai hua ↓ |
|---|---|---|---|---|---|---|
| a. | Kia paraihe i ōna niho kia whai ora tona waha? | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. | Kia whakamiro i ōna niho kia whai ora tona waha? | ☐ | ☐ | ☐ | ☐ | ☐ |
| c. | Kainga i ngā kai e tika ana ma te hauora o tona hā? | ☐ | ☐ | ☐ | ☐ | ☐ |
| d. | Kia haere ki te tohunga tiaki niho ahakoa kaore noa iho he raruraru o ngā niho? | ☐ | ☐ | ☐ | ☐ | ☐ |
| e. | Ki te whakaatāhua ake i tona āhua, no te mea kei te tino ora ōna niho me ōna pūniho? | ☐ | ☐ | ☐ | ☐ | ☐ |
| f. | Kia akongia ki te āta tiaki i tona waha? | ☐ | ☐ | ☐ | ☐ | ☐ |
| g. | Kia māhiatia ai ia, ka whakapirau ōna niho e ngā kai whai huka? | ☐ | ☐ | ☐ | ☐ | ☐ |
| h. | Karohia i te hā haungā? | ☐ | ☐ | ☐ | ☐ | ☐ |

11.1   Are you:          ☐ Male     ☐ Female

11.2   What is your date of birth?

| | | / | | | / | | |
|---|---|---|---|---|---|---|---|
DAY          MONTH          YEAR

11.3   Which of the following best describes your current work status?
(Tick all that apply)

☐ | ☐ | ☐ | ☐ | ☐

Nor working due to my child's health | Not working for "other" reasons | Looking for work outside the home | Working full or part time (either outside the home or at home-based business | Full time homemaker

11.4 Which of the following best describes your relationship to your child?

☐ | ☐ | ☐ | ☐ | ☐

Biological parent | Step parent | Foster parent | Adoptive parent | Guardian

11.5 What is the highest level of education you have completed?

☐ | ☐ | ☐ | ☐ | ☐

Some high school or less | Higher School Cert/UE | Vocational school or some college | College degree | Professional or graduate degree

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## WĀHANGA 11: NGĀ KORERO E PĀ ANA KI Ā KOE

11.1 He aha koe? ☐ Tāne ☐ Wahine

11.2 He aha tō rā whānau? ☐☐ / ☐☐ / ☐☐

RĀ     MARAMA     TAU

11.3 Ko tēhea kōrero e whai ake nei, e hāngai ana ki ā koe? (Āta tirohia ki te katoa)

☐ Koare au i te mahi, no te mea kei te mauiui taku tamaiti.

☐ Koare au i te mahi, no ētahi atu take.

☐ Kei te rapu mahi i waho atu i taku kainga.

☐ Kei te mahi i etahi wa, i te nuinga o te wa, ( i waho atu i te kainga, i te kainga tonu ranei)

☐ I te nuinga o te wa kei te mahi au i te kainga

11.4 Ko tēhea kōrero e whai ake nei e hāngai ana ki ākoe me tō tamaiti?

☐ Nāu ake i whānau mai

☐ Nā to hoa rangatira

☐ Mātua Whāngai

☐ Kaitiaki

☐ Ētahi atu (whakamārama mai)

11.5 He aha te taumata rawa kua taea e koe e pa ana ki te matauranga?

☐ Kura Tuarua / iti iho rānei

☐ Kura Tiwhikete

☐ Tiwhikete Wānanga

☐ Tohu Wānanga

☐ Tohu Teitei mai i te Whare Wānanga

11.6　Which of the following best describes your current marital status?

☐ Married  ☐ Widowed  ☐ Divorced  ☐ Separated  ☐ Sole Parent

11.7　Which of the following best describes your ethnic background?

☐ European  ☐ Maori  ☐ Pacific Person  ☐ Asian  ☐ Other (please explain on the line below)

_____

11.8　What is today's date?

☐☐ / ☐☐ / ☐☐

DAY　　MONTH　　YEAR

# THANK YOU FOR YOUR PARTICIPATION!

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11.6    Ko tēhea kōrero e whai ake nei, e hāngai ana ki ā koe?

☐            ☐            ☐            ☐            ☐
Kua Mārena   Kua Pouaru   Kua Mahue   Kua Wehe   Matua tahi


11.7    Ko tēhea  kōrero  e whai ake nei e hāngai ana ki ā koe?

☐            ☐            ☐            ☐            ☐
He Pākehā    He Māori     He tangata ō te   He tangata Āhia   Tetahi atu
                          Moana nui ā                       (Whakamārama
                          Kiwa.                              mai)


11.8    He aha tenei rā?    [  |  ]    [  |  ]    [  |  ]
                            RĀ         MARAMA     TAU


# TENA KOE MŌ TŌ TAUTOKO MAI!

**Child Health Questionnaires – CHQNZ-PF**

*Appendix 3*

**Back Translation Provided by Children**

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| | | Read to the child. There are eighty two questions about your health and sprirtual health. Even though some of the questions are sort of the same, but their also very different. … | | Read to the child. There are 87 questions about he even the some of the questions are sort of the same every one of them are different. Some of the questions may not make any sense. Is that ok. But u still have to answer every question. There is no right answer even if u don't get the question, u still have to give an answer. | Read to child. These eighty seven questions sounds the same each one is different. Some of these questions may not concern you. This is all right. But then again you must answer all the questions. There are no correct answers and no wrong answers. If you don't understand but still must give an answer. | Read to child. There are 87 questions that are about your health and well being. Although some of these questions sound the same, each one is different. Some of these questions may not apply to you out that's ok but still answer every questions. There are no right and wrong answer. If you don't understand answer it anyway. | Read to the child: 87 question are aboute health and your life, and your body. Even if it looks like salf same questions some of these questions are not only stick and to you is that or riht, you shod answer stil all the questions. There is no answer riht, there is no answer rong. If you cant understand, maybe you can still answer the questions. | nr |

## Global General Health (GH)

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 1.1 In general, would you say your health is: | Ki ou ake whakaaro, he pehea te ahua o to hauora? | In your own thoughts, how is your health? | In your own head, how well do you think your health is? | …? | In your opinion how is the condition of your health? | In your view, whats your health like? | What i think is what do you think about the looks for health? | In your own mind how do you think you health is? |
| 1. Excellent | Tino pai rawa | Excellent | Excellent | Excellent | Excellent | Excellent | Realy realy good | Awesome |
| 2.  Very good | Tino pai | Very good | Very good | Very good | Very good | Very good | Realy good | Very good |
| 3.  Good | Pai | Good | Good | Good | Good | Good | Good | good |
| 4.  Poor | Ahua pai | Sort of good | Sort of good | Sort of good | Sort of good | Kinda good | It is or riht | |
| 5.  Very Poor | Kaore i te pai | Not that good | Not good | Not good | Not good | Bad | It is not good | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 2.1 | Ko nga patai e whai ake nei e pa ana ki o mahi –a-tinana mo ia ra? | The following questions are about the thing's you do each day. | These questions below is about your daily routines. | …? | The following questions are about your everyday well being. | The questions below ask about your exercise. | The questions that are coming up there about you work and your body everyday. | |

## Physical Functioning (PF) –lot of energy and some energy

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 2.1a<br>In the past four weeks, was it hard for you to play any sport that can make you tired easily like rugby, running, or long distance walking due to health problems? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te takaro i nga takaro hakinakina tino kaha te whakapau hau penei i te takaro whutu paoro, omaoma, hikoi roa ranei? | In the last 4 weeks was it hard for you to play very hard PE that takes away your breath like rugby, running, long walking. | In the last 4 weeks was it hard for you to play any hard leisure (sports) that make you tired easily like rugby, running or long walking? | In the last 4 weeks was it hard for u to play hard out sports to lose you breath like rugby, cross country or power walking? | In the last 4 weeks has it been difficult for you to do physical activates that ware you out like playing rugby, running or long walks? | In the past 4 weeks, has it been difficult for you to play sport's that wear you out like rugby, long walks? | In four weeks that have just past is it hard to play sports relly hard to wast energy like football, runing, walking log to? | In the 4 weeks that have past has it been hard to play hard sports, that you lose your breath in sprots such as rugby, running, long walks? |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes relly hard | |
| 2. Yes, not that difficult | Ae ahua uaua | Yeah, sort of hard | Yes, not that hard | Yeah, sort of hard | Yes, sort of difficult | Yes, sort of difficult | Yes it is sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, not really that hard | Yes, just a little bit hard | Yes, but not that difficult | Yes, not that difficult | Yes it is kind of hard | |
| 4. No, not difficult | Kao karekau he uaua | No, its not hard | No, it not even hard | No, its not hard | Not, difficult at all | No, not difficult | No it is not hard | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 2.1b In the past four weeks, was it hard to do things that take some energy such as riding a bike, or rollerblading due to health problems? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te takaro i nga takaro ahua whakapau hau penei i te eke paihikara, retireti ranei? | In the past four weeks, was it hard to play games that sort of takes your breath like biking, skating? | In the past 4 weeks has a sort of hard activity made you tired like riding a bike or skating? | In the last 4 weeks is it hard to sort tiering sports like bike riding, or rollerblading? | In the last four weeks has it been difficult for you to do physical activities that sort of | In the past 4 weeks, has it been difficult for you to do physical activities like cycling and skating? | In fwor weeks that has past, is it hard for you to play the games to waste you energy like riding a bike, or riding your skate bord to? | In the past 4 weeks that have past has it been hard to play? |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes Realy hard | |
| 2. Yes, not that difficult | Ae ahua uaua | Yes, sort of hard | Yes, not that hard | Yeah, sort of hard | Yes, sort of difficult | Yes, sort of difficult | Yes it is sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, a little bit hard | Yes, just a little bit hard | Yes, but not that difficult | Yes, not that difficult | Yes it is kind of hard | |
| 4. No, not difficult | Kao karekau he uaua | No, not even hard | No, not at all | No, its not hard | No. not difficult at all | No, not difficult at all | No it is not hard | |

## Physical Functioning (PF) -several block and climb stairs

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 2.1c<br>In the past four weeks, was it hard for you to walk a long distance to town, or walk up a long stairway? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te hikoi tawhiti haere i te taone, piki ara- tepe teitei? | In the last 4 weeks is it hard for you to go for long walk's to town, or climb tall steps? | In the past four weeks, has it ever been hard for you to walk a long distance to town, or walk up long steps? | In the past four weeks, has it hard for you to go for long walks to town, or climb up long steps? | In the last four weeks, has it been difficult for you to walk far distances in town, climbing stairs? | In the past 4 weeks, has it been difficult for you to walk to town, or walking up long stairs? | In fwor weeks that has past, is it hard for you to far in town, clim steps –stepps sters? | In the 4 weeks that have past, has it been hard for you to go on long walks thru town or up big stairs? |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes Realy hard | |
| 2. Yes, not that difficult | Ae ahua uaua | Yeah, sort of hard | Yes, not that hard | Yeah, sort of hard | Yes, moderately difficult | Yes, sort of difficult | Yes it is sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, just a little bit hard | Yes, just a little bit hard | Yes, but not that difficult | Yes, not that difficult | Yes it is kind of hard | |
| 4. No, not difficult | Kao karekau he uaua | No, Not even hard | No, not even hard | Not at all | No. not difficult at all | No, not difficult at all | No it is not hard | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 2.1d.<br>In the past four weeks, was it hard for you to walk home or to the park due to health problems? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te hikoi haere i te wa kainga, i te papa-takaro ranei? | In the last 4 weeks is it hard for you to walk around after school at the play ground? | In the last 4 weeks is it hard for you to walk home or to the park? | In the past four weeks, is it hard for u to walk home, or to the play ground | In the last four weeks, has it been difficult for you to walk around at home, or at the playground? | In the past 4 weeks, has it been difficult to walk around at home and at the park? | In fwor weeks that had past, is it hard for you to walk home, or to the park to? | In the 4 weeks that have pasted, has it been hard for you to walk around the house or at the park? |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes, realy hard | |
| 2. Yes, not that difficult | Ae ahua uaua | Yeah, sort of hard | Yes, not that hard | Yeah, sort of hard | Yes, moderately difficult | Yes, sort of difficult | Yes, sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, a little bit hard | Yes, just a little bit hard | Yes, but not that difficult | Yes, not that difficult | Yes, it is kind of hard | |
| 4. No, not difficult | Kao karekau he uaua | No, not at all hard | No, not at all hard | Not at all | No. not difficult at all | No, not difficult at all | No, not hard at all | |

## Physical Functioning (PF) –climb stair and house chores

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 2.1e. In the past four weeks, was it hard for you to walk across the playground or up one step due to health problems? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te hikoi haere i tetahi wahanga kotahi o te taone, piki ranei i tetahi ara-tepe? | In the last 4 weeks is it hard for you to walk in one place in town, climb a step? | In the past four weeks, has it been hard for you to walk one part of town, or walk up a step? | In the past four weeks is it hard to walk in one bit of the town or climbing stairs? | In the last four weeks, has it been difficult for you to walk around one section of town, or climb stairs | In the past 4 weeks, has it been difficult for you to walk to town, or walking up long stairs? | In fwor weeks that had past, is it hard for you to walk to a part of town, climb a stepps sters? | In the past 4 weeks that have past has it been hard for you to walk in one area at town or up stairs |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes Realy hard | |
| 2. Yes, not that difficult | Ae ahua uaua | Yeah, sort of hard | Yes, not that hard | Yeah, sort of hard | Yes, sort of difficult | Yes, sort of difficult | Yes it is sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, a little bit hard | Yes, just a little bit hard | Yes, sort of difficult | Yes, not that difficult | Yes it is kind of hard | |
| 4. No, not difficult | Kao karekau he uaua | Not at all | No, not even hard | Not at all | No, not difficult | No, not difficult at all | No it is not hard | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 2.1f. In the past four weeks, was it hard for you to do your homework? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te mahi haere i o mahi o te kainga? | In the last 4 weeks is it hard for you to do your homework? | In the last 4 weeks is it hard for you to do chores? | In the past four weeks is it hard for u to do you home work? | In the last four weeks, has it been difficult for you to do your chores at home? | In the past 4 weeks, has it been difficult to do your jobs in your home? | In fwor weeks that had past, is it hard for you to do your chores at home? | In the last 4 weeks that have past has it been hard for you to do your house work around your house? |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes, realy hard | |
| 2. Yes, not that difficult | Ae ahua uaua | Yeah, sort of hard | Yes, not that hard | Yeah, sort of hard | Yes, sort of difficult | Yes, sort of difficult | Yes, sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, a little bit hard | Yes, just a little bit hard | Yes, but not that difficult | Yes, not that difficult | Yes, kind of hard | |
| 4. No, not difficult | Kao karekau he uaua | Not at all | No, not even hard | Not at all | No, not difficult at all | No, not difficult at all | No, not hard al all | |

## Physical Functioning (PF) –bend and self-care

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 2.1g  In the past four weeks, was it hard for you to bend, lift or stoop due to health problems? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te tuohu, hiki, tupou ranei? | In the last 4 weeks is it hard for you…? | In the last 4 weeks, has it been hard for you to bow your head, lift things, or stoop? | In the past four weeks is it hard for you…? | In the last four weeks, has it been difficult for you to bend over, lift thing up or tilt your head? | In the past 4 weeks, has it been difficult to tilt, lift or bow your head. | In fwor weeks tha had past, is it hard for you lo bend or lift things to? | In the last 4 weeks that have past has it been hard for you to bend, lift or stand still? |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, very hard | Yes, very hard | Yes, very difficult | Yes | Yes, realy hard | |
| 2. Yes, not that difficult | Ae ahua uaua | Yeah, sort of hard | Yes, not that hard | Yeah, sort of hard | Yes, sort of difficult | Yes | Yes, sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, a little bit hard | Yes, just a little bit hard | Yes, but not that difficult | Yes | Yes, kind of hard | |
| 4. No, not difficult | Kao karekau he uaua | Not at all | No, not even hard | Not at all | No, not difficult at all | No | No, not hard al all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 2.1h.  In the past four weeks, was it hard for you to eat, dress, bath or go to the toilet by yourself due to health problems? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te tiaki i a koe ano, penei i te kai, whakakuhu kakahu, whakakaukau, haere ranei ki te wharepaku? | In the last 4 weeks is it hard for you to look after your self, like food, put on cloths or go to the toilet? | In the last 4 weeks, has it been hard for you to look after yourself, like easting, put on clothes, bath (shower), or go to the toilet? | In the past four weeks, is it hard for u to look after your self like food, put on clothes or go to the toilet? | In the last four weeks, has it been difficult for you to to look after your self, things like eating, dressing yourself, having a bath or shower, or going to the toilet? | In the past 4 weeks, has it been difficult for you to look after yourself like eating, dress yourself, wash yourself or go to the toilet. | In fwor weeks tha had past, is it hard for you to look after your salf, like food, drese your salf, whash, go to the toilet? | In the last 4 weeks tht have past has it been hard for you to look after your self, like your eating changing clothes or going to the toilet? |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes, realy hard | |
| 2. Yes, not that difficult | Ae ahua uaua | Yes, sort of hard | Yes, not that hard | Yeah, sort of hard | Yes, sort of difficult | Yes, sort of difficult | Yes, sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, a little bit hard | Yes, just a little bit hard | Yes, but not that difficult | Yes, not that difficult | Yes, kind of | |
| 4. No, not difficult | Kao karekau he uaua | Not at all | No no eve hard | Not at all | No, not difficult at all | No, not difficult at all | No, not hard al all | |

## Physical Functioning (PF) -bed

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 2.1i. In the past four weeks, was it hard for you to get in or out of bed due to health problems? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te kuhu ki to moenga, heke mai ranei i to moenga? | In the last 4 weeks is it hard for you to to get into bed or get out? | In the past four weeks, is it hard for you to get into bed or to get out of bed? | In the past four weeks, is it hard for u to get into bed or get of your bed? | In the past four weeks, is it hard for you to get in and out of bed? | In the past 4 weeks, has it been difficult for you to get in to bed, or get out of bed | In fwor weeks that had past, is it hard for you to hop in your bed get out of your bed to? | In the last 4 weeks that have past has it been hard for you to get in or out your bed? |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes, realy hard | |
| 2. Yes, not that difficult | Ae ahua uaua | Yeah, sort of hard | Yes, not that hard | Yeah, sort of hard | Yes, sort of difficult | Yes, sort of difficult | Yes, sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, a little bit hard | Yes, just a little bit hard | Yes, not that difficult | Yes, with little difficulty | Yes, kind of hard | |
| 4. No, not difficult | Kao karekau he uaua | Not at all | No, not even hard | Not at all | No, not difficult at all | No not difficult at all | No, not hard al all | |

## Role/Social-Behavioural (RB) – Feeling sad or worried

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 3.1.a. In the past four weeks, was it hard for you to do certain KINDS of school work or activities with friends because of problems with FEELING SAD or WORRIED? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te mahi i etahi TUMOMO mahi-kura, haututu ranei me o hoa no te mea e pouri ana to ngakau, e awangawanga ana ranei o whakaaro? | In the past four weeks, was it hard for you to waste most of your time on, school work. Fool around with your friends veacause you feel sad or scared in your thoughts? | In the last four weeks is it hard for you waste any kind of school time, being a nuisance with your friends because you feel down, or your mind in worried too much? | In the last 4 weeks is it hard for u to do these cinda school stuff, mucking around with your friend cause you are sad or worried? | In the past four weeks, has it been difficult for you to do some sorts of school work, or hanging out with your friends because you are feeling sad or worried? | In the past 4 weeks, has it been difficult for you to do some school work, or mucking around with your friends because you've been sad, or worried. | In fwor weeks that had past, is it hard for you to do some different school work, mucking around whith your friends because you are sad in your hart, or have you got problems in your head? | In the last 4 weeks that have past has it been hard to do work at school or be (in) touche wth your friends because your heart is sad or you've been worried about your thoughts? |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes, realy hard | Yes, very hard |
| 2. Yes, not that difficult | Ae ahua uaua | Yeah, sort of hard | Yes, not that hard | Yeah, sort of hard | Yeah, sort of difficult | Yes, sort of difficult | Yes, sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, a little hard | Yes, just a little bit hard | Yes, but not that difficult | Yes, not that difficult | Yes, kind of hard | |
| 4. No, not difficult | Kao karekau he uaua | Not at all | No, not even hard | Not at all | No, not difficult at all | No, not difficult at all | No, not hard al all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 3.1.b In the past four weeks, was it hard for you to spend the usual AMOUNT of time on your school work or activities with friends because of problems with FEELING SAD or WORRIED? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te whakapau i te NUINGA o te wa ki runga i nga mahi-kura, haututu ranei me o hoa no te mea e pouri ana to ngakau, e awangawanga ana ranei o whakaaro? | In the past four weeks, was it hard for you to waste most of your time on school work, fool around with your friends because you feel sad, or scared in your thoughts? | In the last four weeks is it hard for you waste most of school time, being a nuisance with your friends, or your mind in worried too much? | In the last 4 weeks is it hard to waste most of your time on doing your school work or muck around with your friends because you are sad or u r worried? | In the last 4 weeks has it been difficult for you to spend MOST of your time on your school work, or hanging out with your friends because you are feeling sad or worried? | In the past 4 weeks, has it been difficult for you to spend all your time on school work, or hang with your friends because you've been sad, or worried. | In fwor weeks that had past, is it hard for you to wast all the time to do school work, mucking around to whith your friends because you sad in your hart, or ave you angry dond no to? | In the last 4 weeks that have past has it been hard for you to put all your work in to school work or be (in) touche wth your friends because your heart is sad or you've been worried about your thoughts? |
| 1. Yes, very | Ae tino uaua | Yes, very hard | Yes, very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes, realy hard | |

| difficult | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2. Yes, not that difficult | Ae ahua uaua | Yeah, sort of hard | Yes, not that hard | Yeah, sort of hard | Yeah, sort of difficult | Yes, sort of difficult | Yes, sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, a little hard | Yes, just a little bit hard | Yes, but not that difficult | Yes, not that difficult | Yes, kind of hard | |
| 4. No, not difficult | Kao karekau he uaua | Not at all | No, not even hard | Not at all | No, not difficult at all | No, not difficult at all | No, not hard at all | |

