

Tūpuna Kori Tinana: An Ancestral Māori Approach to Physical Activity

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Taupua Waiora

Centre for Māori Health Research

Auckland University of Technology

Te Miri Jack Rangi

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Mihi

Takina atu rā te kawa tapu o lo-matua-nui

Ko te kawa ki te kore

Ko te kawa ki te pō ko te kawa ki te ao

Ko te kawa ki a Ranginui

Ko te kawa ki a Papatūānuku

Ko te kawa ki ngā atua

Ko te kawa ki a Hineahuone

Ko te kawa ki a Hinetītama

Ka puta whākī ko te ira tangata

Ki te wheiao, ki te ao mārama

E lo-matua-nui

Whakamāturuturutia mai

Te ahi kōmau, te ahi tahito,

Me ngā kete mātauranga o lo o Tāne

Hai oranga mō te wairua

Hinengaro, me te tinana

Haumi e, hui e, tāiki e!

Me mihi ka tika ki ngā tini mate o te wā. E kui mā, e koro mā, koutou kua riro ki Paerau, ki te Hao o rua, haere okioki atu rā. Whakahoki mai ai te whakaaro ki ngā mahuetanga o rātou mā, tātou te kanohi ora e takahi nei i te mata o te whenua, tēnā koutou katoa.

He uri tēnei ō ngā waka o Tainui me Te Arawa, me ngā tātai whakapapa o Tūwharetoa, Te Arawa, Raukawa me Maniapoto.

Ko Tongariro te maunga

Ko Taupō nui a Tia te moana

Ko te Heuheu te tangata

Ko Mokai, ko Waitetoko, ko Hia Kaitupeka ngā marae

Ko Ngāti Haa, ko Ngāti Wairangi, ko Ngāti Te Kohera, ko Ngāti Te Rangiita, ko Ngāti

Hari ngā hapū.

Tīhei mauri ora!

“E kore te ringa tangata e tineia te ahi o toku tupuna i runga i te whenua”

The hand of man will never extinguish my ancestors' flame from these lands

- Mananui te Heuheu

Abstract

*“Taku uaua ko te Rangi e tū nei,
Taku uaua ko Papa e takoto nei,
Whiri kaha, toro kaha te uaua”*

My sinew is like the sky above,

My sinew is like the earth below,

Let my sinews gather strength and exert strength.

(Best, 1925a, p. 27)

The purpose of this study was to explore the traditional beliefs and values of Māori (the Indigenous people of Aotearoa New Zealand) towards physical activity in order to provide insights into the mechanisms that motivate Māori to be physically active. This study also aimed to highlight the role of traditional Māori beliefs and values in addressing the increasing rates of physical inactivity among Māori. Physical inactivity is one of the leading modifiable risk factors of morbidity and mortality in Aotearoa New Zealand, yet physical activity initiatives often do not reflect the holistic worldview of Māori. Underpinned by kaupapa Māori theory, I develop and apply a whakapapa-based methodology to explore the traditional beliefs and values of Māori. Data collected through semi-structured interviews with key informants, and traditional data sources such as pūrākau (myths, ancient legends, stories) and whakataukāki (proverbs, significant sayings) are analysed to determine the fundamental beliefs and values of Māori towards physical activity. Four key themes of traditional Māori physical activity were identified in this study. The theme *He Māori te noho* identified the characteristics of traditional Māori society as a time when Māori defined beliefs, values and practices were dominant. *He Māori te āhua* was another theme which identified that a Māori paradigm and worldview meant that traditional physical activity was a part of a broader holistic system of wellbeing. The theme *He māori te taiao* describes the innate relationship Māori held with nature. Lastly, the theme *He Māori i tāmi* demonstrated the significant and ongoing impacts of colonisation on traditional Māori physical activity. In general, traditional Māori physical activity was characterised by; Māori having tino rangatiratanga (sovereignty, autonomy) and mana motuhake (authority, mana through self-determination) over their lives; an underpinning of mātauranga (Māori knowledge) and Māori values; and wairuatanga (spirituality) that connects the physical practice to a spiritual experience. The findings also demonstrate that a Māori definition of traditional Māori physical activity is dynamic and draws various meanings owing to mātauranga that recognises whakapapa (genealogy) to atua (ancestors with continuing influence, supernatural beings, gods). The mana (spiritual power), tapu (sacredness) and mauri (life principle) of atua informs the tikanga (customs) and cultural protocols essential for mediating the

appropriate standards of behaviour within physical activity. These include the communally agreed traditional Māori values of whanaungatanga (kinship relationships), manaakitanga (respect, hospitality), kaitiakitanga (guardianship), and rangatiratanga (chieftainship). In addition, recognising the socio-cultural context in which Māori live as a result of the experience and ongoing impacts of colonisation, applying kaupapa Māori principles to modern Māori physical activity initiatives further accepts Māori ways of being, responds to the colonial experience; and aims to emancipate Māori communities to be self-determining. Overall, this study strengthens the position that mātauranga and Māori cultural values remain important for informing modern approaches to Māori physical activity. The findings of this research will be of interest to; Māori whānau, hapū (kinship group), iwi (extended kinship group) and other Indigenous nations; health promoters; physical activity specialists; public sector departments and agencies, and; the general public in Aotearoa New Zealand.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

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Explanation of Māori Terms

Ako	The kaupapa Māori principle of growing respectful relationships
Atua	Ancestor with continuing influence, supernatural being, god, deity
Atuatanga	The physical representation of atua in nature resulting in environmentally based information
Haka	Posture dance
Hapū	Kinship group, clan, tribe, subtribe
Hineahuone	The first woman created by Tāne and Io at Kurawaka
Hinu Wero	Fat challenge
Hoe waka	Paddling a waka
Iwi	Extended kinship group, tribe, nation, people, nationality, race
Kāhu	Harrier hawk
Kaihaka	One who performs haka
Kaitiakitanga	Guardianship, stewardship
Kanohi ki te kanohi	Face to face, in person
Kapa haka	Concert party, haka group, Māori cultural group
Karakia	Incantation, ritual chant
Kaumātua	Elderly
Kaupapa	Topic, matter for discussion, subject
Kaupapa Māori	A theoretical approach to research grounded in a Māori worldview
Koha	Gift, present, offering, donation, contribution
Mahi toi	Māori arts and crafts
Mahinga kai	Production and harvesting of food
Mana	Prestige, authority, control, power, influence, status, spiritual power, charisma
Mana motuhake	Authority, mana through self-determination and control over one's own destiny
Manaakitanga	The process of showing respect, generosity and care for others
Māori	The Indigenous people of Aotearoa New Zealand
māori	Natural, normal
Marae	Ancestral meeting house and complex
Mātauranga	Māori knowledge
Mau taiaha	Māori weaponry and martial arts

Mauri	Life principle, life force, vital essence
Mihimihi	Speech of greeting
Mokopuna	Grandchildren, descendants
Oriori	Lullaby
Pākehā	New Zealanders of European descent
Pakiwaitara	Legend, story, narrative
Papatūānuku	Earth, Earth mother and wife of Ranginui
Pātaka mātauranga	A storehouse of knowledge
Pepeha	Tribal saying, tribal motto, proverb
Poi	A light ball on a string which is swung rhythmically to sung accompaniment
Pūrākau	Myth, ancient legend, story
Rangatiratanga	Chieftainship, right to exercise authority, chiefly autonomy, chiefly authority
Rākau whakapapa	Staff used as a mnemonic aid for remembering and reciting whakapapa
Ranginui	Atua of the sky and husband of Papatūānuku
Rō tāne	Stick insect
Rongomatāne	Atua of the kūmara and cultivated food and one of the offspring of Ranginui and Papatūānuku
Tamariki	Children
Tangata whenua	Local people, hosts, Indigenous people
Tangihanga	Funeral, ceremony of the dead
Tapu	Be sacred, prohibited, restricted, set apart
Taonga	Treasure, anything
Taonga pūoro	Musical instrument
Taonga tākaro	Traditional Māori games
Taonga tuku iho	The kaupapa Māori principle of cultural aspiration
Te Matatini	National kapa haka competition in Aotearoa New Zealand
Te reo Māori me ōna tikanga	The Māori language and customs
Te taha wairua	Spiritual health
Te taha hinengaro	Mental health
Te taha tinana	Physical health
Te taha whānau	Extended family health
Te Tiriti o Waitangi	The Māori text of the Treaty of Waitangi
Te Waka Huia	A well-known and accomplished kapa haka group from Tāmaki Makaurau Auckland

Te Whare Tapere	The house of storytelling, dance, music, puppets, games and other entertainments
Tika	To be correct, true, right, accurate, appropriate
Tikanga	Custom, lore, method, rule, code, protocol
Tino rangatiratanga	Self-determination, sovereignty, autonomy, self-government, domination, rule, control, power
Tipua	Goblin, foreigner, demon, object of fear
Tohunga	Skilled person, chosen expert, priest, healer
Tuakana-Tēina	The relationship between older and younger, or experienced and novice individuals
Tukutuku	Ornamental latticework
Waiata	Song
Wairuatanga	Spirituality
Waka	Canoe
Whai	Stingray
Whakapapa	Genealogy, lineage, descent
Whakatauaāki	Proverb, significant saying
Whānau	Extended family, family group
Whanaungatanga	The relationship and kinship connections between individuals
Wharenuī	Meeting house, large house - main building of a marae where guests are accommodated

Table of Abbreviations

BMI	Body Mass Index
COVID-19	Coronavirus Disease 2019
GP	General Practitioner
GRx	Green Prescription
HRC	Health Research Council of New Zealand
MOH	Ministry of Health
SPARC	Sport and Recreation New Zealand
WHO	World Health Organization

Chapter 1 – INTRODUCTION

1.1 Background

Prior to 1840, the society of Māori, the Indigenous people of Aotearoa New Zealand, could be characterised by cultural beliefs, values and practices underpinned by mātauranga (Māori knowledge). However, following the signing of Te Tiriti o Waitangi, the founding document of Aotearoa New Zealand, Māori would experience significant and violent harm as a direct result of the systematic oppression and colonisation of Māori beliefs, values and practices. Today in Aotearoa New Zealand, Māori continue to experience significant and inequitable health outcomes compared to Pākehā (New Zealanders of European descent). The life expectancy of Māori is impacted by mortality rates that are three times as high for chronic obstructive pulmonary disease; twice as high for cardiovascular disease and diabetes; and one and a half times as high for strokes and various cancers compared to non-Māori (Statistics New Zealand, 2015). Māori are more likely to experience a higher burden of depression, anxiety and psychological distress than non-Māori, contributing to significantly higher rates of suicide amongst Māori compared to all other ethnic groups in Aotearoa New Zealand (Russell, 2018). The cause of such poor health outcomes is multifaceted and complex with varying drivers and contributing factors that impact population health outcomes. Many of these factors are understood to be related to the unequal distribution of health determinants such as access to education, employment and income; exposure to poverty and inadequate housing; experiences of racism, discrimination, loss of language and cultural disconnection (Came-Friar, McCreanor, Manson, & Nuku, 2019; Ministry of Health, 2015b; Walsh & Grey, 2019). It is also recognised that as a result of the ongoing impacts of colonisation, Māori experience a difference in the distribution of such social, economic, environmental and political determinants of health compared to non-Māori directly impacting the inequitable health outcome experienced by Māori (Robson & Harris, 2007). Despite improvements for Māori across many markers of health such as life expectancy and rates of amenable mortality, compared to non-Māori stubborn inequities continue to persist (Ministry of Health, 2017). Given the extent to which the determinants of health drive outcomes for all populations, the current health outcome inequities between Māori and non-Māori must be considered in the context of the Māori experience of colonisation.

1.2 The State of Māori Health and Physical Activity

The poor health status experienced by Māori are not only impacted by the social, economic, environmental and political determinants of health, but are subjugated by disparities in modifiable risk factors (Ross & Hamlin, 2007). Māori are over two times more likely to be daily smokers (Ministry of Health, 2017), are more likely to engage in the hazardous consumption of alcohol (Bramley, Broad, Harris, Reid, & Jackson, 2003)

and thereby suffering greater harm (Connor, Kydd, Shield, & Rehm, 2015), and are almost three times more likely to be severely obese compared to non-Māori (Ministry of Health, 2015c). Physical inactivity, defined as less than 30 minutes of physical activity a week (Ministry of Health, 2015a), is another leading modifiable risk factor for morbidity and mortality (Ministry of Health, 2015a; Roberts & Barnard, 2005). Twelve and a half percent of adults in Aotearoa New Zealand were physically inactive in 2019/20, down from 14% in 2018/19, while Māori were significantly more likely to be inactive compared to non-Māori (Ministry of Health, 2020). It must be considered that the significant exposure to risk factors that Māori experience is a challenge for the Aotearoa New Zealand health system. It is argued in this thesis that positively influencing a modifiable risk factor such as physical inactivity could have great impact on various domains of Māori wellbeing; including the physical, mental, emotional, spiritual, and sense of identity and belonging for Māori.

While achieving health equity, particularly for Māori, is a priority for the current Government, this has not always been the case. During the late 19th century Māori were considered by early writers to be “dying out very rapidly” (Hiroa, 1924). Despite this early position held by settlers and Crown agents, political and societal changes through the early 1900’s led to considerable reform of the public health sector. This contributed to an increase in Māori control and participation in the health system (Durie, 1998). In an attempt to address the rising disproportion of negative health outcomes experienced by Māori, a growth in Māori leadership continued to voice how ineffective the health system was in securing positive health outcomes for Māori. Māori models of health soon emerged that were more effective at reflecting a Māori worldview, and as Tā Mason Durie described them, were views of health that “made sense to Māori, and [were] in Māori terms” (Durie, 1998). These Māori health models include Tā Durie’s Te Whare Tapa Whā (Durie, 1998), together with his models for Māori health promotion Te Pae Māhutonga (Durie, 2004) and his recent Matariki model (Durie, 2019); alongside Dr. Rangimarie Rose Pere’s Te Wheke model of Māori health (Pere & Nicholson, 1991). These Māori health models have given scholarly insight into the holistic worldview of Māori within the public health sector in Aotearoa New Zealand, encompassing Māori beliefs, values, and practices as critical components to improving and achieving equitable health outcomes for Māori. While there are an increasing number of studies that support and extend on the work Tā Durie, Dr. Pere and others have contributed to improving public health approaches for Māori, there remains scattered literature on the application of such Māori beliefs, values, and practices towards physical activity specifically.

It is well established that regular physical activity is considered an important element to a healthy lifestyle. Physical activity is widely defined as “any bodily movement produced by skeletal muscles that results in energy expenditure” (Caspersen, Powell, & Christenson, 1985). These are the movements that we consciously carry out in our day-to-day lives. They can be categorised into four distinct types which include physical activity for occupational, leisure, domestic, or for transport purposes (Florindo et al., 2009). For example, exercise, which is referred to as a structured and repetitive form of physical activity used for physical conditioning, is considered a form of leisure (Caspersen et al., 1985). The extent to which physical activity touches significant aspects of our day-to-day lives indicates the magnitude of its relevance to the understanding of individual and collective wellbeing.

A vast number of studies have long highlighted the benefits of physical activity to health outcomes (Pate et al., 1995; Reiner, Niermann, Jekauc, & Woll, 2013; Warburton, Nicol, & Bredin, 2006). Physical activity is considered important across all ages, enabling healthy growth and development in the young; benefitting physical, mental and social health in adulthood; while supporting healthy ageing (World Health Organization, 2018). The holistic benefits of physical activity to individual and collective wellbeing outcomes are consistent with Māori models of health, reinforcing physical activity as suitably relevant for Māori. The benefits of physical activity to health reinforces the rationale for public health strategies that promote increases in daily physical activity. These strategies often have a broad focus targeting aspects across a socio-ecological model from individuals, to familial, communal, societal, institutional and environmental levers to positively encourage increases in physical activity rates (World Health Organization, 2018). In Aotearoa New Zealand the Ministry of Health (MOH), together with Sport New Zealand (Sport NZ), are the Government’s public service and crown agent entities largely responsible for leading the Aotearoa New Zealand’s approach to increasing population-wide rates of physical activity. Despite the strategies employed by MOH and Sport NZ, disparities between Māori and non-Māori rates of physical inactivity persist. It is positioned in this thesis that a review of these strategies demonstrates a lack of recognition of Māori as tangata whenua, and the consequential rights under Te Tiriti o Waitangi to express and participate in physical activity in a way that is underpinned by Māori beliefs, values, and practices. This is deemed a critical need in order to address inequitable rates of physical inactivity, and thereby protect the health and wellbeing of Māori.

To address the lack of Māori perspectives on addressing physical inactivity for Māori, an evolving evidence base continues to seek to establish the significance of Māori beliefs, values, and practices for the promotion, prescription, and use of physical activity for

Māori. Early 19th century writings on Māori approaches to physical activity observed the cultural traditions associated with performing arts like haka (posture dance) (Kāretu, 1993; McLean, 2013), training in the art of war (Best, 1902; Reedy, 1996), traditional games (Best, 1925a; Brown, 2016), and other activities such as tending to community gardens (Best, 1925b), and the use of waka (canoes) for transportation (Best, 1925c). However, these largely Eurocentric ethnographic and anthropological writings have been heavily criticised as a colonial device used to “define, destroy and deter” (Lee, 2009) the value of Indigenous knowledge, philosophies, and practices (Battiste, 2000; Annabel Mikaere, 2003; L. T. Smith, 1999). Thus, applying much weight and consideration to these early writings must be taken in the context of their epistemological and imperial underpinnings. Meanwhile, a shift in more recent studies attempts to identify and re-establish the significance of Māori beliefs, values, and practices for Māori in regard to physical activity. The concept of whanaungatanga, defined broadly as one’s relationships and kinship connections (H.M. Mead & Mead, 2003), has been shown to be intrinsic to the motivation of Māori to participate in physical activity (Forrest et al., 2016; Warbrick, Wilson, & Boulton, 2016). Similarly, additional studies have identified the significance of a range of Māori beliefs, values, and practices on physical activity participation including aspects of mātauranga (Henwood, 2007); tino rangatiratanga (self-determination) and whakapapa (genealogy, lineage, descent) (McKegg, Wehipeihana, Pipi, & Thompson, 2013); manaakitanga (respect, care, hospitality, kindness) (Karaka, 2015; Waiti, 2007); and the principle of tuakana-teina (reciprocal relationships) (D. Heke, 2017) to name a few. Together, these studies begin to identify the importance of Māori beliefs, values, and practices for the promotion, prescription, and use of physical activity for Māori.

1.3 Research Question

In review of the available literature on the topic, Māori beliefs, values, and practices begin to emerge as central to the way Māori think about and participate in physical activity. Fundamentally, these Māori beliefs, values, and practices are inextricably linked not only to physical activity, but throughout all aspects of Māori life. Importantly for this thesis, the fundamental Māori beliefs, values, and practices specific to physical activity are still emerging. Many studies of Māori physical activity recognise a broad range of concepts that leverage off of established models of Māori health to guide the current approach to physical activity for Māori. The aim of this research was to explore the traditional beliefs and values of Māori towards physical activity, in order to determine the fundamental Māori principles that underpin it. In this way, this study contributes to our understanding of how Māori define physical activity through a traditional Māori worldview.

1.4 Research Objectives

Primarily this thesis investigates how Māori defined physical activity in a pre-European era through exploring the following questions:

1. What is traditional Māori physical activity?
2. In what ways did traditional Māori knowledge inform Māori beliefs of physical activity?
3. In what ways did traditional Māori values underpin Māori physical activity?
4. How does traditional Māori knowledge and values shape Māori physical activity today?

1.5 Thesis Structure

Given that this study explores the traditional Māori beliefs of physical activity, this research is theoretically positioned within a kaupapa Māori paradigm that epistemologically accepts the validity of Māori language, culture, knowledge and values as meaningful (G. H. Smith, 1990). The research process was guided by the ethical framework for Māori health research, He Ara Tika, that also ensures the behaviours, processes and methodologies used are aligned to Māori beliefs, values, and practices (Hudson, Milne, Reynolds, Russell, & Smith, 2010). These were important for recognising the potential for this research to contribute to tino rangatiratanga and the emancipatory power of this approach to actualise the aspirations of Māori.

Recognising the key principles of kaupapa Māori theory in research, I develop and apply a unique Indigenous methodology framed by the Māori principle of whakapapa. Whakapapa is defined by Barlow and Wineti (2009) as the “genealogical descent of all living things from the gods to the present time” (p. 173). It presents the basis from which knowledge is understood and organised, in regard to the creation and development of all things within a Māori worldview. Thus, this study explored whakapapa as a philosophical foundation of a traditional Māori worldview so as to understand the traditional beliefs and values held by Māori about physical activity. Through this lens I have examined Māori sources of knowledge that include pūrākau, waiata (songs), whakatauākī and other culturally derived data sources to form an understanding of the traditional Māori beliefs, values, and practices of Māori towards physical activity. This knowledge was further explored and validated through a series of kanohi ki te kanohi (face to face) semi-structured interviews with kaumātua (elders), tohunga (skilled persons) and other key informants or Māori experts who carry specialist skills, experience, knowledge of mātauranga, and associated mana (status, authority, spiritual power) relating to Māori physical activity.

A thematic analysis of the knowledge and insights gathered was conducted and interpreted in line with the principles of kaupapa Māori theory. This allowed more meaningful theories of the beliefs held by Māori about physical activity to emerge. Additionally, the analysis was cognisant of the impact that unique hapū (kinship group) and iwi (extended kinship group) perspectives have on the emergence of themes across the data collected. The research findings presented in this research represent the views and aspirations of the participants and of Māori collectively. They serve to contribute to the growing body of literature that recognises Māori knowledge and values as important for Māori participation in physical activity.

1.6 Chapter Summary

This research identifies and seeks to give scholarly insight into the fundamental Māori cultural beliefs, values, and practices that underpin Māori views of physical activity. By doing so, this study 1) provides insights into the mechanisms that motivate Māori to be physically active and 2) highlights the role of traditional Māori beliefs and values in addressing the increasing rates of physical inactivity among Māori.

Chapter 2 – LITERATURE REVIEW

2.1 Chapter Introduction

Māori beliefs, values and practices underpin a Māori worldview and are central to the way Māori think about and participate in physical activity. As a result, there is significant value in understanding the way in which Māori cultural beliefs, values and practices inform physical activity for Māori. The worldview that underpins the way in which Māori understand and thereby participate in physical activity differs from the established biomedical and reductionist view dominant in Aotearoa New Zealand society. The implications of this intellectual imperialism continue to subjugate a Māori worldview, its knowledge and cultural practices, contributing to the detrimental impacts experienced by Māori regarding the promotion, prescription and use of physical activity in Aotearoa New Zealand.

The central aim of this research was to explore the traditional beliefs and values of Māori towards physical activity, in order to determine the fundamental Māori principles that underpin it. What follows is a review of relevant literature on the topic of this thesis. Firstly, I review the scientific approach to understanding physical activity, discussing the perspective that unpins this definition, and the subsequent connection to health and public health approaches. Secondly, I turn to investigate a Māori worldview of understanding physical activity, examining the perspective that informs this definition, and reviewing how this relates to the understanding of Māori health and approaches to physical activity. I then examine and summarise the two approaches noting similarities and differences, illustrating the interaction between the two perspectives over time. By locating the development of physical activity in Aotearoa New Zealand, I identify limitations and gaps in existing studies to position the purpose of this research.