## Role/Social-Behavioural (RB) – Feeling sad or worried

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 3.1.c In the past four weeks, was it hard for you to get your school work DONE at all or do any activities with friends because of problems with FEELINF SAD or WORRIED? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te WHAKATUTUKI i o mahi-kura, haututu ranei me o hoa no te mea e pouri ana to ngakau, e awangawanga ana ranei o whakaaro? | In the last four weeks is it ever been hard for you …..? | In the last for weeks is it ever been hard for you 'meet the needs' of your school work, rather than being a nuisance to your friends, or worrying too much? | In the last 4 weeks is it hard for u to finish your school work or mucking around with your friend because u r sad or u r just worried? | In the last 4 weeks has it been difficult for you to COMPLETE your school work, or hanging out with your friends because you are feeling sad or worried? | In the past 4 weeks, has it been difficult for you to complete your school work, or hangout with your friends because you've been sad or worried. | In fwor weeks tha had past, is it hard for you to complete on your school work, mucking around whith your friends because you relly sad, or are you mad because you dount no what the answer is? | In the last 4 weeks that have past has it been hard to complete your school, touche wth your friends because your heart is sad or you've been worried about your thoughts? |
| | | | | | | | | |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes, realy hard | |
| 2.  Yes, not that difficult | Ae ahua uaua | Yes, sort of hard | Yes, not that hard | Yeah, sort of hard | Yeah, sort of difficult | Yes, sort of difficult | Yes,  sort of hard | |
| 3.  Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, a little hard | Yes, just a little bit hard | Yes, but not that difficult | Yes, not that difficult | Yes,  kind of hard | |
| 4.  No, not difficult | Kao karekau he uaua | Not at all | No, not even hard | Not at all | No, not difficult at all | No, not difficult at all | No, not hard al all | |

## Role/Social-Emotional (RE) –Your behaviour

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 3.2.a In the past four weeks, was it hard for you to do certain KINDS of school work or activities with friends because of problems with your BEHAVIOUR? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te mahi i etahi TUMOMO mahi-kura, haututu ranei me o hoa no te mea e weriweri ana te ahua o to wairua? | In the last four weeks is it been hard for you to do some….? | In the last four weeks is it been hard for you to do any school work, rather than being a nuisance with your friends, because you have a creepy feeling? | In the last 4 weeks is it hard to some school work or just mucking around with your friends cause u r a bad person? | In the last 4 weeks has it been difficult for you to do some SORTS of your school work or hanging out with your friends because you are scared? | In the past 4 weeks, has it been difficult for you to do some school work, or hang out with friends because you've been sad or worried. | In fwor weeks that had past, is it hard for you to work some kinds of school work, mucking around whith your friends because your scard in your hart? | In the last 4 weeks that have past has it been hard for you to do some school work or be in touch with friends because your spirit is sad? |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes, realy hard | |
| 2. Yes, not that difficult | Ae ahua uaua | Yes, sort of hard | Yes, not that hard | Yeah, sort of hard | Yeah, sort of difficult | Yes, sort of difficult | Yes, sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, a little hard | Yes, just a little bit hard | Yes, but not that difficult | Yes, not that difficult | Yes, kind of hard | |
| 4. No, not difficult | Kao karekau he uaua | No, not even hard. | No, not even hard | Not at all | No, not difficult at all | No not difficult at all | No, not hard al all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 3.2.b.<br>In the past four weeks, was it hard for you to spend the usual AMOUNT of time on your school work or activities with friends because of problems with your BEHAVIOUR? | i roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te whakapau i te NUINGA o te wa ki runga i o mahi-kura, haututu ranei me o hoa no te mea e weriweri ana te ahua o to wairua? | In the last four weeks is it been hard for you to waste most of your time on school work, fooling around with your friend's because you've got a cruel spirit? | In the last four weeks is it been hard for you to do finish most of your school work, rather than being a nuisance to your friends, because you have a creepy feeling? | In the last 4 weeks is it hard to spend most of your time doing school work, or just mucking around with your friends cause u r a bad person? | In the last four weeks has it been difficult for you to spend MOST of your time on your school work or hanging out with your friends because you are scared? | In the past 4 weeks, has it been difficult for you to spend all your time on school work, or hang out with friends because you've been sad or worried. | In fwor weeks that had pasts, is it hard for you to wast nerlly all the time to do school work, mucking around whith your friends because you fell like scerd in hart? | nr |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes, realy hard | |
| 2. Yes, not that difficult | Ae ahua uaua | Yes, sort of hard | Yes, not that hard | Yeah, sort of hard | Yeah, sort of difficult | Yes, sort of difficult | Yes, sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, a little hard | Yes, just a little bit hard | Yes, but not that difficult | Yes, with little difficulty | Yes, kind of hard | |
| 4. No, not difficult | Kao karekau he uaua | No, not at all hard | No, not even hard | Not at all | No, not difficult at all | No, not difficult at all | No, not hard al all | |

## Role/Social-Emotional (RE) –Your behaviour

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 3.2.c In the past four weeks, was it hard for you to get your school work DONE at all or do any activities with friends because of problems with your BEHAVIOUR? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te WHAKATUTU Ki i o mahi-kura, haututu ranei me o hoa no te mea e weriweri ana te ahua o to wairua? | In the last four weeks was it been hard for you ….? | In the last 4 weeks is it hard for you to DO your school work, without being a nusance to your friends because you feel uncomfortable? | In the last 4 weeks is it hard for u to finish your school work, or just mucking around with your friend because u r bad? | In the last four weeks has it been difficult for you to COMPLETE your school work or hanging out with your friends because you are scared? | In the past 4 weeks, has it been difficult for you to complete your school work, or hang out with friends because you've been scared | In fwor weeks that had past, is it hard for you to mis out school work, mucking around because you have a feeling that your cant to it in your hart? | nr |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes, realy hard | |
| 2. Yes, not that difficult | Ae ahua uaua | Yes, sort of hard | Yes, not that hard | Yeah, sort of hard | Yeah, sort of difficult | Yes, sort of difficult | Yes, sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, a little hard | Yes, just a little bit hard | Yes, but not that difficult | Yes, with little difficulty | Yes, kind of hard | |
| 4. No, not difficult | Kao karekau he uaua | No, not at all hard | No, not even hard | Not at all | No, not difficult at all | No, not difficult at all | No, not hard al all | |

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## Role/Social-Physical (RP) –Physical health

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 3.3.a. In the past four weeks, was it hard for you to do certain KINDS of school work or activities with friends because of problems with your PHYSICAL health? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te mahi i nga TUMOMO mahi-kura me te haututu me o hoa no te mea kei te mauiui to tinana? | In the last four weeks is it been hard for you to do your….? | In the last 4 weeks is it hard for you to do some school stuff and be a nusance because your body feels wiery? | In the last 4 weeks is it hard to do some school stuff and mucking around with your friends cause your body is sick? | In the last four weeks has it been difficult for you to do SOME SORTS of school work and hang out with your friends because your body is in pain? | In the past 4 weeks, has it been difficult for you to complete your school work, or hang out with friends because your body is in pain | In fwor weeks that had past, is it hard for you to do kinds of school work… | nr |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, its very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes, realy hard | |
| 2. Yes, not that difficult | Ae ahua uaua | Yes, sort of hard | Yes, its sort of hard | Yeah, sort of hard | Yeah, sort of difficult | Yes, sort of difficult | Yes, sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, its a little hard | Yes, just a little bit hard | Yes, but not that difficult | Yes, with little difficulty | Yes, kind of hard | |
| 4. No, not difficult | Kao karekau he uaua | No, not at all hard | No, not at all hard | Not at all | No, not difficult at all | No, not difficult at all | No, not hard al all | |

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| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 3.3.b. In the past four weeks, was it hard for you to spend the usual AMOUNT of time on your school work or activities with friends because of problems with your PHYSICAL health? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te whakapau i te NUINGA o te wa ki runga i o mahi-kura, haututu ranei me o hoa no te mea kei te mauiui to tinana? | In the past four weeks, was it hard for you to waste the MOST of your of your time on school work, fooling around you're your friends because your body feels uncomfortable? | In the past four weeks, has it been hard for you to finish MOST of your school work, or be a nuisance with your friends because you feel sick? | In the last 4 weeks is it hard for you to spend your time doing all your school work or just mucking around with your friends cause your body is sick? | In the last four weeks has it been difficult for you to spend MOST of your time on your school work, or hanging out with your friends because your body is in pain? | In the past 4 weeks, has it been difficult for you to do all your school work, or hang out with friends because your body is in pain | In fwor weeks that had past, is it hard for you to wast your energy nerlly all the time to do school work, mucking around whith your friends because your body is sick? | nr |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, it is very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes, it is realy hard | |
| 2. Yes, not that difficult | Ae ahua uaua | Yes, sort of hard | Yes, its sort of hard | Yeah, sort of hard | Yeah, sort of difficult | Yes, sort of difficult | Yes, it is sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, its a little hard | Yes, just a little bit hard | Yes, but not that difficult | Yes, with little difficulty | Yes, it is a litil hard | |
| 4. No, not difficult | Kao karekau he uaua | No, not at all hard | No, not at all hard | Not at all | No, not difficult at all | No, not difficult at all | No, not hard al all | |

## Role/Social-Physical (RP) –Physical health

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 3.3.c. In the past four weeks, was it hard for you to get your school work DONE at all or do any activities with friends because of problems with your PHYSICAL health? | I roto i nga wiki e wha kua pahure ake nei, e uaua ana mou ki te WHAKATUTUKI i o mahi-kura, haututu ranei me o hoa no te mea kei te mauiui to tinana? | In the past four weeks….? | In the past four weeks, has it been hard for you to start your school work, or be a nuisance with your friends because you feel sick? | In the last 4 weeks is it hard for u to finish all your school work or just mucking around with your friends cause your body is sick? | In the last four weeks has it been difficult for you to COMPLETE your school work or hanging out with your friends because your body is in pain? | In the past 4 weeks, has it been difficult for you to complete your school work, or hang out with friends because your body is in pain | In fwor weeks that had past, is it hard for you to do complete your school work, or mucking around whith your friends because your body was sick? | nr |
| 1. Yes, very difficult | Ae tino uaua | Yes, very hard | Yes, it is very hard | Yes, very hard | Yes, very difficult | Yes, very difficult | Yes, it is realy hard | |
| 2. Yes, not that difficult | Ae ahua uaua | Yes, sort of hard | Yes, its sort of hard | Yeah, sort of hard | Yeah, sort of difficult | Yes, sort of difficult | Yes, it is sort of hard | |
| 3. Yes, a little difficult | Ae paku nei te uaua | Yes, just a little bit hard | Yes, its a little hard | Yes, just a little bit hard | Yes, but not that difficult | Yes, with little difficulty | Yes, it is kind of hard | |
| 4. No, not difficult | Kao karekau he uaua | No, not hard at all!! | No, not at all hard | Not at all | No, not difficult at all | No, not difficult at all | No, not hard al all | |

## Body Pain (BP) –how much

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| | Ko nga patai e rua e whai ake nei e pa ana ki te mamae o to tinana e kene pea i rongohia e koe i roto i nga wiki e wha kua pahure ake nei. | The following two questions are about how sore youre body is that it drowns you in the past four weeks. | These two questions below is going to be about the pain in your body that's if you cured if in the past four weeks | The next 2 questions is about the pain in your body that u ha recived in the past 4 weeks | The two following questions are about the pain to your body, that you may have heard in the last four weeks. | The questions below are about pain in your body which you've probably already felt in the past 4 weeks | These next 2 questions are about pain you felt in the past fwor weeks | |
| 4.1 In the past four weeks, how much body pain or discomfort have you had? | I roto i nga wiki e wha kua pahure ake nei, pehea rawa te kaha o te mamae kua pa atu ki a koe? | In the last 4 weeks how strong the sore that you've got? | In the last 4 weeks how often are you sick? | In the last 4 weeks how bad is the pain u have felt? | In the last four weeks, how strongly have you been efected by pain? | In the past 4 weeks | In fwor weeks that had past, how is the paine relly feal like | nr |
| | | | | | | | | |
| None | Kore rawa | Not at all strong | I never really | Not at all | Never | None | Not al all | |
| Very mild | Paku noa nei | A bit strong | A little bit | Just a little | Very little | A bit | Litil | |
| Mild | Ahua paku | Just a little strong | Sort of | Sort of little | Just a little | Sort of | Kind of | |
| Moderate | Ahua kaha tonu | Sort of strong | Quiet often | Sort of strong | Sort of strong | Pretty saw | Sort of hard | |
| Severe | Tino kaha | Very strong | Very often | Very strong | Very strong | Very strong | Really hard | |
| Very severe | Tino kaha rawa | Very very strong | Extremely often | Very very strong | Extremely strong | Very very strong | Really really sore | |

## Body Pain (BP) –how often

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 4.2 In the past four weeks, how often have you had body pain or discomfort? | I roto i nga wiki e wha kua pahure ake nei, pehea rawa te wa o te mamae kua pa atu ki a koe? | In the past four weeks, how long have you had that sore? | In the last 4 weeks how many times have you felt sick? | In the last 4 weeks how much does the pain get you? | In the last four weeks, how much time have you been efected by pain? | In the past 4 weeks how often do you get pain in your body | In fwor weeks that had past, how menny times have you been sore? | nr |
| None | Kore rawa | Never | Never | Never | Never | Never | Not al all | |
| Very mild | Torutoru nei | Just a few time | Little bit | Not much | Not really | A little bit | Only a few times | |
| Mild | Etahi wa | Sometimes | Sometimes | At time | Sometimes | Sometimes | Sometime | |
| Moderate | Ia te wa | A lot | Sort of everytime | Sometimes | Yes, really | Most of the times | A few times | |
| Severe | Nuinga o te wa | Most of the time | Most of the time | Most of the time | Most of the time | | Kind of all the time | |
| Very severe | Tata tonu ia ra | Nearly every day | Almost everday | Almost every day | Nearly everyday | Nearly everyday | Nerll all day | |

# Behaviour (BE) (Getting along) –Too young and moody

| | English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| 5.1 – 5.2 | | Whai ake nei, me panui atu au he rarangi korero e pa ana ki te ia o te wairua o te tamariki i etahi wa. | … | The following questions, I will be reading every line of these about the spiritual well being of a child every time | Following up. I have to read a partagrap about the children's attitudes at times. | The following must read some sentences about the well-being of children sometimes. | After that, I will read a sentence about the health of the child sometimes. | The following as about how kids behave or their problems sometimes. | nr |

| | English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| 5.1 | | I roto i nga wiki e wha kua pahure ake nei, ko ehea o enei korero e hangai ana ki a koe i etahi wa? | In the past four weeks which of these are similar to who you are? | In the past four weeks, which of these questions is mostly you? | In the past 4 weeks, witch one's of these words are suited for u. | In the past 4 weeks which of these sentences apply to you sometimes | In the past 4 weeks, which of the following statements apply to you some of the time. | In the past 4 weeks, which of these sentences are about you sometimes | nr |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1 a. Acted too young for your age? | Tino whakatamariki ana i a koe? | Very child like? | Are you very playful? | Acting like a child? | Making you childish? | Behave childishly | Being childish | nr |
| | | | | | | | | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the time | |
| Fairly often | Ia te wa | At times | Half the time | At times | most of the time | Most of the time | Nelly all the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Sometime | |
| Almost never | Ahua kore | Not quite | Sometimes never | Not really | Not really | Not really | Sort of not | |
| Never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1b Argued or moody? | Tautohetohe? | Talk a lot | Moody | Arguing | Arguing | Arguing | Arguing | nr |
| | | | | | | | | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the time | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Fairly often | Ia te wa | At times | Half the time | At times | Most of the time | Most of the time | Nelly all the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | Sometimes | Sometimes | Sometime | |
| Almost never | Ahua kore | Not quite | Sometimes never | Not really | Not really | Not really | Sort of all the time | |
| Never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

## Behaviour (BE) –paying attention, compliance, and being alone

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1c Is it hard for you to pay attention? | Tino uaua ki te whakarongo? | Is it hard to listen? | Is it hard for you to listen? | Very hard to listen? | Very difficult to listen? | Difficult to listen | It is really hard to leson | Is it hard to listen? |
| | | | | | | | | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the time | |
| Fairly often | Ia te wa | At times | Half the time | At times | most of the time | Most of the time | Nerlly all the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Sometime | |
| Almost never | Ahua kore | Not quite | Sometimes never | Not really | Not really | Not really | Kind of | |
| Never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1d Did not do what your teacher or parent asked you to do? | Kore e whakarongo ki nga tohutohu a to kaiako, a o maatua ranei? | Are you never listening to the things your teacher or parent? | Do you ever listen to you teachers or parents? | Not listening to your teacher or your parents? | Don't listen to your teacher's instructions, or parents? | Don't listen to teachers/Parents? | Don't lesion to the teacher or your parents? | Don't listen to what the teacher say's or your parents? |
|  |  |  |  |  |  |  |  |  |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the time |  |
| Fairly often | Ia te wa | At times | Half the time | At times | most of the time | Most of the time | Nelly all the time |  |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Sometimes |  |
| Almost never | Ahua kore | Not quite | Sometimes never | Not really | Not really | Not really | Kind of no |  |
| Never | Kore rawa | Never | Never | Never | Never | Never | No not at all |  |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1e Wanted to be alone? | Hiahia ko koe anake? | Do you ever want to be alone? | Do you always want to be alone? | Want to be alone? | Want everything to yourself? | Think only of yourself | Do you think it is you only | Do you wanrt to sit by your self? |
|  |  |  |  |  |  |  |  |  |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the time |  |
| Fairly often | Ia te wa | At times | Half the time | At times | most of the time | Most of the time | Nelly all the time |  |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Sometime |  |
| Almost never | Ahua kore | Not quite | Sometimes never | Not really | not really | Not really | Kind of no |  |
| Never | Kore rawa | Never | Never | Never | Never | Never | No not at all |  |

## Behaviour (BE) –cheated, getting along, and clumbsy

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1f<br>Lied or cheated? | Korero rukahu, mahi taruweku ranei? | Are you lying or tricking? | Do you lie, or do mischief things? | Liaring? | Lying or doing drugs? | Lying, or doing drugs | Taling lies, or chiting to | Talking lies? (queried meaning of taruweku) |
| | | | | | | | | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the time | |
| Fairly often | Ia te wa | At times | Half the time | At times | most of the time | Most of the time | Nerlly all the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Sometimes | |
| Almost never | Ahua kore | Not quite | Sometimes never | Not really | Not really | Not really | Kind of | |
| Never | Kore rawa | Never | Never | Never | Never | Never | No not at all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1g<br>Had a hard time getting others to like you? | Uaua ki te whakahoahoa? | Is it hard for you to make friends? | Is it hard for you to make friends? | Hard to make friends? | Difficult to make friends? | Difficult to get along with people | It is hard getting on whith your friends? | Is it hard to make friends? |
| | | | | | | | | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the time | |
| Fairly often | Ia te wa | At times | Half the time | At times | most of the time | Most of the time | Nelly all the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Some times | |
| Almost never | Ahua kore | Not quite | Sometimes never | Not really | Not really | Not really | Kind of | |
| Never | Kore rawa | Never | Never | Never | Never | Never | No not at all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1h Felt clumbsy? | Ahua pakihawa | …? | Do you have a big mouth? | …? | Sort of clumsy? | Boasting, loud mouth | Chatterbox | nr |
| | | | | | | | | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the time | |
| Fairly often | Ia te wa | At times | Half the time | At times | most of the time | Most of the time | Nelly all the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Sometime | |
| Almost never | Ahua kore | Not quite | Sometimes never | Not really | Not really | Not really | Kind of all the time | |
| Never | Kore rawa | Never | Never | Never | Never | Never | No not at all | |

## Behaviour (BE) –runaway, speech, stole from home

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1i Run away from home? | Oma aatu mai i to kainga? | Run away from home? | Do you run away from home? | Run away from home? | Run away from home? | Run away from home | Run away from home | Run away from your house? |
| | | | | | | | | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the time | |
| Fairly often | Ia te wa | At times | Half the time | At times | most of the time | Most of the time | Nelly all the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Sometime | |
| Almost never | Ahua kore | Not quite | Sometimes never | Not really | Not really | Not really | Kind of all the time | |
| Never | Kore rawa | Never | Never | Never | Never | Never | No not at all | |

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| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1j Had speech problems? | Uaua ki te korero, penei i te <u>kiikiki</u> te korero? | ….? | Is it hard for you to talk, like gossiping (conversation)? | Hard to talk? | Difficult to talk, like | Difficult to talk, like a chatterbox | Hard to talk, like talking to much? | ? |
| | | | | | | | | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the time | |
| Fairly often | Ia te wa | At times | Half the time | At times | most of the time | Most of the time | Nelly all the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Sometime | |
| Almost never | Ahua kore | Nearly never | Sometimes never | Nearly never | not really | Not really | Kind of all the time | |
| Never | Kore rawa | Never | Never | Never | Never | Never | No not at all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1k Stole things at home? | Whanaako taonga mai i te kainga? | Take toys from home? | Do you steal from home? | Steal stuff from home? | Stealing stuff from home? | Steal things from home | Still toys from home? | Steal toys from your house? |
| | | | | | | | | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the time | |
| Fairly often | Ia te wa | At times | Half the time | At times | most of the time | Most of the time | Nelly all the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Sometime | |
| Almost never | Ahua kore | Nearly never | Sometimes never | Nearly never | Not really | Not really | Kind of | |
| Never | Kore rawa | Never | Never | Never | Never | Never | No, not at all | |

## Behaviour (BE) –stole other, moody, and really mad

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1l Stole things outside home? | Whanaako taonga i waho ra? | Taking toys frok out there? | Do you steal from outside (home)? | Steal stuff from out there? | Stealing stuff from out there? | Steal things from other places | Still toys out there? | Steal toys from other places? |
|  |  |  |  |  |  |  |  |  |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the time |  |
| Fairly often | Ia te wa | At times | Half the time | At times | most of the time | Most of the time | Nelly all the time |  |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Sometime |  |
| Almost never | Ahua kore | Nearly never | Sometimes never | Not really | Not really | Not really | Kind of all the time |  |
| Never | Kore rawa | Never | Never | Never | Never | Never | No, not at all |  |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1m Acted mean or moody if you did not get what you wanted? | Pukuriri mehemea kaore i rite ki to hiahia? | Do you get mad if you don't get what you want? | Do you get angry if you don't get your own way? | Angry if it is not the same as what you wanted? | Angry if you don't get what you want? | Angry when you don't get what you want? | Got mad if you don't get wat you want? | Are you angry if you don't get what you want? |
|  |  |  |  |  |  |  |  |  |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the times |  |
| Fairly often | Ia te wa | At times | Half of the time | At times | most of the time | Most of the time | Nerlly all the times |  |
| Sometimes | Etahi wa | Some of the time | Sometimes | Sometimes | sometimes | Sometimes | Some times |  |
| Almost never | Ahua kore | Nearly never | Mostly never | Not really | not really | Not really | Kind of no |  |
| Never | Kore rawa | Never | Never | Never | Never | Never | No not at all |  |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1n Got really mad when you did not get what you wanted? | Tino paauku mehemea I rite ki to hiahia? | ….? X | Do you get really moody (angry) if you don't have your way? | …? X | Get really mad when you don't get your way? | Very sad when you don't get what you want | Get really mad if you dount get wat you want? | Are you always angry if you don't get what you want? |
|  |  |  |  |  |  |  |  |  |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the times |  |
| Fairly often | Ia te wa | At times | Pretty much | At times | most of the time | Most of the time | Nelly all the |  |

| | | | | | | | | times | |
|---|---|---|---|---|---|---|---|---|---|
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Sometimes | |
| Almost never | Ahua kore | Nearly never | Not really | Nearly never | Not really | Not really | Kind of no | |
| Never | Kore rawa | Never | Never | Never | Never | Never | No, not at all | |

## Behaviour (BE) –hard to be with others, and hard to get along

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1o Found it hard to be with others? | Uaua mehemea he hoa kei to taha? | Is it hard to have a friend beside you? | Is it hard even with a friend? | Hard if a friend is at your side? | Difficult when you have got a friend with you? | Difficult when you've got a friend with you? | It is hard to be with others | Is it hard if you got a friends beside you? |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the time | |
| Fairly often | Ia te wa | At times | Half of the time | At times | most of the time | Most of the time | Nelly all the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Sometime | |
| Almost never | Ahua kore | Nearly never | Mostly never | Almost never | Not really | Not really | Kind of no | |
| Never | Kore rawa | Never | Never | Never | Never | Never | No, not at all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.1p Had a hard time getting along with others? | Uaua ki te whakawhanaunga? | Mean to relatives/cousins? | Is it hard to get along with your family? | Hard to…? | Difficult to socialize? | Difficult to make friends | It is hard to get on whith ichuther | Is it hard to relate to others? |
| | | | | | | | | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | all the time | All the time | Most of the time | |
| Fairly often | Ia te wa | At times | Half of the time | At times | most of the time | Most of the time | Nelly all the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Sometime | |
| Almost never | Ahua kore | Nearly never | Mostly never | Nearly never | Not really | Not really | Kind of all the time | |
| Never | Kore rawa | Never | Never | Never | Never | Never | No not at all | |

## Behaviour (BE) Overall

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 5.2 Compared with other children your age, in general would you say your behaviour is? | Ki ou nei whakaaro, he pehea ake to ahua o tou wairua ki etahi atu tamariki he rite tonu nga tau ki ou? | To your own thoughts, how is your spirit compared to children your age? | To you, how do you think your spiritual health is to those other kids your age? | What do you think the children the same age as you think about you? X | In your view, how is your health compared to other kids your age? | In your view, how does your wellbeing compare with other kids your age | What I think, how do you fiel to ech other children in your age? X | In your own mind, how is your spirit towards other kids of the same age? |
| | | | | | | | | |
| Excellent | Tino pai rawa | Very very good | Excellent | Excellent | Excellent | Excellent | Really good | |
| Very good | Tino pai | Very good | Very good | Very good | Very good | Very good | It is or riht | |
| Good | Pai | Good | Good | Good | Good | Good | Good | |
| Fair | Ahua pai | Sort of good | Sort of good | Sort of good | Sort of good | Kinda good | Kind of good | |
| Poor | Kaore i pai | Not good at all | Not good | Not good | Not good | Bad | Not good | |

## Mental Health (MH) (General Well being) –feeling sad

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6 | Inaianei, kei te panui au i etahi rarangi korero e pa ana ki te ngakau o te tamariki. Korero mai mehemea e hangai ana enei korero ki a koe: Nga wa katoa, i te nuinga o te wa, etahi wa, paku nei te wa, kore rawa. | Now, Im going to read out some lines about children's feelings. Say something if this relats to you. All the time, most of the tiome, sometimes, a little bit, never. | Now I am going to read some some sentences about a childs feelings. Tell me if this information applys to you: all the time, most of the time, some times, not that often, never. | Now, Im going to read out some lines about childrens feelings, say something if this relates to you: all the time, most of the time, sometimes, a little bit, never, | Now I am going to read some sentences about a childs feelings. Tell me if this information applys to you, all of the time; most of the time; some times; not that often; never. | Now, the following sentences ask about the feelings of kids. Say whether or not the following apply to you, all the time, most of the time, sometimes, not often, never. | Riht now, I am reading some line talking aboute how kins fiel. Say if this is true aboute you; all the time; most of the time; sometime; a litil time, not at all. | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| | i nga wiki e wha kua pahure ake nei, pehea te nuinga o te wa e penei ana to ngakau: | In the past four weeks, how long has your feelings felt like: | In the last four weeks, how much time are you feeling like this: | in the past four weeks, how long has your feelings felt like: | In the last four weeks, how much time are you feeling like this. | In the past 4 weeks, how often have you felt: | In the past fwor weeks, how often have you had these feelings | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6a Feel sad? | Papouri te ngakau? | Do you ever feel sad? | Feel sad? | They feel bad | Feeling sad? | Sad | Your feelings are sad? | Is you heart sad? |
| All of the time | Nga wa katoa | All the time | All the time | All the time | all the time | All the time | All the time | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | most of the time | Most of the time | Most of the times | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Sometimes | |
| A little of the time | Paku nei te wa | A little bit | Little of the time | A little bit | not that often | not really | Sort of the times | |
| Almost never | Kore rawa | Never | Never | Never | never | | No, not at all | |

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## Mental Health (MH) (General Well being) –crying, afraid, and worried

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6b Feel like crying? | Hiahia ki te tangi? | Do you ever want to cry? | Feel like crying? | Want to cry? | Want to cry? | Tearful wanting to cry | Do you feel like crying? | Wanting to cry? |
|  |  |  |  |  |  |  |  |  |
| All of the time | Nga wa katoa | All the time | All the time | All the time | all the time | All the time | All the time |  |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | most of the time | Most of the time | Most of the times |  |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Sometimes |  |
| A little of the time | Paku nei te wa | A little bit | Little of the time | Not much | not that often | Not really | Sort of the times |  |
| Almost never | Kore rawa | Never | Never | Never | never | Never | Not at all |  |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6c Feel afraid or scared? | Tino mataku? | Very scared | Really scared? | Very scared? | Very scared | Very scared | Really scared? | Verys cared? |
|  |  |  |  |  |  |  |  |  |
| All of the time | Nga wa katoa | All the time | All the time | All the time | all the time | All the time | All the time |  |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | Most of the time | Most of the time | Most of the times |  |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Some times |  |
| A little of the time | Paku nei te wa | A little bit | Little of the time | Not much | not that often | Not really | It is a litil |  |
| Almost never | Kore rawa | Never | Never | Never | Never | Never | Not at all |  |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6d During the past four weeks, have you worried about things too much? | Pehea te nuinga o te wa e awangawanga ana ou whakaaro i roto i nga wiki e wha kua pahure ake nei? | Most of the time do you feel down in your thoughts? | What about in the past four weeks have you always worried about things too much? | What about the times when you are worried in the past four weeks? | How much have you been worrying in the past four weeks? | How often have you felt worried/troubled in the last 4 weeks | In the last fwor weeks have you been really woryd aboute things? | How is most of the time have you been worried in the 4 weeks that have past? |
|  |  |  |  |  |  |  |  |  |
| All of the time | Nga wa katoa | All the time | All the time | All the time | all the time | All the time | All the time |  |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | most of the time | Most of the time | Most of the times |  |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | Sometimes | Sometimes | Some times |  |
| A little of the time | Paku nei te wa | A little bit | Little of the time | Not much | not that often | Not really | It is a litil |  |
| Almost never | Kore rawa | Never | Never | Never | never | Never | Not at all |  |

## Mental Health (MH) (General Well being) –feel lonely

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6e Feel lonely? | Mokemoke? | Sulk | Sad? | Soleking? [sulking] | Lonely? | Lonely | Lonely? | Lonely? |
| | | | | | | | | |
| All of the time | Nga wa katoa | All the time | All the time | All the time | all the time | All the time | All the time | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | most of the time | Most of the time | Most of the times | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Some time | |
| A little of the time | Paku nei te wa | A little bit | Little of the time | Not much | not that often | Not really | Kind of | |
| Almost never | Kore rawa | Never | Never | Never | never | Never | Not at all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6f Feel unhappy? | Kaore i te harikoa te ngakau? | Never feeling happy? | Your feelings feel sad? | You never happy? | You are not feeling happy? | Unhappy | Un happy | Hearts not really happy? |
| | | | | | | | | |
| All of the time | Nga wa katoa | All the time | All the time | All the time | all the time | All the time | All the time | |
| Very often | Nuinga o te wa | Most times | Most of the time | Most of the time | most of the time | Most of the time | Most of the times | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Some times | |
| A little of the time | Paku nei te wa | A little bit | Little of the time | At times | not that often | Not really | Kind of | |
| Almost never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6g Feel nervous? | Manukanuka nga whakaaro? | ….? | You have negative thoughts? | ….your thoughts? | Thoughts are muddled up? | Anxious/troubled | Upset aboute things | ? |
| | | | | | | | | |
| All of the time | Nga wa katoa | All the time | All the time | All the time | all the time | All the time | All the time | |
| Very often | Nuinga o te wa | Most times | Most of the time | Most of the time | most of the time | Most of the time | Most of the times | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Some times | |
| A little of the time | Paku nei te wa | A little bit | Little of the time | At times | not that often | Not really | Kind of | |
| Almost never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

## Mental Health (MH) (General Well being) –bothered, happy and cheerful

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6h<br>Feel bothered or upset? | Pouri te ngakau? | You feel sad? | You feel sad? | Your sad? | Feeling sad? | Depressed/heavy hearted | Your feelings are sad? | The heart is sad? |
| | | | | | | | | |
| All of the time | Nga wa katoa | All the time | All the time | All the time | all the time | All the time | All the times | |
| Very often | Nuinga o te wa | Most times | Most of the time | Most of the time | most of the time | Most of the time | Most of the times | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Some times | |
| A little of the time | Paku nei te wa | Little of the time | Little bit | At times | not that often | Not really | Kind of | |
| Almost never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

## Mental Health (MH) (General Well being) –happy, cheerful and enjoy

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6i<br>In the past four weeks, how often have you felt happy? | I roto i nga wiki e wha kua pahure ake nei, pehea te nuinga o te wa e harikoa ana tou ngakau? | In the past four weeks, most of the time when do you feel happy? | In the past four weeks, how often have you felt happy? | In the past four weeks, what about most of the time when you were happy? | In the last four weeks, how much have you been feeling happy? | In the past 4 weeks, how often have you felt good | In the past fwor weeks, how many time have you felt happy? | In the past 4 weeks that have past how is your heart most of the time is it happy? |
| | | | | | | | | |
| All of the time | Nga wa katoa | All the time | All the time | All the time | all the time | All the time | All the times | |
| Very often | Nuinga o te wa | Most times | Most of the time | Most of the time | most of the time | Most of the time | Most of the times | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Some time | |
| A little of the time | Paku nei te wa | Little of the time | Little bit | At times | not that often | Not really | Kind of | |
| Almost never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6j<br>Feel cheerful? | Ngakau harikoa? | Feeling happy? | Are you ever happy? | Feeling happy? | Feeling happy? | Really happy | Feel happy? | Happy heart? |
| | | | | | | | | |
| All of the time | Nga wa katoa | All the time | All the time | All the time | all the time | All the time | All the times | |
| Very often | Nuinga o te wa | Most times | Most of the time | Most of the time | most of the time | Most of the time | Most of the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Some times | |
| A little of the time | Paku nei te wa | Little of the time | Little of the time | Little bit of times | not that often | Not really | Kind of | |
| Almost never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6k<br>Enjoy the things you do? | Tino harikoa i roto i o mahi? | Happy in your work? | Are you happy enough to do your work? | Very happy in your work? | Very happy at your work? | Happy in your work | Do you injoy thing you do? | Very happy in your work? |
| | | | | | | | | |
| All of the time | Nga wa katoa | All the time | All the time | All the time | all the time | All the time | All the time | |
| Very often | Nuinga o te wa | Most times | Most of the time | Most of the time | most of the time | Most of the time | Most of the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Some time | |
| A little of the time | Paku nei te wa | Little of the time | No not really | Little bit of times | not that often | Not really | Kind of | |
| Almost never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

## Mental Health (MH) (General Well being) -fun

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6l<br>Have fun? | Mahi whakangahau? | …? | Socialising? | Entertaining? | Entertaining? | Entertaining/encourage | Having fun | Entertainment? |
| | | | | | | | | |
| All of the time | Nga wa katoa | All the time | All the time | All the time | all the time | All the time | All the time | |
| Very often | Nuinga o te wa | Most times | Most of the time | Most of the time | most of the time | Most of the time | Most of the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Some time | |
| A little of the time | Paku nei te wa | Little of the time | No not really | Little bit of times | not that often | Not really | Kind of | |
| Almost never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

## Mental Health (MH) –restless, sleep, and headaches

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6m<br>Feel jittery or restless? | Manukanuka o whakaaro? | …?<br><br>X | Do you have negative thoughts? | … your thoughts?<br>X | Your thoughts are muddled up? | Been anxious or worried | Fiel upset? | ? |
| | | | | | | | | |
| All of the time | Nga wa katoa | All the time | All the time | All the time | all the time | All the time | All the time | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | most of the time | Most of the time | Most of the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Some time | |
| A little of the time | Paku nei te wa | Just a little | A little bit | Little bit of times | not that often | Not really | Kind of | |
| Almost never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6n<br>How well have you slept in the past four weeks? | He pehea te nuinga o te wa e uaua ana mou ki te moe, i roto i nga wiki e wha kua pahure ake nei? | Most of the time is it hard for you to sleep, in the past four weeks? | How well have you slept, in the past four weeks? | How about the times when it is hard to sleep in the past four weeks? | How often is it difficult for you to sleep in the last four weeks? | How often have you had difficulty sleeping in the past 4 weeks | In the last fwor weeks how meny time did you have a good sleps? | How has it been for most of the time is it hard for you to sleep, in the last 4 weeks that have past? |
| | | | | | | | | |
| All of the time | Nga wa katoa | All the time | All the time | All the time | all the time | All the time | Most of the times | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | most of the time | Most of the time | Nerlly all the times | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Some time | |
| A little of the time | Paku nei te wa | Just a little | A little bit | Little bit of times | not that often | Not really | Kind of | |
| Almost never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

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## Mental Health (MH) –head aches and like yourself

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6o<br>Do you have headaches? | Anini to mahunga? | Does your head feel dizzy? | Do you get headaches? | You get a headache? | Headache? | Had headaches | Headaches | Have you got a headache? |
| | | | | | | | | |
| All of the time | Nga wa katoa | All the time | All the time | All the time | all the time | All the time | Most of the times | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | most of the time | Most of the time | Nerlly all the times | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Some time | |
| A little of the time | Paku nei te wa | Just a little | A little bit | Little bit of times | not that often | Not really | Kind of | |
| Almost never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 6p<br>Like yourself? | Matenui ki a koe ano? | …? | ? | …. to you? | Suicide? | Thought only of yourself | A bad sixness to you? | ? |
| | | | | | | | | |
| All of the time | Nga wa katoa | … the time | All the time | All the time | all the time | All the time | Most of the times | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | most of the time | Most of the time | Nerlly all the times | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | sometimes | Sometimes | Some times | |
| A little of the time | Paku nei te wa | Just a little | A little bit | Little bit of times | <mark>not really</mark> | Not really | Kind of | |
| Almost never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

## Self Esteem (SE) –yourself and school work

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| | Ko nga patai e whai ake nei, e pa ana ki ou whakaaro mou ano, mo to kura, me etahi atu. Me whakaaro tonu ki etahi atu tamariki he rite nga tau ki ou, ka mutu, he pehea o ratou whakaaro. I roto i nga wiki e wha kua pahure ake nei, he pai, he weriweri ranei ou whakaaro mo? | | | The questions coming up are about your thoughts, for school and others think about some other kids that are the same age as you finished what about their thoughts. In the past four weeks is your thoughts good or bad for? | These questions below ask about your thoughts about an school. You must still think about kids your age, how do they think. In the past 4 weeks, has it been scary or good about: | The next questions ask about your thoughts on yourself, your school, and other things. Think of other kids your age, and then give their thoughts good or bad, in the past four weeks, | The next questions are about you, school and others. Think aboute other children your age and what they think. In the last 4 weeks did you feel okay or bad about | |
| | I roto i nga wiki e wha kua pahure ake nei, he pai, he weriweri ranei ou whakaaro mo? | In the past four weeks, has it been scary or good about: | | In the past four weeks is your thoughts good or bad for? | In the past 4 weeks, has it been scary or good about: | in the past four weeks | In the last 4 weeks did you feel okay or bad about | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 7a Yourself? | Mou ake? | You only? | Yourself? | For you? | Yourself? | Yourself | …? X | You? |
| | | | | | | | | |
| Very good | Tino pai | Very good | Very good | Very good | Excellent | Excellent | Really good | |
| Somewhat good | Ahua pai | Sort of good | Alright | Alright | Very good | Very good | Sort of good | |
| Neither good or bad | Heoi ano | In between | In between | In the middle | So, so | Average | Ok | |
| Somewhat badly | Ahua weriweri | Sort of bad | Sort of difficult | Bad | Sort of scary | Sort of scary | Kind of scared | |
| Very badly | Tino weriweri | Very bad | Very difficult | Very bad | Very scary | Very scary | Reall scery | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 7b<br>Your school work? | O mahi-kura? | Your school work? | Your school work? | Your school work? | Your school work? | Your school work | Your school work? | Your school work |
| | | | | | | | | |
| Very good | Tino pai | Very good | Very good | Very good | Excellent | Excellent | Really good | |
| Somewhat good | Ahua pai | Sort of good | Alright | Alright | Very good | Very good | Sort of good | |
| Neither good or bad | Heoi ano | In between | In between | In the middle | So, so | Average | Ok | |
| Somewhat badly | Ahua weriweri | Sort of bad | Sort of difficult | Bad | Sort of scary | Sort of scary | Kind of scared | |
| Very badly | Tino weriweri | Very bad | Very difficult | Very bad | Very scary | Very scary | Reall scery | |

## Self Esteem (SE) –sport, friendships and can do

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 7c<br>Your ability to play sports? | To kaha ki te takaro hakinakina? | Strong to do PE? | Are you good at sports? | Your strenght to play sports? | Physical education? | How well you played sport | Play hard at sports? | Your strength to do sports? |
| | | | | | | | | |
| Very good | Tino pai | Very good | Very good | Very good | Excellent | Excellent | Really good | |
| Somewhat good | Ahua pai | Sort of good | Sort of good | Alright | Very good | Very good | Sort of good | |
| Neither good or bad | Heoi ano | In between | In between | In the middle | So, so | Average | Ok | |
| Somewhat badly | Ahua weriweri | Sort of bad | Sort of difficult | Bad | Sort of scary | Sort of scary | Kind of scared | |
| Very badly | Tino weriweri | Very bad | Very difficult | Very bad | Very scary | Very scary | Reall scery | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 7d<br>Your friendships? | O hoa? | Your friends? | With fiends? | Your friends? | Your friends? | Your friends | Your frends | Your friends? |
| | | | | | | | | |
| Very good | Tino pai | Very good | Very good | Very good | Excellent | Excellent | Really good | |
| Somewhat good | Ahua pai | Sort of good | Sort of good | Alright | Very good | Very good | Sort of good | |
| Neither good or bad | Heoi ano | In between | In between | In the middle | So, so | Average | Ok | |
| Somewhat badly | Ahua weriweri | Sort of bad | Sort of difficult | Bad | Sort of scary | Sort of scary | Kind of scared | |
| Very badly | Tino weriweri | Very bad | Very difficult | Very bad | Very scary | Very scary | Reall scery | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---------|-------|---|---|---|---|---|---|---|
| 7e<br>The things you CAN do? | Nga mahi e mahia ana e koe? | The things you usually do? | The things you do? | Your work that you are doing? | The things you do? | The work you did | Stuff you can do | The work you are doing? |
| | | | | | | | | |
| Very good | Tino pai | Very good | Very good | Very good | Excellent | Excellent | Really good | |
| Somewhat good | Ahua pai | Sort of good | Sort of good | Alright | Very good | Very good | Sort of good | |
| Neither good or bad | Heoi ano | In between | In between | In the middle | So, so | Average | Is okay | |
| Somewhat badly | Ahua weriweri | Sort of bad | Sort of difficult | Bad | Sort of scary | Sort of scary | Kind of scerry | |
| Very badly | Tino weriweri | Very bad | Very difficult | Very bad | Very scary | Very scary | Really scerry | |