2.2 A Western Worldview and Approach

The paradigm and methodology that has shaped the scientific method of inquiry has contributed significantly to the understanding of the world's phenomena. The Western scientific methodology is described as the process of forming knowledge through the observation, experimentation and the construction of theories (Harris & Mercier, 2006). The scientific fields of biology and physiology traditionally follow a reductionist view that aims to understand and explain behaviour by breaking them down to specific scientific units or concepts (Andersen, 2001). In health, this perspective seeks to understand the workings of the human body and its systems, by grasping the mechanisms of cells, molecules, and atoms, right down to the smallest elementary particles. Illness and disease are in this way explained by understanding the associated cellular pathogenesis and focussing any treatments to achieve homeostasis accordingly (Warbrick et al.,

2016). Similarly, physical activity through this reductionist view, has lent itself to the field of exercise physiology that seeks to investigate how physical activity interacts with systems and processes within the body. Within this paradigm and methodology, physical activity is broadly defined as any bodily movement produced by skeletal muscle that results in energy expenditure (Caspersen et al., 1985; World Health Organization, 2010).

The categorisation of physical activity has developed from the micro and cellular scope to also view macro-level social and environmental relationships that characterise physical activity. The WHO (2010) classify physical activity into four distinct categories that include physical movements for leisure, work, active transportation, and domestic purposes. For example, exercise, which is referred to as a structured and repetitive form of physical activity used for physical conditioning, is considered a form of leisure (Caspersen et al., 1985). The extent to which individuals are active across different categories varies, with evidence suggesting that patterns of socioeconomic position, gender, and class play significant roles (Beenackers et al., 2012; Florindo et al., 2009). These findings demonstrate how the scientific method of inquiry has shaped our view of the world, and in particular, the reductionist approach to understanding health and physical activity. The degree to which physical activity is located across various aspects of day-to-day life, indicates the potential for physical activity to contribute to our understanding of individual and collective wellbeing for Aotearoa New Zealand. Equally, this understanding drives the rationale for the promotion, prescription and use of physical activity for Māori and non-Māori across Aotearoa New Zealand.

The benefits of physical activity to health reinforces the rationale for public health strategies across the world to promote increases in daily physical activity. These strategies often have a broad focus influencing individual, societal, environmental and systemic levers to positively encourage increases in population wide physical activity rates (World Health Organization, 2018). In Aotearoa New Zealand, Government policy and initiatives aimed at improving health issues and encourage social cohesion through physical activity, date as far back as the 1937 Physical Welfare and Recreation Act. In 2015, the latest physical activity recommendations were published alongside key nutritional advice through the Ministry of Health's Eating and Activity Guidelines for New Zealand Adults (Ministry of Health, 2015a). The physical activity guidelines for Aotearoa New Zealand adults were developed from international examples out of Canada, United Kingdom, United States of America and Australia together with the latest evidence to guide population health outcomes. They recognise a number of key factors that can influence physical activity, described by the 'five dimensions of physical activity' which include the; *type* of fitness that is targeted (e.g. aerobic capacity, anaerobic power, muscular strength etc.); *duration* of time an activity is undertaken (e.g. 30 minutes);

frequency an activity is performed (e.g. three times a week); *intensity* an individual is required to perform an activity (e.g. moderate or vigorous); and the *context* in which an activity is performed (e.g. leisure, work, active transportation, or domestic purposes) (Ministry of Health, 2015a).

The five “Activity Statements” in the current guidelines for Aotearoa New Zealand adults recommend the following (Ministry of Health, 2015a):

1. Sit less, move more! Break up long periods of sitting.
2. Do at least 2½ hours of moderate or 1¼ hours of vigorous physical activity spread throughout the week.
3. For extra health benefits, aim for 5 hours of moderate or 2½ hours of vigorous physical activity spread throughout the week.
4. Do muscle strengthening activities on at least two days each week.
5. Doing some physical activity is better than doing none.

Physical activity guidelines of this type have been criticised for their prescriptive nature making engagement with the guidelines difficult (de Souto Barreto, 2015). The tension here emerges between the rigid parameters associated with the physiological mechanism of action derived from the methodological underpinnings of the evidence, and the ability for the general public to comprehend and thereby engage in the recommendations meaningfully. Furthermore, cultural differences in the interpretation of physical activity guidelines can further deter and add unnecessary barriers for specific groups (O'Brien, Shultz, Firestone, George, & Kruger, 2019).

In order to address these challenges, as an alternative approach to informing the general public of the guidelines, a nationwide propaganda and media campaign has been utilised to raise awareness and encourage people to think about becoming more physically active. The “Push Play” brand has been a successful approach in transforming physical activity recommendations into an agenda for community change, by raising awareness of physical activity in an easily understood format in Aotearoa New Zealand (Bauman et al., 2003). Beyond public health messaging through activity statements and nationwide mass media campaigns, a clinical and primary care approach has also proven useful. A goal-oriented exercise prescription from a general practitioner (GP) known as the Green Prescription (GRx) has been an additional tool for motivating patients to increase physical activity (Swinburn, Walter, Arroll, Tilyard, & Russell, 1998). Despite evidence to suggest that GRx is an effective strategy for increasing physical activity in patients, Māori

participation in the programme is low and is attributed to differential service delivery and lack of cultural relevance (M. Williams, 2014).

Notwithstanding the varying approaches employed to improve physical activity rates among children and adults in Aotearoa New Zealand, be it formal activity recommendations, public awareness campaigns or primary care approaches, challenges persist in transmitting the scientific evidence in a meaningful manner to the general public, and in particular to culturally diverse groups. The activity statements respond to issues that citizens face in regard to physical inactivity (i.e. sitting for long periods), whilst highlighting the benefits to health attributed to moderate and vigorous physical activity, and strength training. However, communicating the recommendations in meaningful and appropriate ways appear to challenge this public health approach, while similar challenges appear to persist in primary care settings, particularly for Māori. Given that the evidence base from which public health approaches to physical activity are often made, it is unsurprising that they are not only consistent with recommendations made by other countries, but the varying forms of delivery are met with similar challenges. Whether they are national guidelines, public awareness campaigns, or primary care strategies, the prescriptive nature and differences in cultural interpretations impact their effectiveness for Indigenous populations like Māori of Aotearoa New Zealand. These findings have led to a deeper understanding of the rationale and approach for recommendations to engage in increased levels of physical activity from a Western biomedical perspective, acknowledging the potential for it to positively impact public health outcomes, and the inherent challenges of doing so for Māori.

2.3 A Māori Worldview and Approach

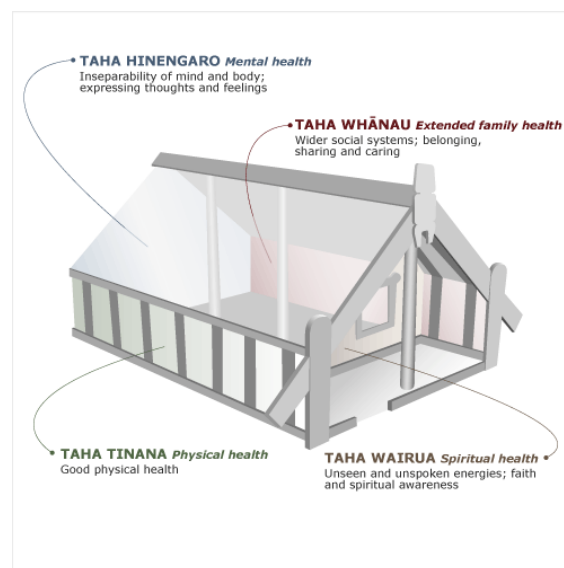
The traditional Māori worldview developed over thousands of years as a holistic and relational system, with a rich knowledge base for understanding the universe. The body of knowledge originating from early Polynesian ancestors, including Māori worldviews and perspectives is known as *mātauranga* (Moorfield, 2011). *Mātauranga* has been defined as “the knowledge, comprehension or understanding of everything visible and invisible existing in the universe” (D. Williams, 2001). *Mātauranga* acknowledges the connections within and between all things and seeks to understand the natural order of the universe (Harmsworth & Awatere, 2013). These connections are retraced through a genealogical sequence known as *whakapapa* that links all things together back to its origin, to the beginning of time and space (Henare, 2001). *Whakapapa* is the organising system by which *mātauranga* and its various theoretical and practical Māori concepts are arranged and thereby understood. This, as Henare (2001) describes, is why “Māori do not see themselves as separate from nature” (p. 202) but rather as a descendent of Papatūānuku (Earth, Earth mother) and Ranginui (Sky, Sky father). The Māori worldview

and its knowledge systems are the foundation to understanding Māori behaviour, thus are critical to understanding Māori concepts of health and physical activity.

Māori concepts of health are underpinned by mātauranga and have led to the development of a number of Māori health models. This includes Tā Durie's Te Whare Tapa Whā model (Durie, 1998), Dr. Pere's Te Wheke model (Pere & Nicholson, 1991), and also the Atua Matua Health Framework by Dr. Ihirangi Heke (I. Heke, 2014) among others. These Māori health models highlight the holistic worldview that Māori have towards health and wellbeing, incorporating cultural beliefs, values and practices as key components. Te Whare Tapa Whā is one such Māori health model that is widely acknowledged. It was developed in an aim to help define the health needs of Māori in response to a mainstream health system that was, and continues to this day, failing Māori (Rochford, 2004).

Figure 1

Te Whare Tapa Whā Model



(Durie, 1998)

The model by Tā Durie depicts the image of a whare (meeting house) consisting of four critical and interdependent components (see Figure 1). These components include the 'taha wairua' (spiritual health), 'taha hinengaro' (mental health), 'taha tinana' (physical health) and 'taha whānau' (extended family health) (Durie, 1998). These four interdependent components work synergistically to contribute to the metaphoric strength of the whare, and thus of the wellbeing of the individual. The strength of this model is in its ability to simplify the holistic and all-encompassing view of Māori health, and this has added to its prolific use. A common characteristic of Te Whare Tapa Whā and alternative Māori health models and frameworks is the holistic and relational perspective

founded on Māori epistemology. This perspective importantly recognises and accepts not only the tangible, but also the intangible elements inherent in a Māori worldview. For example, wairuatanga, or the spiritual element of life is a concept that is interwoven throughout Māori cultural practices and beliefs.

Physical activity is also underpinned by a mātauranga informed perspective understood to be derived from a genealogy or whakapapa connection to the cosmos. The whakapapa and origin of physical activity can be described through traditional sources of data such as pūrākau. Pūrākau are defined as myths or ancient legends (Moorfield, 2011). They shape a traditional form of Māori narrative that “contains philosophical thought, epistemological constructs, cultural codes, and worldviews that are fundamental to our identity as Māori” (Lee, 2009). For example, Hemi Tai Tin, a senior member of Te Whare Tū Tauā o Aotearoa the Inter-National School of Māori Weaponry, describes his understanding of the origin of a form of Māori physical activity as mau taiaha (Māori weaponry and martial arts) and the art of war through pūrākau of the Māori creation narratives (Tin, 2014). Similarly, other forms of physical activity connected to varying aspects of traditional Māori society also draw purpose and origin within mātauranga Māori. This includes; the origin of traditional Māori games as understood through Te Whare Tapere (the house of storytelling, dance, music, puppets, games and other entertainments) and the legends of ancestors Tinirau and Kae (Royal, 1998); or the origin of agricultural practices through narratives of Rongomātāne, a descendant of the primordial parents Ranginui and Papatūānuku (Best, 1925b). A further exploration of mātauranga as it pertains to the various forms of Māori physical activity will help identify and articulate its consistent and central values and beliefs. These studies have begun to provide insight into a Māori worldview underpinned by mātauranga and whakapapa, and in particular, the holistic, relational and interdependent approach to understanding the world’s phenomena. It is positioned within this mātauranga informed paradigm that pūrākau and such sources of Māori knowledge, demonstrate the metaphoric and philosophical origins and meanings of Māori health and physical activity. Physical activity must therefore be considered neither new or foreign to Māori but imbedded in the inherent traditions and customs of Māori. Moreover, this understanding must frame the promotion, prescription, and use of physical activity in Aotearoa New Zealand in order to achieve equitable outcomes for Māori.