## Self Esteem (SE) –get along, looks and feel most of time

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---------|-------|---|---|---|---|---|---|---|
| 7f<br>In the past four weeks, how good or bad have you felt about the way you get along with others? | I roto i nga wiki e wha kua pahure ake nei, he pehea ou whakaaro, he pai, he weriweri ranei mo to kaha ki te whakawhanaunga? | In the past four weeks, how are your thoughts, good, or bad, for your relations? | In the past four weeks, do you find it easy or difficult to socalaize? | In the past four weeks how are your thoughts is it good or is it bad to get the guys to get along? | In the last four weeks, how have your thoughts been, are they good or scary, about how strong you have been socializing? | In the past 4 weeks, what are your thoughts good or bad about relationships you made | In the last four weeks, how did you fiel aboute making frends, good or bad? | In the past 4 weeks that have past how are you thought, good or bad for relating with others? |
| | | | | | | | | |
| Very good | Tino pai | Very good | Very good | Very good | Excellent | Excellent | really good | |
| Somewhat good | Ahua pai | Sort of good | Sort of good | Alright | Very good | Very good | sort of good | |
| Neither good or bad | Heoi ano | In between | In between | In the middle | So, so | Average | It ok | |
| Somewhat badly | Ahua weriweri | Sort of bad | Sort of difficult | Bad | Sort of scary | Sort of scary | kind of scerds | |
| Very badly | Tino weriweri | Very bad | Very difficult | Very bad | Very scary | Very scary | really scared | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 7g. Your body and your looks? | To ahua me to tinana? | Your look and body? | The way your bodies built? | Your looks and your body? | Your body and your looks? | Your body and your looks | The look of your body? | Your looks and your body? |
| | | | | | | | | |
| Very good | Tino pai | Very good | Very good | Very good | Excellent | Excellent | really good | |
| Somewhat good | Ahua pai | Sort of good | Sort of good | Alright | Very good | Very good | sort of good | |
| Neither good or bad | Heoi ano | In between | In between | In the middle | So, so | Average | It ok | |
| Somewhat badly | Ahua weriweri | Sort of bad | Sort of difficult | Bad | Sort of scary | Sort of scary | kind of scerds | |
| Very badly | Tino weriweri | Very bad | Very difficult | Very bad | Very scary | Very scary | really scared | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 7h The way you seem to feel most of the time? | He pehea te ahua o tou ngakau i te nuinga o te wa? | Most of the time, how are your feelings? | How do you feel most of the time? | How are your feelings most of the time? | How do you relate with your family? | How do you feel most of the time | How do you most of the time | How is your heart most of the time? |
| | | | | | | | | |
| Very good | Tino pai | Very good | Very good | Very good | Excellent | Excellent | really good | |
| Somewhat good | Ahua pai | Sort of good | Sort of good | Alright | Very good | Very good | sort of good | |
| Neither good or bad | Heoi ano | In between | In between | In the middle | So, so | Average | it's ok | |
| Somewhat badly | Ahua weriweri | Sort of bad | Sort of moody | Bad | Sort of scary | Sort of scary | kind of scerry | |
| Very badly | Tino weriweri | Very bad | Very moody | Very bad | Very scary | Very scary | really scarry | |

## Self Esteem (SE) –family, life and be a friend

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 7i The way you get along with your family? | He pehea to whakawhanaunga me tou whanau? | How are your relations and your family? | How do you socialize with your family? | How about getting along with your family? | How do relate with your family? | What are the relationships with your family | How well do you get on whith your farmerlly | How do you relate to your family? |
| | | | | | | | | |
| Very good | Tino pai | Very good | Very good | Very good | Excellent | Excellent | really good | |
| Somewhat good | Ahua pai | Sort of good | Sort of good | Alright | Very good | Very good | sort of good | |
| Neither good or bad | Heoi ano | In between | In between | In the middle | So, so | Average | it ok | |
| Somewhat badly | Ahua weriweri | Sort of bad | Sort of difficult | Bad | Sort of scary | Sort of scary | kind of scerry | |
| Very badly | Tino weriweri | Very bad | Very difficult | Very bad | Very scary | Very scary | really scarry | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 7j | He pehea te | Hows your | What do you | …? | How is your own | How do you feel | How do you feel | How is your own |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| The way life seems to be for you? | ahua o tou ake ao? | own world? | think about your life? | | life? | about your world | like aboute your live? | world? |
| | | | | | | | | |
| Very good | Tino pai | Very good | Very good | Very good | Excellent | Excellent | really good | |
| Somewhat good | Ahua pai | Sort of good | Sort of good | Sort of good | Very good | Very good | sort of good | |
| Neither good or bad | Heoi ano | In between | In between | In the middle | So, so | Average | it ok | |
| Somewhat badly | Ahua weriweri | Sort of bad | Sort of difficult | Bad | Sort of scary | Sort of scary | kind of scerry | |
| Very badly | Tino weriweri | Very bad | Very difficult | Very bad | Very scary | Very scary | really scarry | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 7k During the past four weeks, how good have you felt about your ability to be a friend to others? | *I roto i nga wiki e wha kua pahure ake nei, ki ou nei whakaaro he pai, he weriweri ranei to kaha ki te noho hoa pumau ki etahi atu tangata?* | In the past four weeks, in your own thoughts, good or bad, to…? | In the past four weeks, to you is it good or bad to make friends withs with other people? | In the past four weeks, is your thoughts good or bad…? | In the past 4 weeks, do you think your relationship with your best friend with strong or weak | In the past 4 weeks how well did you make friends with others | In the past 4 weeks, how do you feel ,aboute getting on whith others? | In the last 4 weeks that have past do you think you have been good or bad with staying with friends? |
| | | | | | | | | |
| Very good | Tino pai | Very good | Very good | Very good | Excellent | Excellent | really good | |
| Somewhat good | Ahua pai | Sort of good | Sort of good | Sort of good | Very good | Very good | sort of good | |
| Neither good or bad | Heoi ano | In between | In between | In the middle | So, so | Average | it ok | |
| Somewhat badly | Ahua weriweri | Sort of bad | Quiet difficult | Bad | Sort of scary | Sort of scary | kind of scerry | |
| Very badly | Tino weriweri | Very bad | Very difficult | Very bad | Very scary | Very scary | really scarry | |

## Self Esteem (SE) –feel about others, talk to others and general health

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 7l<br>The way others seem to feel about you? | Kei te rata mai te wairua o etahi atu tangata ki a koe? | …? | Does other people like you? | Is others paying attention to you? | Other people are attracted to you | Did someone else make friends with you | how do others feel boute you? | Has anyone else like your spirit? |
| | | | | | | | | |
| Very good | Tino pai | Very good | Very good | Very good | Excellent | Excellent | really good | |
| Somewhat good | Ahua pai | Sort of good | Often | Sort of good | Very good | Very good | sort of good | |
| Neither good or bad | Heoi ano | In between | Sometimes | In the middle | So, so | Average | It's ok | |
| Somewhat badly | Ahua weriweri | Sort of bad | Not really | Bad | Sort of scary | Sort of scary | kind of scerry | |
| Very badly | Tino weriweri | Very bad | Never | Very bad | Very scary | Very scary | really scarry | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 7m<br>Your ability to talk with others? | To kaha ki te whakawhitiwhiti korero? | Hard to make conversation? | Are you good at talking to others? | How good you are at sharing thoughts? | Strong at discussing stuff | Sharing ideas with others | How good to talk to much | Are you good at talking? |
| | | | | | | | | |
| Very good | Tino pai | Very good | Very good | Very good | Excellent | Excellent | really good | |
| Somewhat good | Ahua pai | Sort of good | Quite good | Sort of good | Very good | Very good | sort of good | |
| Neither good or bad | Heoi ano | In between | Sort of good | In the middle | So, so | Average | it's ok | |
| Somewhat badly | Ahua weriweri | Sort of bad | Sort of bad | Bad | Sort of scary | Sort of scary | kind of scerry | |
| Very badly | Tino weriweri | Very bad | Very bad | Very bad | Very scary | Very scary | really scarry | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 7n<br>Your health in general? | Te ahua o tou hauora? | The look of your *spirit?* | What about your health? | Whats your health like? | Your health generally | Your health | Whats your helf like? | The side of you health? |
| | | | | | | | | |
| Very good | Tino pai | Very good | Very good | Very good | Excellent | Excellent | really good | |
| Somewhat good | Ahua pai | Sort of good | Quite good | Sort of good | Very good | Very good | kind of good | |
| Neither good or bad | Heoi ano | In between | In between | In the middle | So, so | Average | it ok | |
| Somewhat badly | Ahua weriweri | Sort of bad | Sort of bad | Bad | Sort of scary | Sort of scary | sort of scerry | |
| Very badly | Tino weriweri | Very bad | Very bad | Very bad | Very scary | Very scary | really scarry | |

## General Health (GH) –excellent and so sick

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 8 | Nga korero e whai ake nei e pa whanui ana ki te hauora. He pehea rawa te pono, te he ranei o enei korero e hangai ana ki a koe: tino pono, he pono, he he, tino he? | | | This next subject is about your health. Is it true or wrong about these next sentences to you: very true, true, its wrong, very wrong. | The following are health questions. Say how trughful or false the following statements are for you. | The following questions are about health issues. How true/false are they about you | These questions are aboute your helf. How truth or fols is about your helf: really true, it is true. It is rong, really rong? | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 8.1a My health is excellent? | Tino pai rawa toku nei hauora? | Very good health? | Is my health really good? | My health is very good? | I am really healthy | My health is great | My helf is really good | My health is very good? |
| | | | | | | | | |
| Definitely true | Tino pono | very true | its really true | very true | very true | very true | really true | |
| Mostly true | *He pono* | true | that's quite true | true | true | true | it is true | |
| Don't know | Kaore au e mohio | i don't know | i don't know | i don't no | i don't know | i don't know | I don't no | |
| Mostly flase | He he | *wrong* | *wrong wrong* | *its wrong* | false | *wrong* | *it is rong* | |
| Definitely false | Tino he | *very wrong* | *very wrong* | *very wrong* | definitely false | *very wrong* | *really rong* | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 8.1b I was so sick I thought I might die | Tino taumaha taku pangia e te mate i tetahi wa, ka pohehe au ka hemo au? | …? | I was very sick one time, I thought I was gonna die. | I at times deaths I think I'm going to feint. | I was so ill once. I thought I was going to die | Once I was so sick I thought I would die | I was so sick one time i thort i whod died. | A death in my life has touched me hard that I though I would be next? |
| | | | | | | | | |
| Definitely true | Tino pono | Very true | Its really true | Very true | Very true | Excellent | really true | |
| Mostly true | He pono | True | That's true | True | True | Very good | it is true | |
| Don't know | Kaore au e mohio | I don't know | I don't know | I don't no | I don't know | Average | I don't no | |
| Mostly flase | He he | *Wrong* | *Wrong wrong* | *Its wrong* | False | Sort of scary | *it is rong* | |
| Definitely false | Tino he | *Very wrong* | *Very wrong* | *Very wrong* | Definitely false | Very scary | *really rong* | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 8.1c I do not seem | Kaore noa au e pangia e nga mate | <no comment recorded> | I have never been caught a | I still haven't felt very bad feelings | I don't really get sick | I have not any serious illness | I don't get really sick | A death in my life has touched me |

| to get very sick. | taumaha. | | sickness. | | | | | hard that I though I would be next? |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Definitely true | Tino pono | Very true | Its really true | Very true | Very true | *Excellent* | really true | |
| Mostly true | He pono | True | That's quite true | True | True | *Very good* | it is true | |
| Don't know | Kaore au e mohio | I don't know | I don't know | I don't no | I don't know | *Average* | I don't no | |
| Mostly flase | He he | *Wrong* | *Wrong wrong (quiet wrong)* | *Its wrong* | False | Sort of scary | *it is rong* | |
| Definitely false | Tino he | *Very wrong* | *Very wrong* | *Very wrong* | Definitely false | Very scary | *really rong* | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 8.1d I seem to be less healthy than other kids I know. | He kaha ake te ora o etahi atu tamariki tena i tooku.. | …? | The other kids are *more* healthier than me. | Other kids are *healthier* than me. | Other kids seem to be *healthier* than me | Other children healthier than me | Other kinds are healthier then me | Other childrens health are more healthier then me. |
| | | | | | | | | |
| Definitely true | Tino pono | Very true | Very true | Very true | Very true | Excellent | really true | |
| Mostly true | He pono | True | Quite true | True | True | Very good | it is true | |
| Don't know | Kaore au e mohio | I don't know | I don't know | I don't no | I don't know | Average | I don't no | |
| Mostly flase | He he | Wrong | Quite wrong | Its wrong | False | Sort of scary | it is rong | |
| Definitely false | Tino he | Very wrong | Very wrong | Very wrong | Definitely false | Very scary | really rong | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 8.1.e I have never been very, very sick. | Karekau ano tetahi mate tino taumaha kua pa mai ki a au. | <no comment recorded> | I haven't had a sickness before. | I still haven't felt very sick. | I haven't been really sick | I haven't been really sick | We never been really really sick | Not yet ther hasn't been a hard death that was really touched me? |
| | | | | | | | | |
| Definitely true | Tino pono | Very true | Very true | Very true | Very true | *Excellent* | really true | |
| Mostly true | He pono | True | Quite true | True | True | *Very good* | it is true | |
| Don't know | Kaore au e mohio | I don't know | I don't know | I don't no | I don't know | *Average* | I don't no | |
| Mostly flase | He he | *Wrong* | *Quite wrong* | *Its wrong* | False | Sort of scary | *it is rong* | |
| Definitely false | Tino he | *Very wrong* | *Very wrong* | *Very wrong* | Definitely false | Very scary | *really rong* | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 8.1f I always seem to get sick. | He pangia tonu au e te mate ia te wa. | …? <Question at bottom of page -?? Missed accidentally> | I have caught a sickness all the time. | I still feel this *pain* at times. | I'm always getting sick | …? <Question at bottom of page - ?? Missed accidentally> | I always get sick | ? |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Definitely true | Tino pono | Very true | Very true | Very true | Very true | Excellent | really true | |
| Mostly true | He pono | True | Quite true | True | True | Very good | it is true | |
| Don't know | Kaore au e mohio | I don't know | I don't know | I don't no | I don't know | Average | I don't no | |
| Mostly flase | He he | Wrong | Quite wrong | Its wrong | False | Sort of scary | it is rong | |
| Definitely false | Tino he | Very wrong | Very wrong | Very wrong | Definitely false | Very scary | really rong | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 8.1g I think I will be less healthy when I get older. | Ki oku nei whakaaro, ka heke haere taku ora i te wa ka pakeke haere ahau. | In my own thoughts, my life shortens as I grow older? | I think that when I get older I'm going to be more sick. | I think I get less *fit* when I am older. | I think I'm get sicker as I get older | I think my health get worse as I get older | I think that I will get sick when I get older | I think my health will drop when I grow up. |
| | | | | | | | | |
| Definitely true | Tino pono | Very true | Very true | Very true | Very true | Excellent | really true | |
| Mostly true | He pono | True | Quite true | True | True | Very good | true | |
| Don't know | Kaore au e mohio | I don't know | I don't know | I don't no | I don't know | Average | I don't no | |
| Mostly flase | He he | Wrong | Quite false | Its wrong | False | Sort of scary | it is rong | |
| Definitely false | Tino he | Very wrong | Very wrong | Very wrong | Definitely false | Very scary | really rong | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 8.1k<br>I think I worry about my health more than other kids. | He kaha ake toku awangawanga mo toku hauora tena i etahi atu tamariki he rite nga tau ki oku. | Mown a lot about my health and in I'm even same age as other kids. | I am very worried about my health specially with other children my age. | I worrie more about my health then other kids the same age as me. | I worry more about my health than other kids my age | *I worrie more than other kids my age* | I worry more helf then children my age. | I am very worried about my health as other kids the same age are healthier than me |
| | | | | | | | | |
| Definitely true | Tino pono | Very true | Very true | Very true | Very true | *Excellent* | really true | |
| Mostly true | He pono | True | Quite true | True | True | *Very good* | true | |
| Don't know | Kaore au e mohio | I don't know | I don't know | I don't no | I don't know | *Average* | I don't know | |
| Mostly flase | He he | Wrong | Quite wrong | Its wrong | False | *Sort of scary* | it is rong | |
| Definitely false | Tino he | Very wrong | Very wrong | Very wrong | Definitely false | *Very scary* | really rong | |

## General Health (GH) –

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 8.1h<br>I think I will be very healthy when I get older. | Ki oku nei whakaaro, ka piki tooku hauora i te wa ka pakeke haere ahau. | In my own thoughts, my health growns as I grow older? | I think I'm going to be more healthier when I get older. | *I think I get fitter when I'm getting older.* | I reckon I'll be healthier as I get older | I think my health , has got better as I've got older | I think that I will be helfy when I get older | I think my health will lift as I grow up |
| | | | | | | | | |
| Definitely true | Tino pono | Very true | Very true | Very true | Very true | *Excellent* | really true | |
| Mostly true | He pono | True | Quite true | True | True | *Very good* | true | |
| Don't know | Kaore au e mohio | *I don't know* | *I don't know* | *I don't no* | I don't know | *Average* | I don't no | |
| Mostly flase | He he | *Wrong* | *Quite wrong* | *Its wrong* | False | Sort of scary | it is rong | |
| Definitely false | Tino he | *Very wrong* | *Very wrong* | *Very wrong* | Definitely false | Very scary | really rong | |

## General Health (GH) –never worry, healthy now and worry about health

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 8.1i I never worry about my health. | Kore rawa au e awangawanga mo toku hauora. | I'm not mowning about my health. | I'm not very worried about my health | I'm not worried about my health. | I don't worry about my health | I'm not worried about my health | I dount worry aboute my helt | Im not worried about my health? |
| | | | | | | | | |
| Definitely true | Tino pono | Very true | Very true | Very true | Very true | *Excellent* | really true | |
| Mostly true | He pono | True | Quite true | True | True | *Very good* | true | |
| Don't know | Kaore au e mohio | I don't know | I don't know | I don't no | I don't know | *Average* | I don't no | |
| Mostly flase | He he | Wrong | Quite wrong | Its wrong | False | Sort of scary | it is rong | |
| Definitely false | Tino he | Very wrong | Very wrong | Very wrong | Definitely false | Very scary | really rong | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 8.1j I think I am healthy now. | Ki oku nei whakaaro, i tenei wa kei te tino pai toku hauora. | In my own thoughts, now my health is great. | I think my health is quite good. | I think right now my health is very good | I reckon I'm pretty healthy at the moment | At the moment, I think my health is great | I think that, I am helthy | I think at this time my health is very good? |
| | | | | | | | | |
| Definitely true | Tino pono | Very true | Very true | Very true | Very true | *Excellent* | really true | |
| Mostly true | He pono | True | Quite true | True | True | *Very good* | true | |
| Don't know | Kaore au e mohio | I don't know | I don't know | I don't no | I don't know | *Average* | I don't know | |
| Mostly flase | He he | Wrong | Quite wrong | Its wrong | False | Sort of scary | it is rong | |
| Definitely false | Tino he | Very wrong | Very wrong | Very wrong | Definitely false | Very scary | really rong | |

# Change in Health (CH)

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 8.2 Compared with one year ago, how would you rate your health now? | Mehemea me hoki whakamuri kotahi tau, he pehea ake tou hauora inaianei. | If you went back one year, how would your health be? | If you turned your age one year back how do you think your health would be right now? | What if when back one year ago, how is my health now very good now, then one year ago. | If you go back a year, what's your health like today. | Compared to a year ago, how's your health | If you go back one year, how is your helf now? | If you were to go back one year how is your health now? |
| | | | | | | | | |
| Much better than 1 year ago. | Tino pai ake inaianei tena i te kotahi tau ki muri | *Very good now since we moved one year back* ↓ | My health is much better now rather than my last age back then | Very good now, then one year ago | Much better now than 1 year ago compared with then | Better than a year ago | Much better then one year ago | Very good now then what it was one year ago |
| Somewhat better now than 1 year ago. | Ahua pai ake inaianei tena i te kotahi tau ki muri | *Sort of good now since I've moved one year back* | My health is sort of better now | Sort of good then one year ago. | Better than 1 year ago | Sort of better than a year ago | Beter then one year ago | Allrite now then what it was a year ago |
| About the same now as 1 year ago. | Ahua rite tonu inaianei tena i te kotahi tau ki muri | *In between now Im one year back.* | My health is pretty much the same. | Sort of the same, then the one year ago. | About the same as 1 year ago | About the same as a year ago | Sort of one year ago | All same as what is was a year ago |
| Somewhat worse now than 1 year ago. | Ahua he ake inaianei tena i te kotahi tau ki muri | *A bit bad now Im one year back.* | My health is quite bad right now compared to my last year. | Sort of not as good, then the one year ago. | Not as good as 1 year ago | Not as good as a year ago | Kind of one year ago | |
| Much worse than 1 year ago. | Tino he ake inaianei tena i te kotahi tau ki muri. | *Bad now Im one year back.* | My health is really bad compared for my last year | Very wrong, then the on year ago. | Worse than 1 year ago | Wurst than a year ago | Really rong now on one year ago | |