Recent studies have investigated modern approaches to Māori physical activity interventions, investigating to varying degrees what part mātauranga and Māori culture play in the promotion, prescription and use of physical activity for Māori. Although an identified model for delivery is often not described in great detail across studies, it is clear

that Māori models of health, and the philosophies that underpin them, are very relevant and useful.

A qualitative study involving 18 sedentary and overweight Māori men aged 28 to 72 years aimed to investigate the preferences, attitudes, and perspectives of Indigenous and minority men (specifically Māori) towards physical activity (Warbrick et al., 2016). Participants took part in a 12-week culturally enhanced exercise programme that reflected a holistic Māori worldview, whereby a collective whānau approach highlighted the importance of relationships. Key motivators for engaging in physical activity in this study included cultural principles of whanaungatanga and manaakitanga. Whanaungatanga reflects the kinship ties and mutual relationships between all individuals involved. In this case it identified this principle through family obligations, the 'broship', and a sense of comradeship. Manaakitanga involves uplifting the mana of others and therefore involves much more than reciprocal transactions. These principles mirror the components identified in Māori health models and highlight their relevance and importance in the context of physical activity interventions for Māori men.

Similarly, whanaungatanga was also a key principle identified to motivate and enable both individual and collective participation in a physical activity intervention for Māori studied by Forrest et al. (2016). In this study, the authors evaluated the effectiveness of a 9-week social enterprise initiative established by PATU™ Aotearoa known as the Hinu Wero or fat challenge. The Hinu Wero was underpinned by te reo Māori me ōna tikanga (the Māori language and customs) and used high intensity intermittent training in a group setting along with healthy lifestyle education to combat physical inactivity. The initiative was community focussed targeting local tamariki (children), overweight boys and girls, mothers, kaumātua, along with specific populations based on marae (ancestral meeting house and complex), prisons, and workplaces. The study identified that the practice of whanaungatanga led to stronger relationships between participants, their trainers, and their wider whānau, which provided a platform for encouragement, support, and accountability. This platform contributed to measurable outcomes in fat loss, weight loss, reduced Body Mass Index (BMI), while strengthening whānau and social relationships (Forrest et al., 2016). While the principle of whanaungatanga is highlighted as a major contributor to the success of this initiative, details of the specific tikanga (custom) or practices that were implemented are not fully described. This study supports the findings by Warbrick et al. (2016) towards the importance of cultural principles in physical activity participation not only by Māori men, but across the wider community.

Furthermore, unpublished master's theses by Dr. Jordan Waiti and Darcy Karaka add further investigation to this area of study. Dr. Waiti investigates the function of Māori

concepts to promote Māori physical activity as a motivational strategy (Waiti, 2007), while Karaka explored the potential benefit of applying a kaupapa Māori approach to the fitness gym (Karaka, 2015). Both theses present cultural concepts as integral to the participation of Māori in physical activity, and similarly, they identified barriers that result from differences between Eurocentric ideologies and holistic Indigenous worldviews.

At a national level, another relevant approach continues to be led by the Government's Crown agency responsible for increasing participation in sport and recreation, Sport New Zealand. He Oranga Poutama (HOP) is an initiative targeting Māori leadership and participation in sport and recreation at community level. The key strategic outcomes for this initiative are; (a) kaiwhakahaere (coordinators) participating as leaders in their community; (b) increased opportunities for whānau to explore, learn and participate as Māori in sport and traditional physical recreation; and (c) the revitalisation and development of sport and traditional physical recreation (McKegg et al., 2013). Integral to the success of HOP is the development of an evaluative framework that articulates Māori concepts and principles to define Māori participation in sport and recreation called Te Whetū Rēhua (see Appendix 1). Briefly, Te Whetū Rēhua identifies five domains to define "as Māori" participation in sport and recreation, these are (McKegg et al., 2013):

1. With – the extent to which te reo and tikanga are utilised.
2. By – the degree to which activities are governed, managed and delivered by Māori.
3. For – who is participating in activities.
4. Through – what form of activity.
5. In/on – the significance of the venue or location.

Together, these five domains highlight the critical components believed necessary for the construction of meaningful interventions in sport and recreation for Māori. They are reflective of fundamental kaupapa Māori principles, expressed through sport and recreation. For example, the importance of te reo me ōna tikanga (the Māori language and customs) reflects the principle of taonga tuku iho (cultural aspirations) and ako Māori (Māori pedagogy) by valuing the right to express cultural aspirations, practices, and knowledge enabling the learning and transmission of mātauranga. Additionally, the focus on Māori specific physical activities contributes to the revitalisation of Māori activities, games and pastimes. Furthermore, tino rangatiratanga and the right to be self-determining is highlighted by the degree to which activities are governed, managed and delivered by Māori, ensuring decision making authority rests with Māori. This is not an exhaustive demonstration of the connections between Te Whetū Rēhua and kaupapa

Māori principles, however, the essence of physical activity to reflect Māori worldviews and aspirations emerge as central to this approach.

Despite the emerging evidence contributing to the understanding of the significance of a Māori worldview underpinned by mātauranga, there persists an uncertainty of the specific principles and driving beliefs and values for Māori physical activity. Modern approaches are encompassing Māori health models to guide holistic and relational approaches to improving physical activity participation by Māori. They do so by incorporating Māori values such as whanaungatanga and manaakitanga, whilst other approaches position physical activity as a process for developing rangatiratanga, increasing awareness of Māori knowledge and thus identity. The synergy between the national approach and kaupapa Māori principles highlights the power of Māori physical activity to contribute to outcomes greater than individual or population wide health outcomes. Māori physical activity aligns strongly with Māori development principles that contribute to the realisation of Māori aspirations. A major contribution of these studies has been to increase our understanding of the significance of mātauranga for comprehending the Māori worldview of physical activity. Māori beliefs, values and practices are central for the promotion, prescription, and use of physical activity for Māori in Aotearoa New Zealand.

2.4 The Interface of Western and Māori Worldviews

The Western biomedical and Māori worldview of physical activity have both similarities and differences. Both perspectives acknowledge the relationships that exist between phenomena. The reductionist perspective values the impact of understanding the workings of each element of a system, as a means to locate dysfunction, and thereby target interventions. Similarly, the Māori worldview positions elements of a system within a whakapapa that identifies genealogical relationships between elements. In this way, the potential for relational qualities of elements is better understood. Conversely, a limitation of the Western biomedical approach is that it has been argued that it is biased towards the tangible and otherwise physical dimension (D. Heke, 2017). The Western approach is less concerned with other elements described in Māori models of Māori health, particularly te taha wairua or the spiritual and intangible dimensions (Durie, 1998). Because of this difference, a Māori perspective that encapsulates holism challenges the reductionist approach that devalues the immeasurable spiritual elements.

The Western scientific methodology continues to underpin an evidence-base that validates physical activity guidelines, public awareness campaigns, and primary care strategies in Aotearoa New Zealand. A limitation of this intellectual superiority is that Māori cultural perspectives and values in physical activity are deemed insignificant.

Where culture is recognised as a significant component to improving Māori health outcomes (Henwood, 2007), the devaluing of mātauranga and Māori perspectives in physical activity limits the rights of Māori to participate in the world as Māori, a right guaranteed through tino rangatiratanga under Te Tiriti o Waitangi, the Treaty of Waitangi.

The interaction between Western and Māori perspectives of physical activity is best demonstrated and discussed further through an analysis of the development of physical activity initiatives in Aotearoa New Zealand over time. The events that led to the current approach demonstrates the ongoing impacts of colonisation on Māori perspectives of physical activity and participation and sets the platform for understanding the interaction between the two differing perspectives on physical activity.

2.4.1 A Brief History of Physical Activity in Aotearoa New Zealand

The history of physical activity for Māori spreads the breadth of the human existence in Aotearoa New Zealand, and by a Māori definition, began at the very creation of the universe. Māori as tangata whenua to Aotearoa New Zealand have long acknowledged and considered physical activity as an important aspect to overall health. As Tā Durie proclaimed, physical activity is integral to the holistic wellness of Māori (Durie, 1985). Previously discussed is the Māori belief that physical activity in traditional Māori society was underpinned by mātauranga and derived from a whakapapa connection to the creation of the universe. These pre-European traditions and customs of Māori present an example of a way of life and being that contributed to positive health and wellbeing outcomes for Māori.

At the arrival of European explorers to Aotearoa New Zealand during the 17th and 18th century, Māori were considered largely horticultural farmers who foraged, hunted and fished for food (Ross & Hamlin, 2007). The observations of early Pākehā explorers provides further evidence of an active traditional Māori society. The works of the likes of Dutch seafarer Abel Tasman, British invader Captain James Cook, botanist Joseph Banks and others describe the active, well-built, vivacious and vigorous appearance of the Māori (Ballantyne, 2015; Cook, 1842; Orange, 2015). Over the ensuing settlement period, these subjective healthy descriptions of Māori, which arguably were the dominant narrative of the time period, dwindle to eventually reflect the antithesis of such descriptions. As will be demonstrated, a systematic colonial regime violently disrupts the traditional Māori way of life, disturbing access to mātauranga informing Māori beliefs and customs, impacting physical activity practice and subsequent participation by Māori.

In the early 19th century, with an increase in the number of European settlers to Aotearoa New Zealand, and the introduction of foreign diseases and the ensuing land wars, the

population of Māori diminished considerably to a minority level. The increasing settlement accompanied a significant rise in colonial cultural supremacy over traditional Māori society inherited from a European origin. This included the establishment of a Eurocentric education system, in the shape of missionary schools that sought to embed the Christian doctrine together with Western worldviews and convert the Māori out of their barbaric state into more civilised beings (Ka'ai-Mahuta, 2011). This system of education contributed to the active suppression of Māori cultural practices, not the least including the silencing of te reo Māori, and the censorship of Māori games and physical activities.

An increasing European settler presence soon leads to the signing of Te Tiriti o Waitangi, the Treaty of Waitangi, on 6 February 1840, between Māori and the British Crown (Orange, 2015). For the British settlers, Te Tiriti o Waitangi would constitute the just rationale for the controlled settlement of Aotearoa New Zealand and the formalisation of peaceful relationships. However, for Māori, the societal position of power and authority begins to shift to the establishing colonial government who favour monocultural laws and policies to benefit the Western and colonial agenda and prove detrimental to traditional Māori society. These include policies and laws to secure the purchase of extensive land for settlement, and further attempts to assimilate Māori as civilised countrymen (Sorrenson, 2014). Among the political turmoil, Māori were also exposed to European physical activities and sports culture which had firmly embedded itself across the forming nation. Sports such as cricket, curling, shooting, rugby, golf and even competitions related to pioneering life such as ploughing, wood chopping, mustering and sheep shearing were common (Robin McConnell, 2001). Māori were quick and eager to adopt the European sports and activities, exemplified by the New Zealand Natives rugby team of 1888-89 consisting largely of Māori players, who toured Aotearoa New Zealand, Australia, and were the first Aotearoa New Zealand sports team to tour the British Isles. This is a team that became the precursor to what would later be known worldwide as the All Blacks (Ryan, 1993).

However, despite the eagerness of Māori to participate in such sports and activities, Hokowhitu (2004) discusses its colonial positioning as a tool to subjugate Māori, particularly Māori men, by limiting Māori to the physical pursuits. This discourse of Māori masculinity sought to reinforce a position that Māori were inherently staunch, physical, and violent and “something to be conquered and civilised” (Hokowhitu, 2004, p. 259) by settlers. Thus, despite the potential for sport to reinforce nationhood and excite pioneers and Māori alike from the monotony of daily settler life, European constructs of sport and physical activity further suppressed Māori knowledge, beliefs and practices. The ensuing systematic suppression of Māori worldviews through a Eurocentric education system,

the assumed political authority of British subjects via the Treaty of Waitangi, and proliferation of European sports and physical activities would lead to significant detrimental impacts on Māori physical activity. Dismantling the voice of Māori interrupts the transmission of mātauranga through generations, leading to a lack of awareness and a weakening of access to mātauranga. Western worldviews are thus elevated in its place. Meanwhile the loss of political power and authority compounds the loss of mātauranga, te reo Māori, and cultural practices, devaluing and marginalising the legitimacy of a Māori worldview. It is argued here that the experience of colonisation by Māori has been violent, and has negatively impacted on the understanding, knowledge, and underpinning values of many aspects of Māori society, not the least including Māori physical activity.