## Family Activities (FA) –limited and interupted

Question 9

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 9 | Ko enei patai whakamutunga e pa ana ki a koe me to whanau? | | | These last questions are about you and your family? | These last questions are about you and your family. | These last questions, are about you and your family | These last questions are aboute you and your formerly. | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 9.1 | I roto i nga wiki e wha kua pahure ake nei, e hia te wa nga tou hauora, te ahua ranei o tou wairua: | | | | In the past four weeks, how much did your health or spirituality feelings; | In the last 4 weeks, how much time? Health or roy feelings  (?? Wa nga tou) | In the past fwor weeks, how ofen did your helf or your ways | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 9.1a Limited the type of activities you could do as a family? | I whakaiti i te wa o nga mahi katoa e pa ana ki to whanau? | Shortened all the times about your family? | Your work about your family was made fun of | You made fun about your family. | Shorten time doing stuff with your family | Spend time working with your family | Have les time and being chiky some time | ? |
| | | | | | | | | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | Most of the time | Always | Most of the time | |
| Fairly often | Ia te wa | At times | Every time | At time | Often | Nearly always | Nerlly all the time | |
| Sometimes | Etahi wa | Sometimes | Sometimes | Sometimes | Sometime | Sometimes | Some time | |
| Almost never | Ahua kore | Nearly never | Mostly never | Never really | Not much | Not much | Not much | |
| Never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 9.1b Interrupted various everyday family activities (eating meals, watching TV)? | Whakaporearea i etahi mahi o ia ra a te whanau (noho ki te kai, mataki pouaka whakaata)? | …? | Some activities with your family (like eating, watching TV together) | Some stuff every day of the family (sit down to eat watching TV). | Cut into daily things that family do like meals and watching TV. | Relaxed sometime during the day with the family | Stop farmerlly (from siting together, whach TV)? | ? |
| | | | | | | | | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | Most of the time | Always | Most of the time | |

| Faifly often | Ia te wa | At times | Every time | At time | Often | Nearly always | Nerlly all the time | |
| Soemtimes | Etahi wa | Sometimes | Sometimes | Sometimes | Sometime | Sometimes | Some time | |
| Almost never | Ahua kore | Nearly never | Mostly never | Never really | Not much | Not much | Not much | |
| Never | Kore rawa | Never | Never | Never | Never | Never | *Not at all* | |

## Family Activities (FA) –pick up and go and conflict

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 9.1c Limited your ability as a family to 'pick up and go' on a moments notice? | Whakaiti i te wa e taea ai e tou whanau ki te "haere ohorere" ki tetahi atu waahi? | Shorten time your family tried to "…." to another place? | ? Doesn't make sense | Make fun when your family goes shocked at the some other place | Shorten times when whanau did stuff on the spur of the moment | Times when you family decided on the spur of the moment to go somewhere | Stop the farmelly from going somewere short notice | ? |
| | | | | | | | | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | Most of the time | Always | Most of the time | |
| Faifly often | Ia te wa | At times | Every time | At time | Often | Nearly always | Nerlly all the time | |
| Soemtimes | Etahi wa | Sometimes | Sometimes | Sometimes | Sometime | Sometimes | Some time | |
| Almost never | Ahua kore | Nearly never | Mostly never | Never really | Not much | Not much | Not much | |
| Never | Kore rawa | Never | Never | Never | Never | Never | *Not at all* | |

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 9.1d Caused tension or conflict in your home? | Whakahau to whanau ki te ohorere te whakakore, huri ranei i nga whakaritenga (a te whanau ake, mahi ranei)? | ….? | Doesn't quite make sense. | Your family, change the options of the family or work. | Made the family stop or change plans of the whanau or job | Did you worry your family for nothing or break the rules (of the family, or at work) | Make trobe in your home. | ? |
| | | | | | | | | |
| Very often | Nuinga o te wa | Most of the time | Most of the time | Most of the time | Most of the time | Always | Most of the time | |
| Faifly often | Ia te wa | At times | Every time | At time | Often | Nearly always | Nerlly all the time | |
| Soemtimes | Etahi wa | Sometimes | Sometimes | Sometimes | Sometime | Sometimes | Some time | |
| Almost never | Ahua kore | Nearly never | Mostly never | Never really | Not much | Not much | Not really | |
| Never | Kore rawa | Never | Never | Never | Never | Never | Not at all | |

## Family Cohesion (FC)

| English | Maori | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 9.2 Sometimes familes may have difficulty getting along with one another. They do not always agree and they may get angry. In general, how would you rate your family's ability to get along with one another? | Etahi wa he tino uaua mo te whanau ki te noho tahi. Kaore e noho i runga i te whakaaro kotahi, ana pukuriri. He pehea ake te kaha o tou whanau ki te mahi tahi? | …? | Sometimes its hard for the family to stay together. You can't not stay angry. How well can your family relate to the another? | Sometimes its hard for the family to stay as one, wont stay on the same thought, angry. How good is your family at working together? | Sometimes it's hard for whanau to get on with each other. They don't always agree and can get mad. How does your whanau get on or work together. | Sometimes its hard for the family to work together. They don't always agree on the same things because of anger. How well does your family work together | Some time it is hard for farmerlly to get on. They don't always think the same and they get angry some times. How well douse you farmerlly get on whith ichother | How is your family at working together? |
|  |  |  |  |  |  |  |  |  |
| Excellent | Tino pai rawa | Very very good | Very good | Excellent | Really good | Very very well | Most of the time |  |
| Very good | Tino pai | Very good | Quite good | Very good | Quite good | Very well | Nerlly all the time |  |
| Good | Pai | Good | Good | Good | Good | Well | Some time |  |
| Fair | Ahua pai | A bit good | Sort of good | Sort of not good | Not bad | Not bad | Not really |  |
| Poor | Kaore i te pai | Not good | Not good | Not good | No good | Very bad | Not at all |  |

# *A p p e n d i x  4*

## School Profiles

| School | Address | | Phone (07) | Fax (07) | Email | School roll (2004 roll) | School decile |
|---|---|---|---|---|---|---|---|
| Waimana School | Raroa Road | Waimana, R D 2, Whakatane | 312 3021 | 312 3021 | admin@waimana.schoolzone.net.nz | 107 | 2 |
| Te Kura Maori-a-Rohe o Waiohau | 2481 Galatea Road | Waiohau R D 2 , Whakatane | 322 8251 | 322 8006 | waiohau@ihug.co.nz | 57 | 1 |
| Kutarere School | 461 State Highway 2 | Kutarere, Opotiki | 315 4874 | 315 4874 | kutarere@wave.co.nz | 31 | 2 |
| Waiotahe Valley School | Gabriels Gully Road | Opotiki District | 315 4712 | 315 4712 | waiotahevalleyschool@xtra.co.nz | 86 | 4 |
| Te Kura Kaupapa Maori O Manawatu | 88 Rhodes Drive | Kelvin Grove, Palmerston North | 06 354 2900 | 06 353 0723 | tkkmom@xtra.co.nz | 132 | 5 |
| St James School | 304 Albert Street | Hokowhitu, Palmerston North | 06 357 9719 | 06 356 8095 | stjames@xtra.co.nz | 260 | 10 |
| Mana Tamariki | 9 Nash Street | Palmerston North | 06 356 4383 | 06 354 9792 | mt@k09e055.kohanga.ac.nz | 39 | 7 |
| Tawera Bilingual School | Ngahina Road | Ruatoki, Whakatane | 312 9187 | 312 9152 | taweraiszyadmin@xtra.co.nz | 65 | 2 |
| Te Kura Kaupapa Maori O Huiarau | School Road | Ruatahuna, via Rotorua | 366 3391 | 366 3398 | office@huiarau.schoolzone.net.nz | 87 | 1 |
| Te Kura Kaupapa Motuhake O Tawhiuau | Miro Drive | Murupara | 366 5817 | 366 5990 | tawhiuau.kura@tawhiuau.co.nz | 119 | 1 |
| Te Kura O Matahi | 1176 b Opurau Road | Waimana, Rural Delivery, Whakatane | 312 3153 | 312 3158 | matahikura@xtra.co.nz | 28 | 2 |
| Te Mahoe School | Galatea Road | Whakatane District | 322 8210 | 322 8210 | temahoe@bordernet.co.nz | 84 | 1 |
| Te Wharekura O Ruatoki | . Mission House Road | Ruatoki | 312 9156 | 312 9585 | recept@ruatoki.school.nz | 209 | 1 |
| Te Kura Toitu o Te Whaiti-nui-a-Toi | 49 Minginui Road | Te Waihiti | 366 3221 | 366 3037 | schooloffice@tewhaiti-nui-a-toi.school.nz | 114 | 1 |
| Murupara School | Pine Drive | Murupara | 366 5602 | 366 5366 | ltaylor@murupara.school.nz | 256 | 1 |
| Te Kura O Waikaremoana | 4674 State Highway 38 | Tuai , R D 5, Wairoa | 06 837 3874 | 06 837 3874 | tkwaik@xtra.co.nz | 50 (2006 ERO report) | 1 |
| Te Kura Kaupapa Maori O Huiarau | School Road | Ruatahuna, Rotorua | 366 3391 | 366 3398 | huiarausch@ihug.co.nz | 87 | 1 |
| Galatea School | Mangamate Road | Galatea R D 1, Murupara | 366 4862 | 366 4506 | sam@galatea.school.nz | 158 | 3 |
| Taneatua School | 44 McKenzie Street | Taneatua | 312 9365 | 312 9365 | admin@taneatua.school.nz | 167 | 1 |

# *A p p e n d i x   5*

## Reward Stickers and Explanation

The stickers were designed by Miss Erana McNabb, a student was commissioned for this research project.

**Design Brief**

For the Design of a Self Adhesive Sticker and School Bag tag for children aged 7 to 13 years.

The tag and sticker are a gift to school children who participate in a school-based health study by;

- returning a send-home health questionnaire to the school the child will be given a school bag tag, and

- if they are over the age of seven years, they are given a sticker when they complete their questionnaire (Sticker).

**Material & Colour**

The sticker and tag will be made from die-cut plastic printed in either three colours or in mono-chrome. I have a preference for mono-chrome however three colour may have more initial visual appeal.

**Size & Shape**

The size and shape of the sticker and tag is limited by the handle-ability of the sticker and tag by young children rather than cost. Ideally the sticker would be about 150 mm by 100 mm or there about and the tag 150mm by 60mm (with a 150mm loop to attach to the bag like an airline baggage tag) or there about. A place where the child's name could be written would make the tag and sticker more appealing.

Tag and Sticker - children well being and looking after each other is the general theme– whakawhanaungatanga, takaroa, whaiora that may fit well. Both would share a common design.

Could you please discuss this with John Waldon before submitting a design proposal?

**Background**

The overall purpose of this research is to ensure a health questionnaire for Māori children makes sense. A health assessment survey questionnaire (CHQ) will be tested to assess relevance for Māori children.

The purpose of the sticker/tags is to reward the return of the questionnaire, therefore;

1. the sticker must appeal to this age group,

2. be consistent with the kaupapa –waiora tamariki, and

3. reinforce being well and staying well.

The questionnaire's sub-themes are;

- physical functioning,
- behaviour,
- self esteem,
- bodily pain,
- role (in social terms and physical terms),
- parental impact,
- general health,
- mental health,
- family activities,
- family cohesion, and
- change in health

## Summary of Research

This project's goals are to: test and validate a set of questionnaires to assess the health status of Māori children in terminology relevant to Māori; pilot the validated questionnaires; and inform the monitoring and development of health services for Māori children. The relevance or connections for the health of Māori children are three fold: accessing child health assessment tools, customising child health assessment tools and utilising the customised tools within a Māori child health context.

The second phase is to carry out a pilot survey of child health in two regions of New Zealand to field test the questionnaires for large-scale health survey and to provide a test for use in different settings.

## Māori Child Health

The health status of Māori children is defined and described in a number of reports (Lawson-Te Aho, 1998; Ministry of Health, 1998a, 1998b); (Te Puni Kokiri Ministry of Maori Development, 1998) tends to be based on comparison with the health of non-Māori children. As working definition of Māori child health it has been assumed that the heath of a Māori child will be such that it does not hinder access to the benefits of society, or entry into Te Ao Māori. Māori child health extends beyond the absence of disease, abuse, and illness and includes well-being, security and inclusion and participation within family, inclusion in education, unhindered spirituality, and a secure cultural identity.

The health concepts include physical functioning, behaviour, self esteem, bodily pain, role (in social terms and physical terms), parental impact, general health, mental health, family activities, family cohesion and change in health. The CHQ covers these aspects but has not to date been validated for Māori children, nor for New Zealand children generally.

Customising child health assessment tools for New Zealand is necessary because the tools developed for other ethnic groups will not have the same meaning for New Zealand children or their parent/caregiver. Customising would include adaptation for the New Zealand lexicon and translation to te reo Māori. Testing and validation of the selected tools would then describe the limitations and capacity of the selected tools as well as the tools' utility.

## Use Of Child Health Assessment Tools In A Māori Child Health Context

A child health assessment tool developed for Māori children would provide an instrument with which to determine the health status of Māori children to ensure undetected health needs were identified. The tools would be suitable for primary healthcare workers, health surveys and monitoring, and to give Māori

children a voice.

There are four internationally accepted and tested health survey tools called the Child Health Questionnaires (PF98, PF50, PF28, and CF87) (CHQ)- will be tested and validated for use with Māori children. Without testing and validating the CHQ for Māori, there is little point in using these tools because of the uncertainty with cross-cultural generalisability as demonstrated by a similar tool in the New Zealand Health Survey with SF36™ (Scott, Sarfati, Tobias, & Haslett, 2000).

Testing will begin with questionnaires in English using the standard US version and then adapted for NZ English. Once tested and validated in English, the tool will be translated in to Māori for further testing and validation. The last phase will be a pilot survey of child health using the modified CHQs in the Manawatu-Wanganui and Bay of Plenty.

# The Design Options Provided for the Study



*Tamariki1.gif*
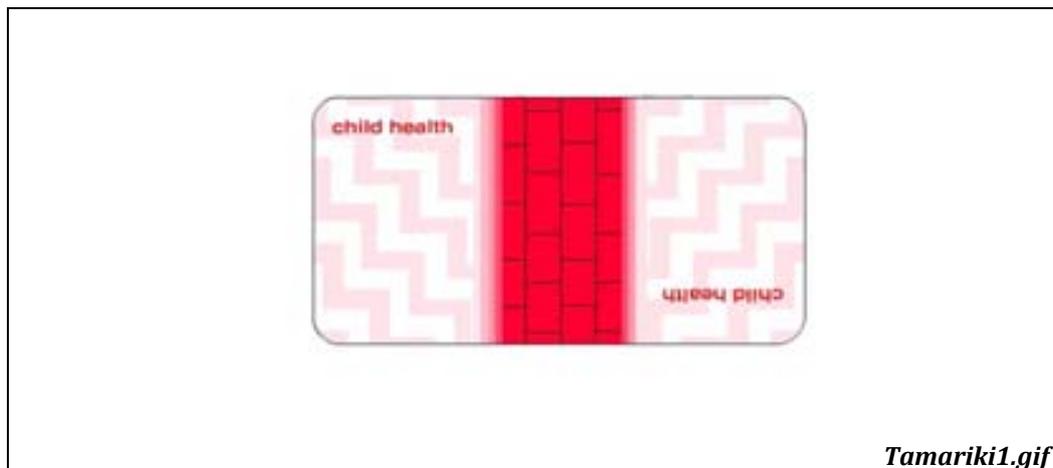
This pattern suggests a close knit family provides positive support for a child during their education. The middle panel symbolises interlocking flax that represents the togetherness and support of whanau. The background poutama pattern (upward steps) symbolises a child's progress through education.



*Tamariki2.gif*
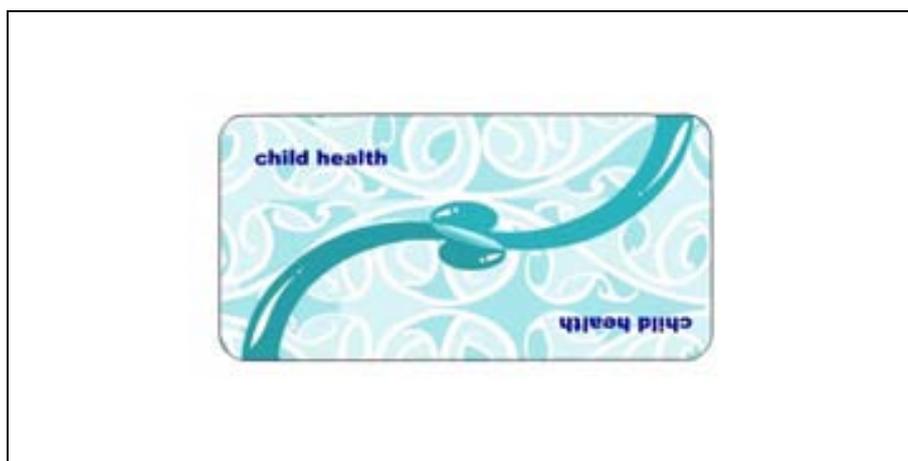
This pattern suggests a supporting relationship between parent and child through life. The two koru represent a child and a parent, the bottom koru is the parent supporting the top koru which is the child, or, vice versa, the child supporting the parent. The background is the 'Huarahi o te ora pattern', Pathway of Life.

This pattern suggests strong bonds between parent and child in a turbulent world. The hooks represent a parent and a child, they connected to symbolise strong bonds between the two, this in turn provides support and encouragement through life. The background depicts rough, choppy seas to represent society and how harsh and severe it can be.
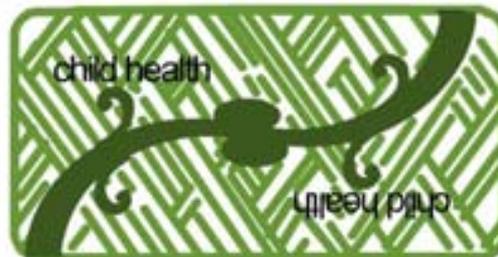
This pattern depicts whanau support both existing and in spirit.

The koru represents parent and child being connected (as for tamariki2). The small fronds branching off the koru symbolise the ancestors that provide spiritual support during the lifetime of the child and parent.

The background is a stylised form of harakeke which represents whanau (paepae) support.

# Large Images

The remaining images are variations of the four previous images. Colour and text were adapted to reflect the school environment. Tamariki Ora was used in the text for Kura Kaupapa Māori.
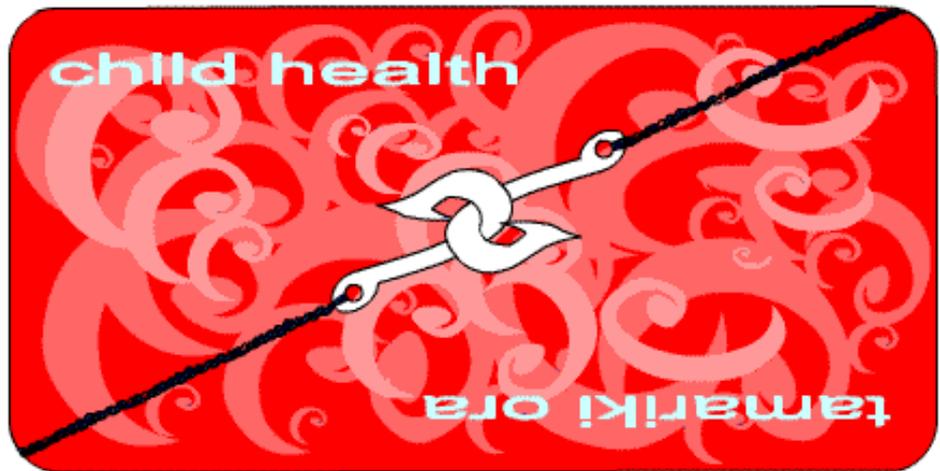
# *A p p e n d i x  6*

## **Information Booklet for Schools**

Te Ahuatanga o Te Waiora
Tamariki
-a picture of child health
Survey
2003-04

# Information
# Booklette

1

## Flowchart
## Te Ahuatanga o Ngā Tamariki - HRC 02/307
### PN Protocol 00/130



**1. School Approval**

1.1 Post letter to school

1.2 Meet with Principal and/or Board of Trustees if requested

Decision

No → 1.3 Letter of Thank you to school

Yes → 1.3 Proceed to "Child Interview" and "Adult Interview"

**2. Child Interview/Adult Interview**

2.1 Post letter home with consent form and information sheet for child and adult

Decision

No

Yes -Child → 2.2 Child - Interviewed by researcher at school

Yes -Adult → 2.2 Adult - Interview by self completion of questionnaire sent home with child

**3. Data Analysis and Reporting**

3.6 Study Completed. Each child eligible for study in participating schools is given a bag-tag.

3.5 Hold hui and/or community meeting to present results for each region.

3.4 Provide parent(s) of each child with plain language report with an explanation and summary statistics.

3.3 Analyse data and prepare summary report for school.

3.2 Sticker given to each child for returning a form.

3.1 Form returned to School by child

3.1 Forms collected by researcher

---

### 1. What is the Te Ahuatanga o Te Waiora Tamariki – a picture of child health survey?

It is a pilot survey of school-aged children's health and well being (aged 8-13 years). The survey will also identify children's health related activities, cultural preferences and dental health.

#### 1.1. Why is the survey being done?
Knowing what New Zealand children think is important for their health and well being will assist the Ministry of Health to improve children's health now and influence their health in later adult life.

#### 1.2. Who is funding the survey?
The Health Research Council of New Zealand, grant number HRC 02/287.

#### 1.3. What will happen?
Between June 1st 2003 and August 30, 2004.

### 2. The Ahuatanga o Nga Tamariki health and well being survey will undertaken by:

Te Pūmanawa Hauora
Te Pūtahi-a-Toi School of Māori Studies
Massey University
Palmerston North

### 3. Does the survey have ethical approval?

Yes, the survey has been reviewed by Massey University Human Ethics committee and has received approval.

#### 3.1. What is involved for students?
> Selected students, whose parents consent, will be surveyed by trained interviewers.
> Each student will be involved in a two of different assessments.
> > □ Health and well being questionnaire completed by the students (and parents) at home.
> About 2 weeks after the first interview a few students will be asked to take part in a focus group interview. This will allow children to have a say in what they thought of the survey and way the survey was carried out.

#### 3.2. What is involved for parents?
> Parents (or caregivers) of selected students will receive a letter, consent form and this booklette. Participation is entirely voluntary. Parents can call the researcher collect (06 350 5799 ext 2538) to have any questions answered.
> They will besent a questionnaire to complete at home. For parents who do not wish to complete the questionnaire at home or would like to speak with the researcher, the questionnaire can be completed at school.

2

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> Parents who do not wish their child to participate, can return the consent form or inform the member of the research team.

### 3.3. What is asked of participating school?

> Every attempt has been made to minimise extra demands on the school during the assessments.
*School staff will not be asked to fill in questionnaires, supervise assessment activities, provide equipment, or take on any other additional responsibilities.*

✓ Space      ✓ Furniture      ✓ Welcome
✓ Co-operation      ✓ Interest

Apart from making space and limited furniture available, our only requests are that the school welcomes the research team, displays an interest in their work, and releases the selected students from normal classroom activities at the times they are needed for assessment.

Staff will be welcome to discuss the assessment process with the research team.

The space requirements are dictated by the number of children at each school involved in the survey and will be discussed with the Principal. If it is impossible to find a suitable space within the school, it may be possible to use a community facility close to the school, although this would require the permission of parents. Under these circumstances, the research team would pay hire charges. Early notice would be very helpful.

### 4. What is involved for Principals?

> To involve staff and Board of Trustees in the decision to participate in this national survey.
> To provide access to the names, sex and ethnicity of all students aged 8-13 years.
> To work out with the research team a suitable time for the assessment visit(s).
> To assist, as necessary or appropriate, with informing parents about the survey. If mail is to be forwarded the postage costs will be paid by the research team.
> To provide suitable space and conditions.
> To facilitate, as necessary, requests for the release of children to allow the home interview to occur during school hours.

### 4.1. Timetable for Principles

| | |
|---|---|
| 12 weeks before visit to school | > Principals of selected schools will be contacted by telephone. They will be sent copies of this brochure and the information pamphlet.<br>> Principals will be asked to discuss the survey with their Boards, Parents' Association and staff. |
| 8 weeks before visit to school | > School confirms its involvement and identifies with the research team the most suitable week(s) for the assessment visit. |
| 4 weeks before visit to school | A researcher will visit the school and:<br>> select students from the school roll of students aged 8-13 years.<br>> confirm the dates with the Principal.<br>> discuss with the Principal the space and furniture requirements. |
| 2 Weeks before visit | Letters will be sent to the parents of selected students |
| 0 weeks | The assessment takes place. |

### 4.2. Who will be conducting the assessments?

> The students will be assessed by trained interviewers who have completed a training programme.
*Skills in quickly establishing good relationships with students are a key criterion for selecting the interviewers.*

### 4.3. What data will be collected?

> An interviewer-administered questionnaire will delivered to students in a face to face interview. The questions asked will include:
> o General and demographic questions.
> o Questions about physical activity.
> o Statements to respond to about those things important for a healthy life.
> o Questions about dental health.
> A self completed questionnaire will be sent home for parent or guardian to complete. The questions asked will be the same as for the child interview.

### 5. How will it work in pratice?

> Two interviewers will normally work in each school. If the number of children to be assessed is less than 10, only one interviewer may come to the school.
> The questionnaire for the parent or guardian will be sent home with the child.
> A sticker and school bag tag will be provided for each questionaire returned to the school for collection. The name of the student will be required to we know who to give the sticker and bag tag to.

### 5.1. How are schools selected?

> Schools were selected from a list of schools in the Waimana-Ruatoki area, and in the Manawatū.

> About 10 schools and about 600 students will be asked to participate in the survey.

*Kura Kaupapa Māori schools.*

These schools were included irrespective of size.

*Selection of students from each selected school.*

From each school in the sample, students will be secited based upon their age being at least 8 years old, and no more than 13 years old. If a parent of a child randomly selected decides not to allow that child to participate there will be no replacement child picked. Children outside the age range will be invited to take part and will be recognised as participants, however the data will not be used in the final report.

### 5.2. How will the results be analysed?

> The data will be analysed by the research team at Massey University.

### 6. How will results be reported?

> Each student's health status will be sent by letter to the parent, with advice to see a doctor if required.

> The results will be published in late 2004.

> The main report will be published by Te Pūmanawa Hauora, Te Pūtahi-a-Toi School OF Māori Studies highlighting the key findings.

This report will present an initial picture of the self assessed health status of children in selected schools. Individual school results cannot be reported.

> Results will also be published in national and international journals

> Summarised survey results will be reported back to community, relevant iwi, Māori and Pacific groups through meetings, and hui.

### 6.1. How will the results be used?

The results from this survey will be used:

> to inform policy development within the Ministry of Health and guide health promotion activities in the wider-health sector

> for health education planning.

> as a resource for the national health and physical education curriculum.

### 6.2. Who is conducting the survey?

The survey is being conducted by the Massey University (Palmerston North) as part of a health Research Council research project and will be part of the PhD study programme of Mr John Waldon.

The study supervisors are:

Prof Mason Durie

Prof Taiarahia Black

Associate Professor Chris Cunningham

The people responsible for the day to day running of the survey are:

John Waldon

Harangi Biddle

tba

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# *A p p e n d i x   7*

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Date          26 July 2004

Signed

Shane COTTON

# *A p p e n d i x  8*

## Face to face Interview Schedules

### *Focus Group Probe Questions [English] child/parent*

Welcome to this meeting about your health and well being. This focus group is for you to do the talking and understanding

**CHECK**
1. Have you got a copy of the questionnaire? (If not, hand questionnaires and a pencil to each child/parent).
2. Could you please complete the questionnaire to familiarise your self with the questionnaire? Think of your health and well being.

**Health Questions**

   3. Are there questions that do not belong in the sections 1 to 9 (pages 2-19) Introduce each section (a through I, as well as their friends and the dental health). If there are no questions probe at next level (i-xiii) and if responses indicate interest, probe at next level.

     a. Part 1: Overall health (A).
        i. What do you think this question meant?
     b. Part 2: Physical Activities (B-E, 1-5), pages. 2-4
        ii. Did the use of the three levels of energy help you describe what activities you/your child could do?
        iii. Were the options for the answers sufficient to describe your/your child's health?
     c. Part 3: Everyday Activities (a-D, 1-5), pages. 4-5.
        iv. Was it helpful to you to make two questions about the **amount** and **KIND** of activities you/your child could do?
            1. Did it make sense to you to link the **amount** of time your child could spend on activities because of EMOTIONAL or BEHAVIOURAL problems?
            2. Did it make sense to you to link the **kind** of school work or activity your child could do because of PHYSICAL health?
     d. Part 4: Pain (A and B), page 6
        v. Were these questions clear to you?
            1. How would you describe how much pain you have had in past 4 weeks?
            2. How would you describe how often you had pain in past four weeks?
     e. Part 5: Your Behaviour
        vi. Was it helpful to you to describe your/your child's behaviour?
            1. If you acted too young?
            2. If you argued or you were moody?
            3. If you found it hard to pay attention?
            4. If you did what the teacher told you to do?
            5. If you wanted to be along?
            6. If you lied or cheated?
            7. If you had a hard time getting along with others like you?
            8. If you felt clumsy?
            9. If you ran away from home?
            10. If you had speech problems?
            11. If you stole things (from home or other places)?
            12. If you acted mean or moody?
            13. If you got really mad if you did not get what you wanted?
            14. If you found it hard to get along with others?

15. If you compared your behaviour with other children your age?
16. Are there other issues that would fit well here?
            vii. Was it helpful to compare the behaviour of you/your child with other children the same age?
    f.  Part 6: Moods and Feelings
            viii. Was it helpful to you to describe your/your child's moods and feelings?
                1. How often you felt sad?
                2. How often you felt like crying?
                3. How often you felt afraid or scared?
                4. How often you felt worried about things?
                5. How often you felt lonely?
                6. How often you felt unhappy?
                7. How often you felt nervous?
                8. How often you felt bothered or upset?
                9. How often you felt happy?
                10. How often you felt cheerful?
                11. How often you enjoy the things you do?
                12. How often you have fun?
                13. How often you felt jittery or restless?
                14. How well you have slept in past four weeks?
                15. If you have headaches?
                16. If you like yourself?
    g.  Section 7: Self Confidence
            ix. Was it helpful to you to describe your/your child's self confidence by considering;
                1. How good you feel about yourself?
                2. How good you feel about your school work?
                3. How good you feel about your ability to play sport?
                4. How good you feel about your friendships?
                5. How good you feel about the things you CAN do?
                6. How good you feel about how you get along with others in past 4 weeks?
                7. How good you feel about you body and your looks?
                8. How good you feel most of the time?
                9. How good you get along with your family?
                10. How good you feel about the way life seems to you?
                11. How good you feel about your ability to be a friend to others?
                12. How good others seem to feel about you?
                13. How good you feel about your ability to talk to others?
                14. How your health overall?
    h.  Part 8: Your Health
            x. Was it helpful to you to describe your/your child's health by considering;
                1. Your health is excellent?
                2. If you were so sick that you thought you might die?
                3. If you get very sick?
                4. If you are less health than other kids you know?
                5. If you have ever been very sick?
                6. If you always get sick?
                7. If you will be **less** healthy when you get older?
                8. If you will be **more** healthy when you get older?

9. If you worry about your health?
10. If you are healthy now?
11. Your health compared with other children?
12. If your health will be different in one year from now?
    i. Part 9: Your and Your Family
        xi. Was it helpful to you to describe whether your/your child's health or behaviour limits the activities you/they do with your family;
            1. Does your health or behaviour limits those things you do as a family?
            2. Interrupted meals or other everyday activities?
            3. Limited your family's ability to pick up and go?
            4. If your health or behaviour has caused conflict or tension at home?
            5. If your health or behaviour has caused disagreements at home?
            6. If your health or behaviour meant your family have had to change plans?
        xii. Was it helpful to you to consider how your/your child's health affected:
            1. The type of family activities?
            2. Every day family activities?
        xiii. Was it helpful for you to consider whether your family has difficulty in getting along together?

**Your Friends:**
- Was it helpful to describe who your/your child's friends are?
    a. Where there enough categories?
        i. Would you want more categories?
    b. Was it helpful to describe what you did with your friends?
        i. Would you like different options?
        ii. Would you like to answer with more than one option?


**Dental health.**
    i. Where there questions that did not belong here?
    ii. Are there other questions you would like to see here?
    iii. Are the options for the answers relevant to you?

# *Appendix 9*

## DATA TABLES FROM CHAPTER 6

**Table 6.2     Questions Translated: Number, Proportion and Average Scores**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Σ | Av | % |
|---|---|---|---|---|---|---|---|---|---|---|
| **Body Pain (BP)** | | | | | | | | | | |
| Total Translation Score | 3 | 4 | 4 | 5 | 4 | 6 | | | | |
| Average Score | 1.5 | 2.0 | 2.0 | 2.5 | 2.0 | 3.0 | | | 2.2 | |
| Questions Translated | 2 | 2 | 2 | 2 | 2 | 2 | | 12 | | |
| % | 100 | 100 | 100 | 100 | 100 | 100 | | | | 85.7 |
| **Change in Health (CH)** | | | | | | | | | | |
| Average Score | 2 | 3 | 3 | 2 | 3 | 2 | 2 | 7 | 2.5 | 100 |
| **Family Activities (FA)** | | | | | | | | | | |
| Average Score | 2.5 | 2.0 | 1.3 | 3.0 | 1.8 | 2.3 | | | 2.1 | |
| Questions Translated | 2 | 2 | 4 | 4 | 4 | 4 | | 20 | | |
| % | 50.0 | 50.0 | 100 | 100 | 100 | 100 | | | | 71.4 |
| **Family Cohesion (FC)** | | | | | | | | | | |
| Score | | 3 | 3 | 3 | 2 | 3 | 2 | 6 | 2.7 | 85.7 |
| **General Behaviour (BE)** | | | | | | | | | | |
| Total Translation Score | 30 | 38 | 36 | 44 | 40 | 42 | 33 | | | |
| Average Score | 2.3 | 2.4 | 2.8 | 2.8 | 2.5 | 2.6 | 2.8 | | 2.6 | |
| Questions Translated | 13 | 16 | 13 | 16 | 16 | 16 | 12 | 102 | | |
| % | 81.3 | 100 | 81.3 | 100 | 100 | 100 | 75.0 | | | 91.1 |
| **Behaviour (BE)** | | | | | | | | | | |
| Score | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 7 | 2.4 | 100 |
| **General Health (GH)** | | | | | | | | | | |
| Total Translation Score | 19 | 30 | 27 | 35 | 30 | 35 | 28 | | | |
| Average Score | 2.7 | 2.5 | 2.5 | 2.9 | 2.7 | 2.9 | 2.5 | | 2.7 | |
| Questions Translated | 7 | 12 | 11 | 12 | 11 | 12 | 11 | 76 | | |
| % | 58.3 | 100 | 91.7 | 100 | 91.7 | 100 | 91.7 | | | 90.5 |
| **Mental Health (MH)** | | | | | | | | | | |
| Total Translation Score | 32.0 | 38.0 | 42.0 | 40.0 | 44.0 | 44.0 | 36.0 | | | |
| Average Score | 2.7 | 2.5 | 2.6 | 2.5 | 2.8 | 2.8 | 2.8 | | 2.7 | |
| Questions Translated | 12 | 15 | 16 | 16 | 16 | 16 | 13 | 104 | | |
| % | 75.0 | 93.8 | 100 | 100 | 100 | 100 | 81.3 | | | 92.9 |
| **Physical Functioning (PF)** | | | | | | | | | | |
| Total Translation Score | 25 | 27 | 25 | 2 | 26 | 26 | 22 | | | |
| Average Score | 2.8 | 3.0 | 2.8 | 2.7 | 2.9 | 2.9 | 2.4 | | 2.7 | |
| Questions Translated | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 63 | | |
| % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | | | 100 |
| **Role Emotional Behavioural (REB)** | | | | | | | | | | |
| Total Translation Score | 6 | 9 | 11 | 15 | 15 | 16 | 11 | | | |
| Average Score | 1.0 | 1.5 | 1.8 | 2.5 | 2.5 | 2.7 | 2.8 | | 2.4 | |
| Questions Translated | 6 | 6 | 6 | 6 | 6 | 6 | 4 | 40 | | |
| % | 100 | 100 | 100 | 100 | 100 | 100 | 66.7 | | | 95.2 |
| **Role Physical (RP)** | | | | | | | | | | |
| Total Translation Score | 4 | 6 | 7 | 7 | 7 | 7 | 0 | | | |
| Average Score | 1.3 | 2.0 | 2.3 | 2.3 | 2.3 | 2.3 | 0 | | 2.1 | |
| Questions Translated | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 18 | | |
| % | 100 | 100 | 100 | 100 | 100 | 100 | 0 | | | 85.7 |
| **Self Esteem (SE)** | | | | | | | | | | |
| Total Translation Score | 36 | 42 | 37 | 38 | 41 | 39 | 41 | | | |
| Average Score | 2.8 | 3.0 | 2.8 | 2.7 | 2.9 | 3.0 | 2.9 | | 2.9 | |
| Questions Translated | 13 | 14 | 13 | 14 | 14 | 13 | 14 | 95 | | |
| % | 92.9 | 100 | 92.9 | 100 | 100 | 92.9 | 100 | | | 96.9 |
| **Total Questions Translated** | | | | | | | | 550 | | 92.4% |

**Table 6.4a    Responses Translated: Count, Sum and Average Score (Multi-item Scales)**

| | | BTC | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
| **Family Activities (FA)** | Very often | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Fairly often | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Sometimes | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Almost never | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Never | 3 | 3 | 3 | 3 | 3 | 3 | |
| **General Health (GH)** | Definitely true | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Mostly true | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Don't know | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Mostly false | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Definitely false | 3 | 3 | 3 | 3 | 3 | 3 | |
| **General Behaviour (BE)** | Excellent | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Very good | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Good | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Fair | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Poor | 3 | 3 | 3 | 3 | 3 | 3 | |
| **Mental Health (MH)** | All of the time | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Very often | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Sometimes | 3 | 3 | 3 | 3 | 3 | 3 | |
| | A little of the time | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Almost never | 3 | 3 | 3 | 3 | 3 | 3 | |
| **Physical Functioning (PF)** | Yes, very difficult | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | Yes, not that difficult | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | Yes, a little difficult | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | No, not difficult | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| **Role Emotional behavioural (REB)** | Yes, very difficult | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Yes, not that difficult | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Yes, a little difficult | 3 | 3 | 3 | 3 | 3 | 3 | |
| | No, not difficult | 3 | 3 | 3 | 3 | 3 | 3 | |
| **Role Physical (RP** | Yes, very difficult | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Yes, not that difficult | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Yes, a little difficult | 3 | 3 | 3 | 3 | 3 | 3 | |
| | No, not difficult | 3 | 3 | 3 | 3 | 3 | 3 | |
| **Self Esteem (SE)** | Very good | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Somewhat good | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Neither good or bad | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Somewhat badly | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Very badly | 3 | 3 | 3 | 3 | 3 | 3 | |
| | **Sum** | 111 | 111 | 111 | 111 | 111 | 111 | 12 |
| | **Count** | 37 | 37 | 37 | 37 | 37 | 37 | 4 |
| | **Average Score** | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |

**Table 6.4b    Responses Translated: Count, Sum and Average Score (Single-item Scales)**

| | | BTC | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **Change in Health (CH)** | Much better than 1 year ago | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | Somewhat better now than 1 year ago | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | About the same now as 1 year ago | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | Somewhat worse now than 1 year ago | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Much worse than 1 year ago | 3 | 3 | 3 | 3 | 3 | 3 | |
| **Global Behaviour (BE)** | Very often | 3 | 3 | 3 | 2 | 2 | 3 | |
| | Fairly often | 1 | 2 | 2 | 2 | 2 | 2 | |
| | Sometimes | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Almost never | 3 | 3 | 3 | 2 | 2 | 1 | |
| | Never | 3 | 3 | 3 | 3 | 3 | 3 | |
| **Family Cohesion (FC)** | Excellent | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Very good | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Good | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Fair | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Poor | 3 | 3 | 3 | 3 | 3 | 3 | |
| **Global Health (GH)** | Excellent | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Very good | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Good | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Fair | 3 | 2 | 3 | 3 | 3 | 3 | |
| | Poor | 3 | 3 | 3 | 3 | 3 | 3 | |
| **Pain - Level (BP)** | None | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Very mild | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Mild | 3 | 2 | 3 | 3 | 3 | 3 | |
| | Moderate | 3 | 1 | 3 | 3 | 3 | 3 | |
| | Severe | 3 | 1 | 3 | 3 | 3 | 3 | |
| | Very severe | 3 | 1 | 3 | 3 | 3 | 3 | |
| **Pain - Frequency (BP)** | None | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Very mild | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Mild | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Moderate | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Severe | 3 | 3 | 3 | 3 | 3 | 3 | |
| | Very severe | 3 | 3 | 3 | 3 | 3 | 3 | |
| | **Sum** | 94 | 88 | 95 | 93 | 93 | 93 | 9 |
| | **Count** | 32 | 32 | 32 | 32 | 32 | 32 | 3 |
| | **Average Score** | 2.9 | 2.8 | 3.0 | 2.9 | 2.9 | 2.9 | 3.0 |