By the 20th century, the great majority of Māori continued to live in rural tribal communities. Following the First and Second World War's and the Great Depression of the 1930's, Māori were forced away from the communal marae to an increasingly urban setting, while national interests in physical activity continue to strengthen and develop. Owing to a slowing rural economy and the overpopulation of land resources (Rarere, 2012), increased urbanisation disconnected Māori from participating in traditional tribal life like tangihanga, the ceremonies of the dead (Hirini Moko Mead, 2016). The disconnection to tribal activities and ancestral sites of significance contributed to weakened iwi and hapū identities, restricted access and awareness of mātauranga, and subsequent loss of traditional Māori practices. As can be expected, Māori physical activity knowledge and participation continued to be undervalued by many Māori as dominant Pākehā worldviews and social norms took hold.

The marae begins to emerge as the single bastion for the maintenance of traditional cultural practices including Māori physical activities. The marae also shaped the way in which Māori would gather to discuss Māori issues and participate in the world as Māori. During communal events, marae-based sports and activity such as haka, poi (a light ball on a string which is swung or twirled rhythmically to sung accompaniment), action songs, along with European sports such as hockey, netball or tennis became popular contests within and between hapū and iwi (Physical Activity Taskforce, 1998). Within a marae setting, introduced sports were adapted to include Māori cultural aspects such as the use of te reo Māori, or the adaptation of sporting codes and rules to the preferences of hapū and iwi tikanga. These are the first recorded instances of hybridised Māori physical activities that originate from European and Western worldviews.

With increasing urbanisation, perceived social issues and antisocial behaviour, political interests in the role of sport and physical activity to contribute to Aotearoa New Zealand society also develops. Various central government Acts and policies support the

establishment of national organisations, sporting facilities, parks and reserves in the hope to influence social cohesion and improve physical activity rates across the country (Robin McConnell, 2001). The political recognition of sport and physical activity as central to the identity of Aotearoa New Zealand emerges. However, given the lack of Māori political representation, Māori views and opinions are excluded from the political sporting agenda.

During this period of the 20th century and the establishing colonial presence, Aotearoa New Zealand experienced further change as Māori and Western worldviews and practices interact. It would be argued that Aotearoa New Zealand was unofficially monocultural given the government policies favouring Western ideologies. During this time a national sporting and physical activity agenda develops void of Māori leadership or perspectives. However, the marae setting greatly influenced the maintenance and revitalisation of Māori identities in the post-World War era, both in rural and urban settings, whilst shaping the participation of Māori in physical activities. The inclusion of introduced sporting activities on the marae demonstrates both the pervasive nature of European sport on Māori society, an outcome contributed to by a lack of Māori political representation and leadership, and the societal practices of the time. Whilst the strength of the marae to maintain Māori practices and mātauranga contributes to the development of Māori sporting codes in areas of high Māori residency.

By the end of the 20th century Māori participation and influence at a political level increases, this signals the beginning of an influential shift in Māori social and economic outcomes regarded as the 'Māori renaissance'. The formation of Ngā Tama Toa and other Māori political parties and groups advocate for the voice of Māori at a political level, while high-profile marches and the occupation of ancestral lands raise awareness of the failings of the Crown to meet the terms of Te Tiriti o Waitangi. This contributes to landmark events such as the Māori Language Act 1987, and the Māori Development Act 1991. The Māori Language Act 1987 strengthens Māori development initiatives such as Te Kōhanga Reo, an early childhood movement targeting the participation of mokopuna (grandchildren) and whānau in total immersion learning of te reo Māori, tikanga and Māori philosophies. This approach revitalises and recentralises the value of a Māori worldview, the customs, language and practices to a new generation.

The Māori Development Act 1991 then repositions te reo Māori, tikanga and Māori philosophies within the public services shifting towards a focus of biculturalism. In particular, by the mid-90's the precursor to Sport NZ, Sport and Recreation New Zealand (SPARC), developed targeted initiatives that included a focus on increasing participation in sport and recreation by priority and minority groups including Māori. By 2009 this

evolves further beyond a focus on increasing participation by Māori, to the He Oranga Poutama strategy described earlier that focusses on participation and leadership in sport and recreation “as Māori” (McKegg et al., 2013). The Māori renaissance period sparked a movement to reposition Māori worldviews among a largely monocultural Aotearoa New Zealand that privileged Pākehā and Western worldviews. A Māori worldview, its language and cultural practices, becomes more visible and revalued by Māori, which repositions the potential for Māori ways of being to contribute to Māori health and wellbeing outcomes.

2.5 Chapter Summary

In review, the interaction between Western and Māori perspectives throughout history reflects not the least the forceful experience of colonisation towards Māori, but also highlights the rationale and driving forces responsible for the various promotional, prescriptive and uses of physical activity in Aotearoa New Zealand. As authority and power transitioned from traditional Māori leadership to colonial settlers, so too developed the Western perspectives and views across Aotearoa New Zealand society. The subjugation of Māori worldviews led to the privileging of non-Māori approaches to physical activity elevating European sports and physical activities across all parts of society. Interestingly, the marae emerged as a stronghold for Māori worldviews and practices, so much so that non-Māori activities were hybridised and adapted to suit the preferences of Māori tikanga. Subsequent Māori developments and political activism attempted to reposition the beliefs, values and perspectives of Māori in Aotearoa New Zealand, and as a result, government policies aimed to respond through bicultural practices reintegrating aspects of Māori culture. Māori specific approaches to physical activity, sport and recreation emerged that have evolved today to encompass broad Māori development principles. These principles extend beyond participation “by Māori” to reflect Māori leadership and participation in recreation and physical activities “as Māori”.

Despite the repositioning of Māori cultural beliefs, values and practices in the promotion, prescription and use of physical activity for Māori today, years of colonial dominance has meant that the fundamental Māori principles that underpin Māori physical activity are only now beginning to re-emerge in a public setting. Nonetheless, both the Western and Māori perspectives have the potential to leverage meaning from one another and elevate the collective understanding of physical activity. Modern Māori approaches to physical activity appear to encapsulate the learnings from both perspectives, leading to the current development of culturally relevant physical activity approaches in Aotearoa New Zealand. This provided the opportunity for this study to further investigate the way in which Māori cultural beliefs, values and practices inform physical activity for Māori,

particularly within the context of the political and societal structures in play. Hence, the central aim of this research was to explore the traditional beliefs and values held by Māori towards physical activity in order to determine its fundamental Māori principles.

Chapter 3 – METHODOLOGY

3.1 Chapter Introduction

It has been established in this paper that Māori beliefs, values and practices are critical to the way Māori think about and participate in physical activity. As a result, understanding the way in which Māori beliefs, values and practices inform physical activity for Māori is significant to Aotearoa New Zealand, particularly the sport, recreation and health sectors. In order to further investigate this understanding, the aim of this research was to explore the traditional beliefs and values of Māori towards physical activity, in order to determine the fundamental Māori principles that underpin it. What follows in this chapter is a discussion of the approaches that have informed this research. Here I outline the setting and design of this research and detail all methodological considerations; this includes the methodology for this study, the research methods applied to data collection, participant recruitment, along with the analysis and interpretation of findings.

3.2 Research Design

In the quest to organise and increase knowledge about a phenomenon, distinct methodologies have emerged with set rules and principles to guide scientific studies or inquiries (Gelo, Braakmann, & Benetka, 2008). In Aotearoa New Zealand, historical research practice largely privileges Western ways of knowing, utilising methodologies that dehumanise and deny the validity of mātauranga, language and culture (L. T. Smith, 1999). For this reason, the approach to academic inquiry in the past has shaped ill-feelings and attitudes by Māori of the research agenda. Since this time, numerous authors have contributed to informing academia on Māori ontology (the nature of reality), epistemology (the nature of thinking or knowing) and axiology (values, ethics and morals), validating these in a research context (E. Curtis, 2016). This research utilises a methodology that has structure, rules and principles that are consistent with, and supportive of, the aim of this study.

It is important to identify at this point that this research is theoretically underpinned by a kaupapa Māori paradigm. This theoretical approach to research stems from a Māori worldview that has been discussed widely in academia over the past two decades (E. Curtis, 2016; L. Pihama, Cram, & Walker, 2002; G. H. Smith, 1997; L. Smith, 2000; Walker, Eketone, & Gibbs, 2006). Kaupapa Māori research is grounded within a Māori worldview that epistemologically accepts the validity of Māori language, culture, knowledge and values as meaningful (G. H. Smith, 1997). It is a research paradigm that is considered culturally safe and appropriate, characterised by an organic set of evolving

principles and practices that support the Māori research agenda. These broad principles include (G. H. Smith, 1997):

- Tino rangatiratanga: self-determination, sovereignty, autonomy and mana motuhake.
- Taonga tuku iho: cultural aspirations where te reo, mātauranga, tikanga and āhuatanga Māori are legitimate and valid.
- Ako Māori: culturally preferred pedagogy that promotes teaching and learning that is unique to Māori tikanga.
- Kia piki ake i ngā raruraru o te kāinga: socio-economic mediation where collective responsibility of the Māori community and whānau are at the forefront.
- Whānau: the extended family structure, their cultural values, customs and practices.
- Kaupapa: the collective philosophy shared by Māori.
- Te Tiriti o Waitangi: the positioning of the Treaty of Waitangi and its principles.
- Āta: growing respectful relationships.

These principles frame a theoretical approach that is unique to Aotearoa New Zealand, that takes for granted what it means to be Māori, contextualises this within the colonial experience, and seeks to emancipate Māori communities to be self-determining at multiple levels including whānau, hapū, iwi and the wider community. From this position, a kaupapa Māori paradigm guides the research process of this study to best understand the traditional beliefs and values of Māori towards physical activity and determine its fundamental Māori principles.

3.3 Methodology

Methodologies establish how knowledge is gained, and the systematic approach one takes to an investigation (Curtis, 2016). Recognising the principles of kaupapa Māori theory in research, I have developed and applied a unique indigenous methodology framed by the Māori principle of whakapapa to this research. Whakapapa is a widely recognised term in Māori communities and has been identified by many authors as the central aspect to the way Māori think about, and come to know the world (L. Smith, 2000). Whakapapa is defined by Barlow and Wineti (2009) as the “genealogical descent of all living things from the gods to the present time” (p. 173). This presents the basis from which knowledge is understood and organised. This methodological approach

systematises the research process in order to bring the traditional knowledge, beliefs and values held by Māori towards physical activity to the fore in a modern context.

A whakapapa-based methodology is fundamentally characterised by relationships. Whakapapa accepts the genealogical interrelationships that exist between people, and other co-dependent entities in both the physical and spiritual realm (Graham, 2007). This establishes the basis for nurturing relationships between the researcher, the researched, and the research itself (G. H. Smith, 1997). Whakapapa enhances this approach to research with Māori by acknowledging the kinship ties between Māori researchers working in our own communities; while also enabling non-Māori researchers to develop connections through a shared common interest in the research purpose. This draws on the principle of whanaungatanga (fellowship), where whakapapa provides an avenue to access Māori communities, our knowledge, and our perspectives. However, with that comes a level of ethical responsibility discussed further in the research.

Establishing relationships through whanaungatanga results in the researcher becoming positioned within the research community and not set apart as a distant observer. This creates a power dynamic that is shared between the researcher and the researched, allowing participants to engage in all aspects of the research process (C. Curtis, 1991). Through whakapapa-based relationships, shared participation in the process supports ownership of the research and its outcomes (Baum, MacDougall, & Smith, 2006). Consistent with a kaupapa Māori paradigm, a whakapapa-based methodology ensures that the outcomes will be more relevant for participants, as it engenders tino rangatiratanga within the community, whilst contributing culturally meaningful knowledge to the field. A strength to using a whakapapa-based methodology in this research is its acceptance of Māori ways of knowing, and the establishment of relationships that guide and empower the research process for both the researcher and the researched. This contributes to the emancipatory power of whakapapa-based methodology to meet the aspirations of Māori.

3.4 Consultation

As this research project involves the leadership and participation of Māori across all aspects of the research process, consultation becomes an integral component. The Health Research Council of New Zealand's (HRC) Guidelines for Researchers on Health Research Involving Māori (2010) describes consultation as a practice that aims to ensure that health research contributes to Māori health developments. This guarantees that Māori views and opinions on the value and purpose of research are genuinely considered. Consultation with Māori reflects a need to do the right thing and minimise or eliminate the risks to Māori communities associated with research of this kind. Open, co-

operative and collaborative communication by those conducting research helps to build trust and rapport with Māori, while providing an opportunity to receive cultural advice and direction along the way. Consultation thus provides a pathway for positive working relationships to develop. To engage in the act of consultation early along the research process improves the likelihood of a successful and positive partnership with Māori. Meanwhile, the establishment of relationships provides a mechanism to publicise the research project across suitable whānau, hapū and iwi networks, to engage further participation.

This is a research project underpinned by a kaupapa Māori theory and a methodology based on whakapapa that harnesses relationships, as such, consultation is inherent in the approach to this study. The process I have undertaken of engaging and establishing relationships arguably began long before the research questions materialised. It can be linked back to my personal involvement in the development of traditional Māori games at community level, through to advocating for the political rights of Māori in sport, active recreation and health. This has then progressed to a more formal consultation through open conversations about the intent of this research project with Māori community leaders who have an interest in the research. To some extent, this approach to engaging Māori in the research process extends beyond consultation to one of shared control and power contributing to Māori wellbeing, an approach consistent with the kaupapa Māori paradigm and whakapapa-based methodology that has guided this process.

3.5 Data Collection

Traditionally, Māori society established and evolved a concise practice of retaining and sharing mātauranga through orally dependant tools and strategies. With this understanding, qualitative methods that explore oral histories and narratives through case studies, interviews or focus groups are to be considered more appropriate than other data collection methods (Walker et al., 2006). Qualitative methods framed by a kaupapa Māori approach supports the theoretical assumptions that value Māori ways of knowing and being. The kanohi ki te kanohi, in person and face to face, approach is important for whanaungatanga, the process of building and maintaining relationships, familiarising the participants with the researcher and the intent of the research in an appropriate way for Māori. Using a semi-structured approach to interviews and focus groups allows for other questions to emerge within the interview, while also enabling the researcher to build rapport with participants (Whiting, 2008). To this end, semi-structured interviews were conducted kanohi ki te kanohi in this study, which explored mātauranga that underpin the traditional beliefs and values of Māori towards physical activity.

In addition, a whakapapa-based methodology acknowledges the value and validity of culturally significant depositories of Māori knowledge. These depositories include culturally relevant data sources such as pūrākau, pakiwaitara (stories), waiata, oriori (lullabies), karakia (incantations), pepeha (tribal sayings), whakatauākī and similar sources of mātauranga. Murphy (2005) argues that Māori evolved culturally specific methods to manage and monitor the transmission of knowledge through generations. These methods include those with a social function including the data sources previously mentioned, alongside those with a technological function which include artworks such as tukutuku (ornamental latticework) and other devices such as rākau whakapapa (a staff used as a mnemonic aid for remembering and reciting whakapapa). These tools make up part of a pedagogical system that supports individuals, whānau, hapū and iwi to securely transmit understanding of mātauranga through generations. As many of these pātaka mātauranga, storehouses of knowledge, have been recorded and captured in various forms, including text, audio and video recordings, these culturally specific sources present further opportunity to access mātauranga of benefit to this study. An analysis of a variety of such additional sources of mātauranga, in particular texts containing whakatauākī and pepehā, contributed to this paper and our understanding of the traditional beliefs and values held by Māori towards physical activity.

The collection of such data raises ethical considerations concerning the ownership of any data collected, as Māori knowledge is considered a taonga, a treasure to be protected, as a right to Māori through Te Tiriti o Waitangi (Cunningham, 1998). Through a whakapapa-based methodology that unites the researcher and the researched community under a common cause and purpose, any form of knowledge recorded within the research community becomes communally maintained and guarded (Walker et al., 2006). Such taonga can be protected by ensuring to communicate the intention for collecting data with participants and other groups including whānau, hapū and iwi. Transparency in the collection and use of knowledge and information can help generate consensus amongst the researched community of its purpose.

Similarly, the Māori principle of manaakitanga is applied in the protection and care for knowledge and information shared. Manaakitanga in a kaupapa Māori research context is about social responsibility, it acknowledges and respects the mana and whakapapa of participants and their communities. The knowledge shared by participants is likely to have been passed down through multiple generations requiring careful consideration towards upholding the integrity of, and the intent in which that knowledge is shared. Finally, gathering localised data, or rather iwi-specific information, provides meaningful information for the hapū and or iwi of concern, thus should be managed and protected in a way consistent with the appropriate tikanga. An extension of this requires

consideration towards the interpretation of information to ensure generalisations across hapū and iwi are avoided, to maintain the tapu and mana of information so that it is protected. Through mechanisms of transparency, manaakitanga and considerations for iwi variations, this research aimed to ensure that mātauranga pertaining to the traditional beliefs held by Māori towards physical activity were protected as a taonga.

Data collected by interviews were conducted in person, on the phone or by way of video conferencing. Each interview began and ended with a karakia, and included a suitable time in the early and latter part of the kōrero to practice whanaungatanga. The participants were again reminded of the purpose of the research, together with the information detailed in the information sheet. Where it was permitted, interviews were recorded using a smart phone. The recordings were then transcribed, key comments noted, and any emerging themes identified. Participants were then contacted and afforded the opportunity to edit or amend any of the captured data, this included direct quotes and any key themes. Once participants agreed with the data collected, this was further analysed as outlined below.

During the interview process, often participants would speak in te reo Māori. This is common when engaging with fluent speakers of te reo Māori and provides added comfort and reassurance to participants. It is recognised that te reo Māori carries a greater level of meaning and understanding of Māori concepts than can be reached by discussing only in English. Where comments have been made in te reo Māori, I have included the original text in te reo Māori to recognise the significance of te reo Māori and avoid any misinterpretation. As a supportive aid, I have offered a paraphrased translation which serves as an approximate rather than a direct translation.

3.6 Participants

Given the orally transmitted traditions of Māori, central to this research project is capturing the views and opinions of knowledgeable experts and key informants. There are specific qualities described by Morse (1991) that identify a 'good informer' and these attributes include being; knowledgeable about the topic; able to reflect and give experiential information in the area of investigation; and, open to being interviewed (Whiting, 2008). Accordingly, the inclusion criteria for participants involved in this study reflect these attributes as well as participants who carry the skills, experience, and mātauranga in relation to Māori physical activity. Adding to this, the Māori concept of mana extends these initial attributes providing cultural validity to the characteristics of participants. Henare (2001) describes mana as the religious power, authority and ancestral efficacy held by individuals. Māori are born with mana through the philosophical connection to the primordial parents, Ranginui and Papatūānuku, and the

creation of the first human Hineahuone (Buck, 1952). Individuals thereby inherit the mana of their ancestors through whakapapa, whilst are also capable of developing mana through their own life experiences. Mana is a social quality that is recognised and respected in social settings (H.M. Mead & Mead, 2003). In these ways, the concept of mana is an attribute that is directly relevant to identifying culturally relevant and appropriate participants who engaged in this study.

Given the attributes outlined, enrolling the participation of Māori cultural experts, and various specialists across a range of Māori forms of physical activity, was required to ensure the quality of data collected. Particular areas of expertise related to traditional Māori physical activities include; taonga tākaro (Māori games); mau taiaha; hoe waka (waka paddling); mahinga kai (production and harvesting of food); haka; and mahi toi (Māori arts). Beyond the participation of these knowledgeable experts in the traditional practices, engaging authorities of modern forms of Māori physical activity also added additional value. These included kaupapa Māori gyms and facilities, Māori fitness programmes, and suitable Māori-led organisations that provide Māori physical activity opportunities.

Through my personal and professional experiences in the sport and recreation sector, I have formed relationships with key individuals with valuable skills, experience, and knowledge of traditional Māori physical activity that were approached for this study. Five participants were identified to partake in this study, identified for their respective mana, mātauranga, skill and experience in relation to Māori physical activity. These participants are known for their; understanding of tikanga, kawa and mātauranga; leadership role in traditional Māori games and Māori martial arts; experience developing traditional Māori physical activity, sport and recreation; expertise of Māori health; and practice of innovative Māori physical activity initiatives. The participants were provided the opportunity to be named in the study as a means to give greater mana and credibility to their kōrero. Choosing to be named in the research also provided an opportunity for their respective whānau, hapū and iwi to share in the acknowledgement of their contribution. Most participants opted to be named in the study bar one who had not yet agreed at the time of submitting this paper.

Participants were initially recruited through whakapapa-based relationships that were both personal and professional in nature. This approach identified three participants who were willing to support and contribute to this study:

3.6.1 Interviewee 1

Interviewee 1 is a well-known leader and advocate for ngā taonga tākaro, traditional Māori games and past times. As a youth educator working for a Māori social service provider, interviewee 1 has been utilising ngā taonga tākaro to promote healthy activity in schools. Interviewee 1 brings a depth of experience, practice and knowledge of ngā taonga tākaro to this study.

3.6.2 Paora Te Hurihanganui

Ko Te Arawa he waka, he iwi kāore e kirimata nei ōna kōrero, Engari ngoto atu ki te wāhi hōhonu haere ai.

Paora Te Hurihanganui is of Te Arawa, Ngāti Awa and Ngāti Tūwharetoa descent. He was most recently the Chief Executive of Te Papa Tākaro o Te Arawa, an iwi mandated trust working within the sport, recreation, and health sectors across the Te Arawa region. He has a passion for the revitalisation of ancestral and cultural pursuits and has a diverse background in Māori arts. Te Hurihanganui also has a particular interest in the revitalisation of traditional waka and ancestral games; specialising in the use of traditional sites of significance – such as mountains, rivers, seas, lakes, marae – for authentic connection through whakapapa, to provide pathways to optimum health and wellbeing. Te Hurihanganui adds his personal interests and experience of traditional Māori physical activity together with his experience as recent Chief Executive of an iwi mandated organisation leading the Māori sport, recreation and health sector.

3.6.3 Dr. Ihirangi Heke

Tainui-Waikato

Dr. Ihirangi Heke is a Māori health consultant who developed the Atua Matua Health Framework (the Framework). The Framework aims to provide an alternative to current Māori health frameworks using a strength-based, culturally appropriate system, drawing on atuātanga (environmentally based information), kaitiakitanga (Indigenous role models) and tipua (esoteric knowledge). Over the past 15 years he has been active in helping Māori and other Indigenous groups abroad, build their own health and wellness activities based on their own traditional environmental knowledge. Dr. Heke is a leading expert in Māori physical activity and provides Māori conceptual and philosophical thought to the study.