**Table 6.17    Descriptive statistics and observed scores for CHQNZ-PF (All)**

| CHQ NZ-PF (PF 28) CHQ PF 50 Aust (PF 50A) CHQ PF 50 USA (PF 50U) | | Items per scale | Age (Years) | Raw Av | SD | Raw scale range | Floor | Ceiling | Cron-Bach α |
|---|---|---|---|---|---|---|---|---|---|
| Phys Function | PF 28 | 3 | 7-13 | 11.04 | 2.15 | 3-12 | 0.2 | 84.8 | 0.71 |
| | PF 50A | 6 | 5-11 | 22.68 | 3.20 | 6-24 | 0 | 71.1 | 0.93 |
| | PF 50U | 6 | - | - | - | - | 0.5 | 85.3 | 0.94 |
| Role Emo-Behav | PF 28 | 2 | 7-13 | 3.64 | 0.66 | 1-4 | 0 | 75.8 | 0.71 |
| | PF 50A | 3 | 5-11 | 11.34 | 1.64 | 2-8 | 1.2 | 80.7 | 0.93 |
| | PF 50U | 3 | - | - | - | - | 1.5 | 76.7 | 0.88 |
| Role Physical | PF 28 | 1 | 7-13 | 3.73 | 0.68 | 1-4 | 0 | 81.8 | 0.69 |
| | PF 50A | 2 | 5-11 | 7.41 | 1.24 | 3-12 | 1.2 | 75.9 | 0.77 |
| | PF 50U | 2 | - | - | - | - | 1.8 | 85.4 | 0.92 |
| Body Pain | PF 28 | 1 | 7-13 | 5.11 | 0.92 | 2-6 | 1.5 | 40.3 | 0.71 |
| | PF 50A | 2 | 5-11 | 10.45 | 1.74 | 1-12 | 0 | 45.8 | 0.89 |
| | PF 50U | 2 | - | - | - | - | 0.5 | 39.7 | 0.89 |
| Behaviour | PF 28 | 4 | 7-13 | 14.7 | 2.74 | 6.4-20 | 4.6 | 26.0 | 0.71 |
| | PF 50A | 6 | 5-11 | 24.35 | 3.55 | 6-30 | 0 | 3.6 | 0.79 |
| | PF 50U | 6 | - | - | - | - | 0.3 | 3.9 | 0.81 |
| Mental Health | PF 28 | 3 | 7-13 | 12.48 | 2.13 | 3-15 | 0 | 49.5 | 0.72 |
| | PF 50A | 5 | 5-11 | 21.17 | 2.55 | 5-25 | 0 | 9.6 | 0.81 |
| | PF 50U | 5 | - | - | - | - | 0 | 3.8 | 0.75 |
| Self Esteem | PF 28 | 3 | 7-13 | 12.80 | 2.98 | 0-15 | 0 | 63.5 | 0.73 |
| | PF 50A | 6 | 5-11 | 26.27 | 3.93 | 6-30 | 0 | 22.9 | 0.84 |
| | PF 50U | 6 | - | - | - | - | 0.3 | 13.9 | 0.84 |
| General Health | PF 28 | 4 | 7-13 | 15.36 | 3.35 | 2.2-20 | 9.1 | 42.4 | 0.71 |
| | PF 50A | 6 | 5-11 | 24.27 | 4.21 | 6-30 | 1.2 | 4.8 | 0.72 |
| | PF 50U | 6 | - | - | - | - | 0 | 3.8 | 0.66 |
| Parent Imp -Emo | PF 28 | 2 | 7-13 | 8.16 | 2.10 | 0-10 | 3.2 | 53.2 | 0.69 |
| | PF 50A | 3 | 5-11 | 12.57 | 2.54 | 3-15 | 2.4 | 22.9 | 0.76 |
| | PF 50U | 3 | - | - | - | - | 0.3 | 19.6 | 0.70 |
| Parent Imp -Time | PF 28 | 2 | 7-13 | 6.92 | 1.73 | 0-8 | 4.7 | 0 | 0.70 |
| | PF 50A | 3 | 5-11 | 10.77 | 1.91 | 3-12 | 2.4 | 0 | 0.74 |
| | PF 50U | 3 | - | - | - | - | 0.8 | 53.2 | 0.80 |
| Family Activities | PF 28 | 1 | 7-13 | 8.60 | 1.89 | 0-10 | 3.0 | 63.4 | 0.69 |
| | PF 50A | 1 | 5-11 | 26.06 | 4.28 | 6-30 | 1.2 | 24.1 | 0.90 |
| | PF 50U | 1 | - | - | - | - | 0.5 | 58.9 | 0.93 |

(Australian and USA data Table 3, p. 80, Waters, 2001)

**Table 6.18    Descriptive statistics and observed scores for CHQNZ-PF (Māori)**

| CHQNZ-PF (PF 28) CHQ PF 50 Aust (PF 50A) CHQ PF 50 USA (PF 50U) | | Items per scale | Age (Years) | Raw Av | SD | Raw scale range | Floor | Ceiling | Cron-Bach α |
|---|---|---|---|---|---|---|---|---|---|
| Phys Function | PF 28 | 3 | 7-13 | 10.9 | 2.38 | 3-12 | 0.2 | 84.8 | 0.79 |
| | PF 50A | 6 | 5-11 | 22.68 | 3.20 | 6-24 | 0 | 71.1 | 0.93 |
| | PF 50U | 6 | - | - | - | - | 0.5 | 85.3 | 0.94 |
| Role Emo-Behav | PF 28 | 2 | 7-13 | 3.69 | 0.59 | 1-4 | 0 | 75.8 | 0.78 |
| | PF 50A | 3 | 5-11 | 11.34 | 1.64 | 2-8 | 1.2 | 80.7 | 0.93 |
| | PF 50U | 3 | - | - | - | - | 1.5 | 76.7 | 0.88 |
| Role Physical | PF 28 | 1 | 7-13 | 3.69 | 0.72 | 1-4 | 0 | 81.8 | 0.78 |
| | PF 50A | 2 | 5-11 | 7.41 | 1.24 | 3-12 | 1.2 | 75.9 | 0.77 |
| | PF 50U | 2 | - | - | - | - | 1.8 | 85.4 | 0.92 |
| Body Pain | PF 28 | 1 | 7-13 | 5.12 | 0.89 | 2-6 | 1.5 | 40.3 | 0.81 |
| | PF 50A | 2 | 5-11 | 10.45 | 1.74 | 1-12 | 0 | 45.8 | 0.89 |
| | PF 50U | 2 | - | - | - | - | 0.5 | 39.7 | 0.89 |
| Behaviour | PF 28 | 4 | 7-13 | 14.54 | 3.12 | 6.4-20 | 0.1 | 34.4 | 0.78 |
| | PF 50A | 6 | 5-11 | 24.35 | 3.55 | 6-30 | 0 | 3.6 | 0.79 |
| | PF 50U | 6 | - | - | - | - | 0.3 | 3.9 | 0.81 |
| Mental Health | PF 28 | 3 | 7-13 | 12.60 | 2.34 | 3-15 | 0 | 37.5 | 0.80 |
| | PF 50A | 5 | 5-11 | 21.17 | 2.55 | 5-25 | 0 | 9.6 | 0.81 |
| | PF 50U | 5 | - | - | - | - | 0 | 3.8 | 0.75 |
| Self Esteem | PF 28 | 3 | 7-13 | 1291 | 3.21 | 0-15 | 0 | 65.6 | 0.81 |
| | PF 50A | 6 | 5-11 | 26.27 | 3.93 | 6-30 | 0 | 22.9 | 0.84 |
| | PF 50U | 6 | - | - | - | - | 0.3 | 13.9 | 0.84 |
| General Health | PF 28 | 4 | 7-13 | 15.95 | 2.84 | 2.2-20 | 9.1 | 42.2 | 0.79 |
| | PF 50A | 6 | 5-11 | 24.27 | 4.21 | 6-30 | 1.2 | 4.8 | 0.72 |
| | PF 50U | 6 | - | - | - | - | 0 | 3.8 | 0.66 |
| Parent Imp -Emo | PF 28 | 2 | 7-13 | 7.91 | 2.73 | 0-10 | 3.2 | 53.2 | 0.79 |
| | PF 50A | 3 | 5-11 | 12.57 | 2.54 | 3-15 | 2.4 | 22.9 | 0.76 |
| | PF 50U | 3 | - | - | - | - | 0.3 | 19.6 | 0.70 |
| Parent Imp -Time | PF 28 | 2 | 7-13 | 7.06 | 1.91 | 0-8 | 4.7 | 0 | 0.79 |
| | PF 50A | 3 | 5-11 | 10.77 | 1.91 | 3-12 | 2.4 | 0 | 0.74 |
| | PF 50U | 3 | - | - | - | - | 0.8 | 53.2 | 0.80 |
| Family Activities | PF 28 | 1 | 7-13 | 8.67 | 1.86 | 3-10 | 3.0 | 63.6 | 0.77 |
| | PF 50A | 1 | 5-11 | 26.06 | 4.28 | 6-30 | 1.2 | 24.1 | 0.90 |
| | PF 50U | 1 | - | - | - | - | 0.5 | 58.9 | 0.93 |

(Australian and USA data Table 3, p. 80, Waters, 2001)

**Table 6.19    Descriptive statistics and observed scores for CHQNZ-PF (English)**

| CHQNZ-PF (PF 28)<br>CHQ PF 50 Aust (PF 50A)<br>CHQ PF 50 USA (PF 50U) | | Items per scale | Age (Years) | Raw Av | SD | Raw scale range | Floor | Ceiling | Cron-Bach α |
|---|---|---|---|---|---|---|---|---|---|
| Phys Function | PF 28 | 3 | 7-13 | 11.07 | 2.11 | 3-12 | 0.2 | 84.8 | 0.69 |
| __ | PF 50A | 6 | 5-11 | 22.68 | 3.20 | 6-24 | 0 | 71.1 | 0.93 |
| | PF 50U | 6 | - | - | - | - | 0.5 | 85.3 | 0.94 |
| Role Emo-Behav | PF 28 | 2 | 7-13 | 3.63 | 0.67 | 1-4 | 0 | 75.8 | 0.68 |
| | PF 50A | 3 | 5-11 | 11.34 | 1.64 | 2-8 | 1.2 | 80.7 | 0.93 |
| | PF 50U | 3 | - | - | - | - | 1.5 | 76.7 | 0.88 |
| Role Physical | PF 28 | 1 | 7-13 | 3.73 | 0.68 | 1-4 | 0 | 81.8 | 0.68 |
| | PF 50A | 2 | 5-11 | 7.41 | 1.24 | 3-12 | 1.2 | 75.9 | 0.77 |
| | PF 50U | 2 | - | - | - | - | 1.8 | 85.4 | 0.92 |
| Body Pain | PF 28 | 1 | 7-13 | 5.11 | 0.93 | 2-6 | 1.5 | 40.3 | 0.67 |
| | PF 50A | 2 | 5-11 | 10.45 | 1.74 | 1-12 | 0 | 45.8 | 0.89 |
| | PF 50U | 2 | - | - | - | - | 0.5 | 39.7 | 0.89 |
| Behaviour | PF 28 | 4 | 7-13 | 14.78 | 2.66 | 6.4-20 | 0.1 | 34.4 | 0.69 |
| | PF 50A | 6 | 5-11 | 24.35 | 3.55 | 6-30 | 0 | 3.6 | 0.79 |
| | PF 50U | 6 | - | - | - | - | 0.3 | 3.9 | 0.81 |
| Mental Health | PF 28 | 3 | 7-13 | 12.45 | 2.09 | 3-15 | 0 | 37.5 | 0.69 |
| | PF 50A | 5 | 5-11 | 21.17 | 2.55 | 5-25 | 0 | 9.6 | 0.81 |
| | PF 50U | 5 | - | - | - | - | 0 | 3.8 | 0.75 |
| Self Esteem | PF 28 | 3 | 7-13 | 12.78 | 2.94 | 0-15 | 0 | 65.6 | 0.71 |
| | PF 50A | 6 | 5-11 | 26.27 | 3.93 | 6-30 | 0 | 22.9 | 0.84 |
| | PF 50U | 6 | - | - | - | - | 0.3 | 13.9 | 0.84 |
| General Health | PF 28 | 4 | 7-13 | 15.24 | 3.44 | 2.2-20 | 9.1 | 42.2 | 0.69 |
| | PF 50A | 6 | 5-11 | 24.27 | 4.21 | 6-30 | 1.2 | 4.8 | 0.72 |
| | PF 50U | 6 | - | - | - | - | 0 | 3.8 | 0.66 |
| Parent Imp -Emo | PF 28 | 2 | 7-13 | 8.21 | 1.94 | 0-10 | 3.2 | 53.2 | 0.65 |
| | PF 50A | 3 | 5-11 | 12.57 | 2.54 | 3-15 | 2.4 | 22.9 | 0.76 |
| | PF 50U | 3 | - | - | - | - | 0.3 | 19.6 | 0.70 |
| Parent Imp -Time | PF 28 | 2 | 7-13 | 6.89 | 1.70 | 0-8 | 4.7 | 0 | 0.68 |
| | PF 50A | 3 | 5-11 | 10.77 | 1.91 | 3-12 | 2.4 | 0 | 0.74 |
| | PF 50U | 3 | - | - | - | - | 0.8 | 53.2 | 0.80 |
| Family Activities | PF 28 | 1 | 7-13 | 8.59 | 1.90 | 0-10 | 3.0 | 63.4 | 0.67 |
| | PF 50A | 1 | 5-11 | 26.06 | 4.28 | 6-30 | 1.2 | 24.1 | 0.90 |
| | PF 50U | 1 | - | - | - | - | 0.5 | 58.9 | 0.93 |

(Australian and USA data Table 3, p. 80, Waters, 2001)

**Table 6.20 Descriptive statistics and observed scores for CHQNZ-CF 87 (All)**

| NZ CF87 (CF 87) AU CF80 (CF 80) | | Items per scale | Age (Years) | Raw Av | SD | Raw scale range | Floor | Ceiling | NZ α CF87 | USA α CF87 |
|---|---|---|---|---|---|---|---|---|---|---|
| Phys Function | CF 87 | 9 | 7-13 | 31.50 | 5.85 | 8-36 | 5.1 | 72.0 | 0.78 | 0.80 |
| | CF 80 | 9 | 5-11 | 35.02 | 1.87 | 9-36 | 0 | 63.0 | 0.75 | |
| Role Behaviour | CF 87 | 3 | 7-13 | 10.69 | 1.80 | 6-12 | 4.5 | 62.0 | 0.78 | 0.76 |
| | CF 80 | 3 | 5-11 | 11.08 | 1.67 | 3-12 | 0.6 | 65.3 | 0.82 | |
| Role Emotional | CF 87 | 3 | 7-13 | 10.32 | 2.24 | 3-12 | 0.6 | 68.5 | 0.78 | 0.79 |
| | CF 80 | 3 | 5-11 | 11.51 | 1.33 | 3-12 | 0.6 | 82.1 | 0.90 | |
| Role Physical | CF 87 | 3 | 7-13 | 10.32 | 2.24 | 0-12 | 0 | 64.2 | 0.77 | 0.84 |
| | CF 80 | 3 | 5-11 | 11.76 | 0.86 | 3-12 | 0 | 89.0 | 0.85 | |
| Body Pain | CF 87 | 2 | 7-13 | 9.58 | 2.51 | 2-12 | 4.5 | 41.6 | 0.81 | 0.75 |
| | CF 80 | 2 | 5-11 | 9.39 | 1.81 | 2-12 | 0 | 16.2 | 0.85 | |
| Behaviour | CF 87 | 17 | 7-13 | 66.24 | 10.66 | 39.4-85 | 5.6 | 43.8 | 0.77 | 0.85 |
| | CF 80 | 17 | 5-11 | 71.89 | 7.63 | 17-85 | 0 | 1.7 | 0.86 | |
| Mental Health | CF 87 | 16 | 7-13 | 57.22 | 7.02 | 16-69 | 6.8 | 10.7 | 0.80 | 0.82 |
| | CF 80 | 16 | 5-11 | 63.59 | 8.75 | 16-80 | 0 | 0 | 0.89 | |
| Self Esteem | CF 87 | 14 | 7-13 | 58.80 | 9.75 | 22-70 | 3.0 | 52.2 | 0.79 | 0.89 |
| | CF 80 | 14 | 5-11 | 55.92 | 8.40 | 14-70 | 0 | 2.3 | 0.90 | |
| General Health | CF 87 | 12 | 7-13 | 42.18 | 7.93 | 19-63 | 12.2 | 29.7 | 0.80 | 0.63 |
| | CF 80 | 12 | 5-11 | 45.60 | 6.92 | 12-48 | 0 | 1.2 | 0.77 | |
| Family Activities | CF 87 | 6 | 7-13 | 18.58 | 6.35 | 0-30 | 11.3 | 34.9 | 0.79 | 0.81 |
| | CF 80 | 6 | 5-11 | 25.48 | 4.04 | 6-30 | 0.6 | 15.6 | 0.79 | |

(Australian and USA data Table 3, p. 80, Waters, 2001)

**Table 6.21 Descriptive statistics and observed scores for CHQNZ-CF 87 –Māori**

| NZ CF87 (CF 87) AU CF80 (CF 80) | | Items per scale | Age (Years) | Raw Av | SD | Raw scale range | Floor | Ceiling | NZ α CF87 | USA α CF87 |
|---|---|---|---|---|---|---|---|---|---|---|
| Phys Function | CF 87 | 9 | 7-13 | 32.27 | 4.63 | 15-36 | 6.3 | 67.0 | 0.72 | 0.80 |
| | CF 80 | 9 | 5-11 | 35.02 | 1.87 | 9-36 | 0 | 63.0 | 0.75 | |
| Role Behaviour | CF 87 | 3 | 7-13 | 10.56 | 1.86 | 6-12 | 7.6 | 48.0 | 0.70 | 0.76 |
| | CF 80 | 3 | 5-11 | 11.08 | 1.67 | 3-12 | 0.6 | 65.3 | 0.82 | |
| Role Emotional | CF 87 | 3 | 7-13 | 10.23 | 2.31 | 3-12 | 0.5 | 51.5 | 0.71 | 0.79 |
| | CF 80 | 3 | 5-11 | 11.51 | 1.33 | 3-12 | 0.6 | 82.1 | 0.90 | |
| Role Physical | CF 87 | 3 | 7-13 | 10.23 | 2.13 | 6-12 | 0 | 50.5 | 0.70 | 0.84 |
| | CF 80 | 3 | 5-11 | 11.76 | 0.86 | 3-12 | 0 | 89.0 | 0.85 | |
| Body Pain | CF 87 | 2 | 7-13 | 9.21 | 2.60 | 2-12 | 1.5 | 43.9 | 0.76 | 0.75 |
| | CF 80 | 2 | 5-11 | 9.39 | 1.81 | 2-12 | 0 | 16.2 | 0.85 | |
| Behaviour | CF 87 | 17 | 7-13 | 66.21 | 11.16 | 39.4-83 | 6.7 | 41.3 | 0.69 | 0.85 |
| | CF 80 | 17 | 5-11 | 71.89 | 7.63 | 17-85 | 0 | 1.7 | 0.86 | |
| Mental Health | CF 87 | 16 | 7-13 | 55.87 | 7.37 | 18-68 | 6.4 | 9.1 | 0.72 | 0.82 |
| | CF 80 | 16 | 5-11 | 63.59 | 8.75 | 16-80 | 0 | 0 | 0.89 | |
| Self Esteem | CF 87 | 14 | 7-13 | 58.67 | 9.76 | 22-70 | 3.6 | 44.6 | 0.72 | 0.89 |
| | CF 80 | 14 | 5-11 | 55.92 | 8.40 | 14-70 | 0 | 2.3 | 0.90 | |
| General Health | CF 87 | 12 | 7-13 | 41.30 | 7.51 | 26-59 | 11.2 | 22.9 | 0.76 | 0.63 |
| | CF 80 | 12 | 5-11 | 45.60 | 6.92 | 12-48 | 0 | 1.2 | 0.77 | |
| Family Activities | CF 87 | 6 | 7-13 | 17.98 | 6.01 | 7-30 | 7.2 | 25.0 | 0.76 | 0.81 |
| | CF 80 | 6 | 5-11 | 25.48 | 4.04 | 6-30 | 0.6 | 15.6 | 0.79 | |

(Australian and USA data Table 3, p. 80, Waters, 2001)

**Table 6.22    Descriptive statistics and observed scores for CHQNZ-CF 87 -English**

| NZ CF87 (CF 87) AU CF80 (CF 80) | | Items per scale | Age (Years) | Raw Av | SD | Raw scale range | Floor | Ceiling | α CF87 | USA α CF87 |
|---|---|---|---|---|---|---|---|---|---|---|
| Phys Function | CF 87 | 9 | 7-13 | 31.06 | 6.43 | 8-36 | 4.4 | 75.3 | 0.78 | 0.80 |
| | CF 80 | 9 | 5-11 | 35.02 | 1.87 | 9-36 | 0 | 63.0 | 0.75 | |
| Role Behaviour | CF 87 | 3 | 7-13 | 10.75 | 1.77 | 0-12 | 2.7 | 75.7 | 0.78 | 0.76 |
| | CF 80 | 3 | 5-11 | 11.08 | 1.67 | 3-12 | 0.6 | 65.3 | 0.82 | |
| Role Emotional | CF 87 | 3 | 7-13 | 10.38 | 2.21 | 3-12 | 0.6 | 78.4 | 0.79 | 0.79 |
| | CF 80 | 3 | 5-11 | 11.51 | 1.33 | 3-12 | 0.6 | 82.1 | 0.81 | |
| Role Physical | CF 87 | 3 | 7-13 | 10.36 | 2.31 | 6-12 | 0 | 71.9 | 0.77 | 0.84 |
| | CF 80 | 3 | 5-11 | 11.76 | 0.86 | 3-12 | 0 | 89.0 | 0.78 | |
| Body Pain | CF 87 | 2 | 7-13 | 9.80 | 2.44 | 2-12 | 6.2 | 40.3 | 0.79 | 0.75 |
| | CF 80 | 2 | 5-11 | 9.39 | 1.81 | 2-12 | 0 | 16.2 | 0.85 | |
| Behaviour | CF 87 | 17 | 7-13 | 66.25 | 10.41 | 39-85 | 5.6 | 49.6 | 0.77 | 0.85 |
| | CF 80 | 17 | 5-11 | 71.89 | 7.63 | 17-85 | 0 | 1.7 | 0.86 | |
| Mental Health | CF 87 | 16 | 7-13 | 58.00 | 6.73 | 28-69 | 7.1 | 11.7 | 0.80 | 0.82 |
| | CF 80 | 16 | 5-11 | 63.59 | 8.75 | 16-80 | 0 | 0 | 0.89 | |
| Self Esteem | CF 87 | 14 | 7-13 | 58.88 | 9.78 | 22-70 | 2.7 | 56.6 | 0.72 | 0.89 |
| | CF 80 | 14 | 5-11 | 55.92 | 8.40 | 14-70 | 0 | 2.3 | 0.90 | |
| General Health | CF 87 | 12 | 7-13 | 42.69 | 8.15 | 19-63 | 12.8 | 33.6 | 0.76 | 0.63 |
| | CF 80 | 12 | 5-11 | 45.60 | 6.92 | 12-48 | 0 | 1.2 | 0.77 | |
| Family Activities | CF 87 | 6 | 7-13 | 18.92 | 6.54 | 0-30 | 13.1 | 39.0 | 0.76 | 0.81 |
| | CF 80 | 6 | 5-11 | 25.48 | 4.04 | 6-30 | 0.6 | 15.6 | 0.79 | |