Additional participants were then approached who I had no personal or professional relationship with. These individuals were known by me and were purposely identified because of their recognised mana, mātauranga, skills and experience in relation to Māori

physical activity. The recruitment approach to these individuals was significantly challenging owing to the impacts of COVID-19 detailed later in this chapter. The unprompted and unsolicited approach taken in order to seek the participation of these individuals was not ideal given a kaupapa Māori method of engaging *kanohi ki te kanohi* is preferable. However, the fundamental purpose of *tikanga* is to ensure the right behaviour and practices are observed to maintain the wellbeing of the *whānau*, *hapū* and *iwi*. Under this perspective, it is only *tika* (appropriate) that the research methodology for this paper ensured a public health response to engagement in order to protect my own wellbeing, and that of the participants and their *whānau* under the conditions of the pandemic. Transitioning to phone and video conferencing platforms as the primary method for conducting interviews was required. Under these conditions I was fortunate that the following participants agreed to be involved.

3.6.4 *Ngarino Tauwhirowhiro Te Waati*

Ngāti Ranginui, Ngāti Pukenga, Ngāti Kahu, Ngai te Rangi, Waikato

Ngarino Tauwhirowhiro Te Waati is a versatile *kaihaka* with skills in *kapa haka*, Māori movement, weaponry, *taonga puoro* (musical instruments), directing, acting and presenting. The valued member of Te Waka Huia has represented at several Te Matatini *kapa haka* competitions and is a co-founder of the 'haka theatre' company Hawaiki Tū. Ngarino has an immense passion for health, fitness and Māori performing arts, which has led him to design and create an innovative health and wellbeing programme called Māori Movement. Māori Movement is a unique training programme that brings together the traditional training of the Māori warrior into a modern interpretation. As a modern approach to Māori physical activity, the work of Te Waati adds contemporary knowledge to this study.

3.6.5 *Jade Kameta*

Te Arawa, Ngāti Pikiao

Jade Kameta is a Māori systems innovator creating opportunities and initiatives through scalable, system-level experiments, design challenges, and prototypes, utilising a systems approach to reduce the risk factors associated with major health loss. Jade is the project lead for Te Maramataka Māori which looks at the return and use of Māori systems by *tangata whenua*. His ancestors knew how to live harmoniously with their environments, the *maramataka* being one such body of knowledge that was consulted for many activities, such as planting, harvesting and fishing. This Indigenous system can be linked to the Western science of environmental physiology – the understanding of the

environment's influence on the physiological function and performance of living organisms.

3.7 Recruitment

Due to the specialist nature of the participants required for this study, a kaupapa Māori recruitment strategy for engaging knowledgeable experts was applied. Firstly, a strategy framed by a whakapapa-based methodology leveraged off of the principle of whanaungatanga or the relationships established through kin and/or shared interests. Establishing and maintaining relationships between the researcher and the researched are integral to the continued success of this research process. Whakapapa-based approaches can facilitate the establishment of key relationships with participants that carry the attributes of a good informer through whānau and/or kaupapa (subject) connections. However, measuring the extent to which participants have the attributed mana within the area of study is complex. Given that mana is a socially mediated quality, investigating potential participants by communicating within the researched community assisted in identifying individuals who are recognised by their peers as persons of status and authority. Secondly, I exercise tikanga such as koha (contribution) and mihimihi (Māori greetings) through the recruitment process to support and strengthen relationships and the overall approach. These are critical Māori engagement processes that intend to build trust and rapport and enable the free flow of information between the researcher and the participants involved.

It is important to note the COVID-19 pandemic emerged during the data collection and analysis phase of this study leading to significant impacts on this study. During the later period of the data collection phase, a full nationwide lockdown was put into effect by the Aotearoa New Zealand government, closing all non-essential workplaces including schools, limiting social gatherings, together with severe travel restrictions. Varying levels of controls were put in place to manage Aotearoa New Zealand's pandemic response. As a result, the day-to-day undertakings of all people across Aotearoa New Zealand, including myself, were severely impacted. Specific to this study, the qualitative method of conducting kanohi ki te kanohi interviews were not permitted for a number of months. As an integral Māori cultural practice and the choice of data collection method for this study, an alternative approach was required. Video conferencing and telephone calls were then used with willing participants. The move away from kanohi ki te kanohi interviews to video conferencing and telephone calls did impact the extent to which whanaungatanga could be established and maintained, and challenged my approach to recruitment.

At the initial point of contact with participants they were informed of the research purpose and aim. An information sheet together with consent forms (see Appendix B and C) were shared with participants via email. The participants were afforded two weeks to consider the invitation and ask any questions. There were a number of individuals who decided not to participate in this study for reasons unknown. Those participants who did agree to take part in the study each completed a consent form or notified their consent to me via e-mail. Following the recruitment of participants, it was clear to me that only tāne were being privileged in this study. Despite recommendations of suitable candidates participate in this research, invitations to wāhine and gender diverse individuals were unsuccessful, and unfortunately their voice and experiences were not able to be captured and included in this study. As a result, it is worth noting the impact of this on the findings of this study, a limitation that is addressed later in this paper.

3.8 Data Analysis

Information gathered through this research project was analysed and interpreted through the lens of a kaupapa Māori theory using thematic analysis. The thematic analysis of data collected provides an approach to codifying data sets in order to identify, analyse and interpret information (Gelo et al., 2008). This inductive approach provided the mechanism to theorise the social behaviours, and the held beliefs and values of participants. At the same time, according to Cunningham (1998) “Māori knowledge is the product of the Māori analysis of Māori data” (p. 66). Thus, in order to produce Māori knowledge, the analysis must be framed within the principles of kaupapa Māori theory. Additionally, and as has been noted previously, the analysis of Māori data needs to be mindful that hapū and iwi in Aotearoa New Zealand carry their own unique histories and protocols. As a result, this research project is cognisant of the impact these tribal variations had on the emergence of themes across the data collected from participants. Therefore, in the context of this research project, it is proposed that a kaupapa Māori framed thematic analysis of various data sources enabled more meaningful theories of the beliefs held by Māori about physical activity to emerge.

It is also important to recognise that in the context of analysing this data, my position as the researcher in relation to the participants and the nature of our relationship, may have impacted the analysis of data. A close relationship between a researcher and the researched creates reflexivity which highlights the bidirectional relationship that both parties share (Reeves, Kuper, & Hodges, 2008). The concept of reflexivity contends that the relationship I share with the world being investigated can impact the perceptions and views of the information being observed. A challenge of this approach asserts that in this study I must be mindful of my own biases, while reducing the impact my presence has on the participants, and the analysis of information collected. However, the benefit of this

necessary proximity to the researched community aligns to core aspects of kaupapa Māori theory and a whakapapa-based methodology. Being situated within the researched community draws on the establishment and maintenance of positive relationships through whanaungatanga, and the power to build on the collective aspirations of Māori. The positive and negative impacts of reflexivity on this study highlights the significance of ensuring I am highly capable of understanding and interacting across Māori processes to enable tikanga to be upheld, fostering relationships, and maintaining the accurate analysis of the data collected.

The broad principles of kaupapa Māori research guided a research design that ensured the interpretation of findings were suitably matched to the expectations of participants and researchers. Central to this was the idea that kaupapa Māori research produces findings as a tool for empowering social change through tino rangatiratanga. These principles add greater value to an approach to interpreting the data that has the potential to create meaningful outcomes with Māori communities. As a result, research findings become owned by the community, and the dissemination of these uphold the values of those involved (L. T. Smith, 1999). The inductive thematic analysis approach to interpreting the data enabled a process of weaving together the views and opinions shared by participants, together with insights from culturally relevant data sources such as pūrākau and whakataukāi, and my own personal experience and knowledge as a researcher. This is located within the beliefs, values and practices of Māori that underpin the analysis, contributing a narrative of self-empowerment and community development. Ziebland and McPherson (2006) describe that the analysis of qualitative data can be complicated by its interpretive nature, therefore the framing of this analysis is consciously applied in this research approach to support the research aims and objectives. Likewise, to support the dissemination of these meaningful outcomes to Māori communities and those working with Māori, maintaining and expanding relationships with participants and key organisations and services is important. This may include iwi and hapū organisations, crown entities and agencies, non-government organisations, district health boards and the wider public health sector including regional public health services and primary health organisations, not excluding independent Māori health, wellbeing and sports organisations. To this end, the interpretation and dissemination of findings is critical to meeting the aims and objectives of this study and facilitate the translation of research outcomes to interested parties. The intent of which is to influence leadership and best practice specific to Māori physical activity in order to progress Māori community development and their respective tino rangatiratanga.

3.9 Chapter Summary

This study aimed to investigate the traditional beliefs and values of Māori towards physical activity and determine its fundamental Māori principles. This chapter has outlined the approaches that have informed the setting and design of this research. This is a study underpinned by a kaupapa Māori paradigm that develops and applies a whakapapa-based methodology. Central to this approach is the function of relationships in the genealogical and systemic sense of the principle. A principle that underpins the approach to consultation, and the qualitative methods of data collection through semi-structured interviews and the thematic review of culturally relevant data sources. Moreover, the principle of tino rangatiratanga engenders the power to be self-determining, maintaining the integrity, ownership, interpretation and dissemination of data collected from participants. These are participants who carry the knowledge and mana to actively contribute and participate in this study. Māori cultural concepts and practices are central to the way Māori think about and participate as citizens in the world. Weaving these philosophies, beliefs, values and practices through this study ensured the authenticity of the study to understand the fundamental principles that underpin Māori physical activity.

Chapter 4 – FINDINGS

4.1 Chapter Introduction

This study aimed to investigate the way in which Māori cultural beliefs, values and practices inform Māori physical activity. The data gathered to investigate this understanding was intended to explore; the traditional beliefs held by Māori towards physical activity; to determine its fundamental Māori principles; and outline their relevance in a modern context. This chapter provides an inductive kaupapa Māori thematic analysis of participant views and opinions, describing and illustrating the key themes that emerged. The information gathered during this study was analysed and interpreted using principles consistent with a kaupapa Māori methodology and were then themed accordingly. In the context of this research project, an inductive kaupapa Māori thematic analysis of the interview data enabled more meaningful theories of the beliefs held by Māori about physical activity to emerge. During the interview process four key themes of traditional Māori physical activity were identified and have been briefly described below, then followed by a greater analysis of each theme.

Theme 1 – He Māori te noho: the Characteristics of Traditional Māori Society

This theme is identified by what was understood to define pre-Colonial traditional Māori society in Aotearoa New Zealand. It was a time when Māori defined beliefs, values and practices were dominant resulting in a unique Māori understanding of physical activity. This theme explored physical activity in relation to; concepts of Māori autonomy; the physical way of life; the collective approach to life; how mātauranga maintained wellbeing; and the spiritual beliefs of Māori.

Theme 2 – He Māori te āhua: a Holistic System of Wellbeing

A fundamental aspect of a Māori paradigm and worldview is the interrelated and holistic perspective. Similarly, this theme identified physical activity as part of a broader holistic system of wellbeing. This theme is described in relation to; the connection of physical activity to other wellbeing domains; how mātauranga of physical activity developed through traditional Māori games; and, how the experience of joy was an integral element.

Theme 3 – He māori te taiao: the Relationship With Nature

This theme relates to the extent to which physical activity for Māori is connected to a deep intrinsic relationship with the natural environment. This theme identified how the Māori relationship with nature influenced physical activity, describing; the connection shared by Māori with nature; the spiritual underpinnings of this relationship through atua;

how mātauranga of atua informed the beliefs and practices of physical activity; and also, how mātauranga relating to time shaped physical activity.

Theme 4 – He Māori i tāmī: the Impacts of Colonisation

This theme explored the view shared among participants of the contrast between traditional Māori perspectives and practices of physical activity, and the experience of Māori physical activity today. This theme focused particularly on the ongoing impacts of colonisation on Māori beliefs, values and practices of physical activity, and the need to maintain and reimagine Māori approaches to physical activity in a modern context.

4.2 Theme 1 – He Māori te noho: the Characteristics of Traditional Māori Society

A common reflection made by many of the participants described pre-Colonial traditional Māori society in Aotearoa New Zealand. This was a time when Māori values, beliefs and practices were dominant. In particular, participants spoke about the characteristics of traditional Māori society such as; Māori autonomy; physical activity being a part of everyday life; collective participation; mātauranga to maintain wellbeing; and spiritual beliefs.