(Australian and USA data Table 3, p. 80, Waters, 2001)

**Table 6.23    Inter-scale correlations coefficients CHQNZ-CF and CHQ Australia**

| | | Raw mean | SD | α | PF | RE | RB | RP | BP | BE | MH | SE | GH | FA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PF | NZ CF87 | 31.50 | 5.86 | **0.81** | - | **0.53** | **0.52** | **0.57** | 0.11* | **0.44** | 0.21* | 0.23* | 0.13* | 0.21* |
| | AU CF80 | 36.61 | 2.54 | **0.81** | - | - | | | | | | | | |
| RE | NZ CF87 | 10.32 | 2.24 | **0.73** | **0.53** | - | **0.77** | **0.53** | 0.05* | **0.41** | 0.25* | 0.31 | 0.18* | 0.27* |
| | AU CF80 | 10.96 | 1.67 | **0.82** | | 0.41 | 0.56 | 0.65 | 0.50 | 0.41 | 0.39 | 0.36 | 0.50 | |
| RB | NZ CF87 | 10.68 | 1.80 | **0.73** | 0.52 | 0.77 | | **0.59** | 0.20* | **0.45** | 0.30 | 0.29 | 0.12* | 0.27* |
| | AU CF80 | 11.36 | 1.42 | **0.87** | | 0.37 | 0.54 | 0.41 | 0.35 | 0.30 | 0.37 | 0.26 | **0.47** | **0.67** |
| RP | NZ CF87 | 10.38 | 2.11 | **0.73** | 0.57 | 0.53 | 0.59 | | 0.26 | **0.53** | 0.19* | 0.33 | 0.19* | 0.33 |
| | AU CF80 | 11.52 | 1.33 | **0.89** | | 0.57 | 0.32 | 0.32 | 0.27 | 0.33 | 0.35 | 0.37 | | |
| BP | NZ CF87 | 9.59 | 2.51 | **0.73** | 0.11* | 0.05* | 0.19* | 0.26* | | 0.29 | 0.17* | 0.23* | 0.11* | 0.16* |
| | AU CF80 | 9.29 | 2.07 | **0.86** | | 0.41 | 0.40 | 0.40 | 0.36 | 0.45 | 0.29 | | | |
| BE | NZ CF87 | 66.24 | 10.66 | 0.67 | **0.44** | **0.41** | **0.52** | **0.53** | 0.29 | | **0.41** | 0.36 | 0.33 | 0.42 |
| | AU CF80 | 57.19 | 7.73 | **0.86** | | 0.36 | | | | | | | | |
| MH | NZ CF87 | 57.23 | 7.03 | **0.71** | 0.21* | 0.25 | 0.32 | 0.20* | 0.17* | 0.41 | | 0.29 | 0.30 | 0.17* |
| | AU CF80 | 47.98 | 7.74 | **0.90** | | 0.28 | 0.71 | | | | | | | |
| SE | NZ CF87 | 58.80 | 9.75 | **0.72** | 0.22* | 0.31 | 0.29 | 0.33 | 0.23* | 0.37 | 0.30 | | 0.29* | 0.19* |
| | AU CF80 | 55.87 | 9.83 | **0.92** | | 0.30 | 0.68 | 0.74 | | | | | | |
| GH | NZ CF87 | 42.18 | 7.93 | **0.72** | 0.14* | 0.17* | 0.12* | 0.19* | 0.11* | 0.33 | 0.30 | 0.29* | | 0.41 |
| | AU CF80 | 44.43 | 7.50 | **0.79** | | 0.38 | 0.55 | 0.56 | 0.64 | | | | | |
| FA | NZ CF87 | 18.69 | 6.22 | **0.71** | 0.21* | 0.27* | 0.27* | 0.33 | 0.16* | 0.43 | 0.17* | 0.19* | 0.41 | |
| | AU CF80 | 24.77 | 4.56 | **0.82** | | 0.41 | 0.49 | 0.37 | 0.29 | 0.38 | | | | |

(Australian and USA data Table 3, p. 80, Waters, 2001) ICC using Cronbach α

**Table 6.24     Inter-scale correlations coefficients CHQNZ-CF-Māori**

| | | Raw mean | SD | α | PF | RE | RB | RP | BP | BE | MH | SE | GH | FA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PF | NZ CF87 | 32.27 | 4.62 | **0.75** | - | **0.63** | **0.62** | **0.62** | 0.02* | **0.53** | 0.13* | 0.38* | 0.13* | 0.11* |
| | AU CF80 | 36.61 | 2.54 | **0.81** | - | | | | | | | | | |
| RE | NZ CF87 | 10.23 | 2.31 | **0.74** | **0.63** | - | **0.76** | **0.53** | 0* | **0.51** | 0.26* | **0.46** | 0.06* | 0.17* |
| | AU CF80 | 10.96 | 1.67 | **0.82** | 0.35 | 0.41 | 0.56 | 0.65 | 0.50 | 0.41 | 0.39 | 0.36 | 0.50 | |
| RB | NZ CF87 | 10.56 | 1.86 | **0.74** | **0.62** | **0.76** | - | **0.63** | 0.06* | **0.54** | 0.09* | 0.37* | 0.11* | 0.30* |
| | AU CF80 | 11.36 | 1.42 | **0.87** | 0.37 | 0.37 | 0.54 | 0.41 | 0.35 | 0.30 | 0.37 | 0.26 | 0.47 | 0.67 |
| RP | NZ CF87 | 10.23 | 2.13 | **0.75** | **0.62** | **0.53** | **0.63** | - | 0.06* | **0.61** | 0.09* | 0.36* | 0.11* | 0.29* |
| | AU CF80 | 11.52 | 1.33 | **0.89** | 0.57 | 0.57 | 0.32 | 0.32 | 0.27 | 0.33 | 0.35 | 0.37 | | |
| BP | NZ CF87 | 9.21 | 2.60 | **0.81** | 0.22* | 0.01* | 0.11* | 0.05* | - | 0.32* | 0.36* | 0.36* | 0.36* | 0.44* |
| | AU CF80 | 9.29 | 2.07 | **0.86** | 0.41 | 0.41 | 0.40 | 0.40 | 0.36 | 0.45 | 0.29 | | | |
| BE | NZ CF87 | 66.21 | 11.16 | **0.73** | **0.53** | **0.51** | **0.54** | **0.61** | 0.15* | - | 0.32* | 0.36* | 0.36* | 0.44* |
| | AU CF80 | 57.19 | 7.73 | **0.86** | 0.35 | 0.36 | | | | | | | | |
| MH | NZ CF87 | 55.87 | 7.37 | **0.79** | 0.14* | 0.26* | 0.25* | 0.09* | 0.05* | 0.32* | - | 0.28* | 0.21* | 0.08* |
| | AU CF80 | 47.98 | 7.74 | **0.90** | 0.28 | 0.28 | 0.71 | | | | | | | |
| SE | NZ CF87 | 58.67 | 9.76 | **0.76** | 0.39* | **0.46** | 0.37* | 0.36* | 0.09* | 0.36* | 0.28* | - | 0.15* | 0.23* |
| | AU CF80 | 55.87 | 9.83 | **0.92** | 0.30 | 0.30 | 0.68 | 0.74 | | | | | | |
| GH | NZ CF87 | 41.30 | 7.51 | **0.79** | 0.13* | 0.05* | 0.02* | 0.11* | 0.11* | 0.36* | 0.21* | 0.15* | - | 0.38* |
| | AU CF80 | 44.43 | 7.50 | **0.79** | 0.38 | 0.38 | 0.55 | 0.56 | 0.64 | | | | | |
| FA | NZ CF87 | 17.98 | 6.01 | **0.78** | 0.12* | 0.17* | 0.18* | 0.30* | 0.10* | 0.44* | 0.09* | 0.23* | 0.39* | - |
| | AU CF80 | 24.77 | 4.56 | **0.82** | 0.41 | 0.41 | 0.49 | 0.37 | 0.29 | 0.38 | | | | |

(Australian and USA data Table 3, p. 80, Waters, 2001) ICC using Cronbach α

**Table 6.25    Inter-scale correlations coefficients (Cronbach alpha) CHQNZ-CF-English**

| | | Raw mean | SD | α | PF | RE | RB | RP | BP | BE | MH | SE | GH | FA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PF | NZ CF87 | 31.06 | 6.43 | **0.80** | - | **0.51** | **0.48** | **0.49** | 0.17* | **0.41** | 0.28* | 0.17* | 0.15* | 0.23* |
| | AU CF80 | 36.61 | 2.54 | **0.81** | - | | | | | | | | | |
| RE | NZ CF87 | 10.38 | 2.20 | **0.80** | 0.51 | - | **0.78** | **0.50** | 0.08* | 0.35* | 0.25* | 0.22* | 0.24* | 0.33* |
| | AU CF80 | 10.96 | 1.67 | **0.82** | 0.35 | 0.41 | 0.56 | 0.65 | 0.50 | 0.41 | 0.39 | 0.36 | 0.50 | |
| RB | NZ CF87 | 10.75 | 1.77 | **0.80** | **0.48** | **0.78** | - | **0.54** | 0.24* | 0.39 | 0.33* | 0.19* | 0.20* | 0.31* |
| | AU CF80 | 11.36 | 1.42 | **0.87** | 0.37 | 0.37 | 0.54 | 0.41 | 0.35 | 0.30 | 0.37 | 0.26 | 0.47 | 0.67 |
| RP | NZ CF87 | 10.36 | 2.31 | **0.79** | 0.49 | **0.50** | **0.54** | - | 0.36 | **0.49** | 0.28* | 0.33* | 0.16* | 0.16* |
| | AU CF80 | 11.52 | 1.33 | **0.89** | 0.57 | 0.57 | 0.32 | 0.32 | 0.27 | 0.33 | 0.35 | 0.37 | | |
| BP | NZ CF87 | 9.79 | 2.44 | **0.82** | 0.17* | 0.08* | 0.24* | 0.36 | - | 0.37 | 0.23* | 0.33* | 0.16* | 0.16* |
| | AU CF80 | 9.29 | 2.07 | **0.86** | 0.41 | 0.41 | 0.40 | 0.40 | 0.36 | 0.45 | 0.29 | | | |
| BE | NZ CF87 | 66.25 | 10.41 | **0.79** | **0.41** | 0.34* | 0.39 | **0.49** | 0.37 | - | **0.48** | 0.37 | 0.32* | 0.29* |
| | AU CF80 | 57.19 | 7.73 | **0.86** | 0.35 | 0.36 | | | | | | | | |
| MH | NZ CF87 | 58.00 | 6.73 | **0.80** | 0.27* | 0.25* | 0.32* | 0.29* | 0.23* | **0.48** | - | 0.31* | 0.34* | 0.30* |
| | AU CF80 | 47.98 | 7.74 | **0.90** | 0.28 | 0.28 | 0.71 | | | | | | | |
| SE | NZ CF87 | 58.87 | 9.78 | **0.80** | 0.16* | 0.22* | 0.20* | 0.37 | 0.33* | 0.37 | 0.31* | - | 0.33* | 0.17* |
| | AU CF80 | 55.87 | 9.83 | **0.92** | 0.30 | 0.30 | 0.68 | 0.74 | | | | | | |
| GH | NZ CF87 | 42.69 | 8.15 | **0.81** | 0.15* | 0.24* | 0.20* | 0.23* | 0.16* | 0.32* | 0.34* | 0.33* | - | **0.43** |
| | AU CF80 | 44.43 | 7.50 | **0.79** | 0.38 | 0.38 | 0.55 | 0.56 | 0.64 | | | | | |
| FA | NZ CF87 | 18.92 | 6.53 | **0.81** | 0.23* | 0.33* | 0.32* | 0.36 | 0.17* | 0.39 | 0.30* | 0.17* | **0.43** | - |
| | AU CF80 | 24.77 | 4.56 | **0.82** | 0.41 | 0.41 | 0.49 | 0.37 | 0.29 | 0.38 | | | | |

(Australian and USA data Table 3, p. 80, Waters, 2001) ICC using Cronbach α

**Table 6.26      Inter-scale correlations coefficients CHQNZ-CF-Māori & English**

| | | Raw Average | SD | α | PF | RE | RB | RP | BP | BE | MH | SE | GH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PF | Māori | 30.45 | 6.79 | **0.72** | - | | | | | | | | |
| | English | 32.11 | 5.17 | **0.78** | - | | | | | | | | |
| | Combined | 31.50 | 5.85 | **0.78** | - | | | | | | | | |
| RE | Māori | 9.50 | 2.71 | **0.70** | **0.63** | - | | | | | | | |
| | English | 10.81 | 1.76 | **0.79** | **0.40** | - | | | | | | | |
| | Combined | 10.32 | 2.24 | **0.78** | **0.53** | - | | | | | | | |
| RB | Māori | 9.96 | 2.06 | **0.71** | **0.59** | **0.87** | - | | | | | | |
| | English | 11.11 | 1.49 | **0.78** | **0.41** | **0.60** | - | | | | | | |
| | Combined | 10.68 | 1.80 | **0.78** | **0.52** | **0.77** | - | | | | | | |
| RP | Māori | 9.57 | 2.42 | **0.70** | **0.56** | **0.66** | **0.70** | - | | | | | |
| | English | 10.84 | 1.76 | **0.77** | **0.56** | 0.30* | 0.39 | - | | | | | |
| | Combined | 10.37 | 2.10 | **0.77** | **0.57** | **0.54** | **0.59** | - | | | | | |
| BP | Māori | 9.86 | 2.23 | **0.76** | 0.07* | 0.01* | 0.13* | 0.17* | - | | | | |
| | English | 9.42 | 2.66 | **0.79** | 0.25* | 0.13* | 0.31 | 0.41 | - | | | | |
| | Combined | 9.58 | 2.51 | **0.81** | 0.11* | 0.05* | 0.20* | 0.26* | - | | | | |
| BE | Māori | 63.38 | 10.77 | 0.69 | 0.36* | 0.43* | **0.41*** | **0.53** | 0.33* | - | | | |
| | English | 67.92 | 10.28 | **0.77** | **0.48** | 0.33* | **0.43** | **0.49** | 0.39* | - | | | |
| | Combined | 66.24 | 10.66 | **0.77** | **0.44** | **0.41** | **0.45** | **0.53** | 0.28 | - | | | |
| MH | Māori | 56.20 | 5.42 | **0.72** | 0.21* | 0.36* | 0.24* | 0.26* | 0.01* | 0.44* | - | | |
| | English | 57.83 | 7.77 | **0.80** | 0.18* | 0.18* | 0.32* | 0.14* | 0.25* | 0.39 | - | | |
| | Combined | 57.22 | 7.02 | **0.80** | 0.21 | 0.26* | 0.30 | 0.19* | 0.17* | **0.41** | - | | |
| SE | Māori | 57.30 | 8.86 | **0.72** | 0.14* | 0.41* | 0.31* | 0.35* | 0.05* | 0.35* | **0.50** | - | |
| | English | 59.67 | 10.16 | **0.78** | 0.26* | 0.22* | 0.25* | 0.32* | 0.38 | 0.35* | 0.28* | - | |
| | Combined | 57.80 | 9.74 | **0.79** | 0.22* | 0.31 | 0.29 | 0.33 | 0.23* | 0.36 | 0.30 | - | |
| GH | Māori | 39.43 | 7.48 | **0.76** | 0.03* | 0.02* | 0.13* | 0.05* | 0.08* | 0.24* | 0.22* | 0.18* | - |
| | English | 43.79 | 7.77 | **0.79** | 0.16* | 0.23* | 0.19* | 0.18* | 0.16* | 0.32* | 0.31* | 0.28* | - |
| | Combined | 42.18 | 7.93 | **0.80** | 0.13* | 0.17* | 0.12* | 0.18* | 0.11* | 0.33 | 0.30 | 0.27* | - |
| FA | Māori | 14.65 | 4.20 | **0.76** | 0.17* | 0.16* | 0.11* | 0.03* | 0.29* | 0.27* | 0.26* | 0.09* | 0.33* |
| | English | 21.06 | 5.99 | **0.78** | 0.36 | 0.39 | 0.31* | **0.40** | 0.22 | **0.44** | 0.10* | 0.17* | 0.33* |
| | Combined | 18.68 | 6.21 | **0.79** | 0.21* | 0.27* | 0.27* | 0.33 | 0.16* | **0.43** | 0.17* | 0.17* | 0.19* |

(* p>0.001, not considered statistically significant correlation, figures in bold are r<0.40, p<0.0001) ICC using Cronbach α

**Table 6.27 Inter-scale correlations coefficients CHQNZ-PF-Māori & English**

| | | Raw Av | SD | α | PF | RE | RP | BP | BE | MH | SE | GH | PE | PT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PF | Māori | 10.91 | 2.37 | **0.79** | - | | | | | | | | | |
| | English | 11.04 | 2.15 | **0.71** | - | | | | | | | | | |
| | Combined | 11.04 | 2.15 | **0.71** | - | | | | | | | | | |
| RE | Māori | 3.69 | 0.59 | **0.78** | 0.29* | - | | | | | | | | |
| | English | 3.64 | 0.66 | **0.71** | 0.08* | - | | | | | | | | |
| | Combined | 3.64 | 0.66 | **0.71** | 0.08* | - | | | | | | | | |
| RP | Māori | 3.69 | 0.72 | **0.78** | **0.74** | 0.51* | - | | | | | | | |
| | English | 3.73 | 0.68 | **0.70** | **0.40** | 0.34 | - | | | | | | | |
| | Combined | 3.73 | 0.68 | 0.69 | **0.40** | 0.35 | - | | | | | | | |
| BP | Māori | 5.12 | 0.89 | **0.81** | 0.31* | 0.07* | 0.39* | - | | | | | | |
| | English | 5.11 | 0.92 | **0.71** | 0.20* | 0.15* | 0.36 | - | | | | | | |
| | Combined | 5.11 | 0.92 | **0.71** | 0.20* | 0.15* | 0.36 | - | | | | | | |
| BE | Māori | 14.54 | 3.12 | **0.78** | 0.22* | 0.48* | 0.30* | 0.26* | - | | | | | |
| | English | 14.74 | 2.74 | **0.71** | 0.07* | **0.41** | 0.10* | 0.20* | - | | | | | |
| | Combined | 14.74 | 2.74 | **0.71** | 0.07* | **0.41** | 0.09* | 0.20* | - | | | | | |
| MH | Māori | 12.60 | 2.34 | **0.80** | 0 | 0.36* | 0.18* | 0.29* | 0.17* | - | | | | |
| | English | 12.48 | 2.13 | **0.72** | 0.11* | 0.09* | 0.08* | 0.22* | 0.01* | - | | | | |
| | Combined | 12.48 | 2.13 | **0.72** | 0.11* | 0.09* | 0.08* | 0.22* | 0.19 | - | | | | |
| SE | Māori | 12.91 | 3.21 | **0.81** | 0.04* | 0.22* | 0.08* | 0.08* | 0.18* | 0.71 | - | | | |
| | English | 12.80 | 2.98 | **0.73** | 0.02* | 0.18* | 0.02* | 0.09* | 0.07* | 0.24* | - | | | |
| | Combined | 12.80 | 2.98 | **0.73** | 0.01* | 0.18* | 0.02* | 0.09* | 0.07* | 0.24* | - | | | |
| GH | Māori | 15.95 | 2.84 | **0.79** | 0.23* | .036* | 0.19* | 0.23* | 0.50* | 0.15* | 0.07* | - | | |
| | English | 15.36 | 3.35 | **0.71** | 0.24* | 0.16* | 0.28 | 0.14* | 0.18* | 0.01* | 0.02* | - | | |
| | Combined | 15.36 | 3.35 | **0.71** | 0.24* | 0.16* | 0.28 | 0.13* | 0.18* | 0.01* | 0.02* | - | | |
| PE | Māori | 7.90 | 2.73 | **0.79** | 0.08* | 0.21* | 0.24* | 0.01* | 0.40* | 0.14* | 0.38* | 0.43* | - | |
| | English | 8.16 | 2.10 | 0.69 | 0.24* | 0.11* | 0.24* | 0.32 | 0.27* | 0.33 | 0.09* | 0.37 | - | |
| | Combined | 8.16 | 2.09 | 0.68 | 0.24* | 0.11* | 0.25* | 0.32 | 0.27* | 0.33 | 0.09* | 0.37 | - | |
| PT | Māori | 7.06 | 1.91 | **0.79** | 0.28* | 0.27* | 0.19* | 0.05* | 0.33* | 0.21* | 0.21* | 0.47* | 0.67 | - |
| | English | 6.92 | 1.73 | **0.70** | 0.14* | 0.22* | 0.31 | 0.18* | 0.20* | 0.21* | 0.21* | 0.25* | 0.46 | - |
| | Combined | 6.92 | 1.73 | **0.70** | 0.14* | 0.22* | 0.31 | 0.18* | 0.20* | 0.21* | 0.21* | 0.24* | 0.46 | - |
| FA | Māori | 8.66 | 1.86 | **0.77** | 0.45* | 0.39* | 0.38* | 0.43* | 0.58* | 0.29* | 0.18* | 0.54* | 0.47* | **0.61** |
| | English | 8.60 | 1.89 | 0.69 | 0.20* | 0.24* | 0.24* | 0.27* | 0.21* | 0.13* | 0.25* | 0.27* | 0.32 | 0.35 |
| | Combined | 8.60 | 1.89 | 0.69 | 0.20* | 0.24* | 0.25* | 0.27* | 0.22* | 0.14* | 0.25* | 0.27* | 0.32 | 0.35 |

(*p>.0001, not considered statistically significant correlation, figures in **bold** are r<0.40, p<.0001) ICC using

Cronbach α