Prior to Pākehā arriving to Aotearoa New Zealand, Māori whānau, hapū and iwi were self-determining and maintained our autonomy over our lands, treasures and affairs. As Interviewee 1 points out *“i taua wā i te mou tonu mātou i te tino rangatiratanga, te mana motuhake nē. Nō reira ko mātou tonu i te whakahaere ana i a mātou”* (In those times we still maintained our autonomy and sovereignty. So, we were self-determining). The autonomy of Māori at the time meant that there was a need for Māori to manage all of our affairs required to survive and stay well as a community. We learnt in these discussions that it was common in traditional Māori society to see a high level of physical activity, much of which was related to subsistence activities like the provision of food, clothing or shelter.

Participants spoke to this point to varying degrees when they described traditional Māori physical activity as a part of life. For example, Te Waati said:

The majority of our activities and our energy systems were used for hunting and gathering or warfare... It wasn't just for sport or a weekend thing, this was about a lifestyle.

Similarly, Interviewee 1 supported this view, *“it is actually quite simple bro it's called living!”*. While Dr. Heke described it in this way:

If your group is under pressure, and let's say, if we're talking pre-European, we've got some shelter, we've got some warmth, we've got food. [Physical activity] is a part of that process to be able to ensure that your group can survive with the next most immediate threat which are other people... I think [physical activity] probably had, in fact stronger than probably, there is quite a high level of preventative process that underpinned what we used to do in terms of maintaining genetic material that you had to be in peak condition to be able to stop your line ending through some death of your people not being able to move fast enough, or not being able to run long enough, or maintain themselves to a level where if they were attacked by any other tribal group, they could handle it. So, I think that our [Māori] versions of physical activity, of training or preparation, they were mainly aimed at preventing being in a situation where you were in the weakest situation, in the weakest position.

The level of physical activity required for day-to-day and subsistence activities was also considered to be sufficient enough to develop and maintain good physical health. As Interviewee 1 suggested:

Mēnā e hiahia ana te mahi kūmara he mahi maara nei, anā ko te whakakaha koe i tō tuara, i ō waewae nā te mea he mahi piko. Nō reira i runga anō i ngā mahi, ka oti kē i a rātou te whakakaha mai i te tinana.

(If one wanted to plant kūmara and work the gardens, that strengthens the back, and your legs because of the bending. Based on various activities, they already achieved what was needed to strengthen the body).

Within these lived communities of whānau, hapū and iwi, collective participation was valued and embedded in this traditional active way of life. Participants spoke about the role everyone in the community had to play, and how they worked together with shared responsibilities and obligations to one another. As Kameta mentioned;

Everyone in the hapū was valued, and I think that is a huge thing that we're missing [today]. Everyone was put in their different whare, and excelled in that particular field. There were probably those special ones that could move between whare and got skilled in these different whare. But I know that everyone in the hapū, in the iwi, was valued and mastered a particular skill.

Similarly, Interviewee 1 spoke about the extent to which Māori lived as a community;

I te wā e noho ā-iwi ana rātou, ā-hapū nei, ko ngā tāngata katoa ka haere mai ki te maara ki te mahi. Ehara i te mea ko ngā mea o Rongo anahe, ko ngā mea o Rongo, ko rātou ngā tohunga, ngā kaiwhakahaere i te mahi. Engari mahitahi ana te katoa i te mea kia rau ngā ringa, ka ngāwari te mahi.

(In the time when they lived as iwi, or as hapū, all of the people came to the garden to work. It was not just those of Rongo alone, those one's of Rongo, they were the experts, the directors of that activity. However, they all worked together because many hands make light work).

Connected to this collective participation was the value of contributing and playing your part in the community, particularly the view that industry and hard work was valued and expected. Similar to the comment by Interviewee 1 mentioned above, Te Hurihanganui

adds to this point when reflecting on his tūpuna from Te Arawa *“there’s many, many stories that suggest that idea – the valuing of hard work. But not only that, and from a Te Arawa perspective, it was the understanding of your environment around that hard work”*. Taken together, the value of hard work and collective responsibility is centred around a concept of collective wellbeing and survival. Participants often described aspects of traditional Māori society that spoke to a purpose of contributing to the greater wellbeing of the community. This was a view shared by Te Waati:

There was always an intent as to why our tūpuna did things... It was apparent in some of the landscapes of how our pā sites were built. You can see old kūmara pits, and old pipi shell pits, and recognised that our tūpuna did things for the incentive of keeping the iwi, or the hapū, or the whānau sustainable.

Similarly, this was also a perspective shared by Te Hurihanganui:

I think [tikanga] were a means of excellence... It was an obligation to your nation, nationhood. So that tikanga and that kawa was already set. You had to be active and if you weren’t active, that was looked at as a sign of either sickness, being unwell, whether that was mental, emotional, or attitudinal unwellness.

Here Te Waati and Te Hurihanganui touch on how the built environment and culturally defined constructs informed by mātauranga, such as tikanga and kawa, both supported and managed collective wellbeing through physical activity as a social and cultural norm in traditional Māori society. In particular, tikanga are the best practice guidelines that supported and maintained the wellbeing of the community. These tikanga would be maintained and passed down generations in order to ensure wellbeing practices would be known and practiced into the future. As Te Hurihanganui put it:

Yes, it was a part of what was taught, but I think it was an intrinsic part of that legacy being handed down because that system of using kai as sustenance and as a health marker or wellbeing marker, had been tried and true for so long, so you continue to use those practices.

In order to maintain and share the mātauranga and tikanga across generations, varying tools and processes were described by participants. As a traditional society with an orally transmitted knowledge system, tools such as pūrākau, mōteatea, and waiata become primary means of sharing important information about maintaining collective wellbeing. As Interviewee 1 reported *“he iwi pūrākau tātou, nē. Horekau he pukapuka, nō reira he kōrero”* (We are pūrākau people. There were no books, therefore we only had narratives). This view was also supported by Dr. Heke, *“you’ll also see those atua embedded in stories, pūrākau and mōteatea, that support and underpin some of the whakapapa lines, but again, they incidentally provide physical activity outcomes”*. As touched on here by Dr. Heke, these tools for transmitting and maintaining mātauranga and tikanga were specifically cited for holding relevant information of physical activity.

As a further example, Kameta explains a particular style of physical activity within the Te Whare Tū Tauā that is specific to his iwi. Kameta describes this style as originating from a time of the year when the berries of a prominent native tree would attract a certain bird, the movements of which inspired their style of physical activity within Te Whare Tū Tauā:

So, you get the [manu] there, you had the Whare Tū Tauā there, and that's where we got our inspiration from, from the movement of [that manu]... Why that is a special time, a unique time, was that we held that name [for the time of the year] in some of our waiata.¹

The use of pūrākau, mōteatea, and waiata to transmit and maintain mātauranga and tikanga of physical activity across generations, supports the concept of collective wellbeing and the relationship between and through generations. Kameta also described how individuals in traditional Māori society had obligations not only through the practice of tikanga, but also through another cultural construct of whakapapa, defined as the genealogical descent held by individuals, whānau, hapū and iwi from the gods to the present time:

You're looking after your whakapapa, but you are also looking after your uri. You are combining the generation above you and preparing the generation in front of you. So, you're just the piece that's in between – that whole kaitiakitanga. What we do in the time that we are here, that was your role, your obligation to look after your whakapapa.

The cultural construct of whakapapa mentioned here by Kameta describes the collective responsibility held by individuals to not only maintain the collective wellbeing of their lived community, but extended this obligation beyond the living to the ancestors of the past and the descendants of the future.

The defining element of whakapapa which genealogically connects the individual back to atua is underpinned by a spiritual belief held by Māori. The numerous descriptions of atua that were shared by participants suggested that traditional Māori society held a strong belief in atua that shaped the behaviours of individuals, whānau, hapū and iwi. The autonomy and self-determining conditions for Māori enabled the development of such a worldview and system of living that was nurtured with a strong spiritual belief. Spirituality was described to permeate across all parts of traditional Māori society and Interviewee 1 outlined this view best:

Kia maumahara pai tātou, he iwi whakapono rawa ki ngā atua. Ehara i te mea e kōrero ana mō te atua, e whakapono rawa ana, nē. Kei reira te tino mana. Nō reira ko ngā tauira katoa mō tātou te tāngata nei, ana kei roto katoa i ngā pūrākau.

¹ On request of the participant, the names within this quote have been retracted to maintain the tapu and privacy of the mātauranga shared.

(We must remember that we were people with complete and utter belief in the atua. It was not as if we talked only of atua, we absolutely believed. There resides the supreme mana. So, all of our examples for us as people, they are all within our pūrakau).

The spiritual aspects of atua mentioned here heavily influenced the traditions and practices that Māori conducted day-to-day. Atua are generally understood by the participants as ancestral and supernatural deities or gods. Varying references are made of pūrakau that describe the creation of the Māori universe with Ranginui, Papatūānuku and their progeny. Therefore, atua have a significant impact on mātauranga and tikanga, and the way physical activity is carried out. These comments shared by participants describe a view and understanding of pre-Colonial traditional Māori society in Aotearoa New Zealand. Māori values, spiritual beliefs and communal practices among whānau, hapū and iwi were a constant in life. Mātauranga to maintain the wellbeing of the collective was evident, and the practices and processes to maintain this across generations was mentioned. Throughout these descriptions of a traditional Māori society, physical activity and an active lifestyle appear common.

4.3 Theme 2 – He Māori te āhua: a Holistic System of Wellbeing

A fundamental aspect of a Māori paradigm and worldview is the interrelated and holistic perspective. Similarly, physical activity cannot be considered in isolation but as part of a broader holistic system of wellbeing. Within this system, participants spoke of the inseparable aspect of physical activity to other wellbeing domains, how mātauranga of physical activity developed through traditional Māori games, and how the experience of joy was an integral element.

The holistic worldview of traditional Māori society was a perspective shared across many of the participants. This view was one that recognised that the various parts of traditional Māori society were connected as part of a broader relational system, and physical activity was but one part of this system. Talking about this particular aspect Te Hurihanganui said:

The idea of doing one thing or one process, or you know a closed kind of process to effect one part of your make up is fundamentally flawed from a Māori way of thinking. Everything that we do, and if we consider that physical activity is part of a system of wellbeing, which I like to call life fitness, is that the skills and the activities and the experiences that you have from a movement in time has to resonate through other areas of your wellbeing.

Similarly, Te Waati shared a related view:

Our true light is being able to make that power of choice for ourselves to acknowledge the whole wellness, the holistic wellness of our being, not just the physical realm, but the mental, the emotional, the spiritual.

There are numerous examples of Māori health models that reiterate the interrelated and dependent components that constitute Māori wellbeing described here. Te Hurihanganui extends on this point in defining a traditional Māori view of physical activity as sharing similar characteristics:

When you think of Te Whare Tapa Whā, Te Pae Māhutonga, Te Wheke, all those other kind of models that Māori academics and Māori experts have put up it's around influencing a wellbeing, a total wellbeing. Because that whole system of wellbeing is missing when we drop down to the definite components... So as long as the scope of thinking about physical activity and having the effect on an Indigenous person, or native person, or a Māori person, is that it's one part of the system.

This holistic system of wellbeing demonstrates that a Māori worldview of physical activity cannot be understood in isolation from other domains. Given the active lifestyle in traditional Māori society, physical activity might be considered the unintended consequence of living life. For example, going fishing or planting a garden required a level of physical effort, the intended outcome of which was to provide food to feed the whānau, hapū, or iwi rather than purely for physical activity alone. However, this is not entirely the case, as is shared below by Interviewee 1, Māori did develop a comprehensive body of mātauranga, especially for the strengthening and development of the body:

Ko te āhua o tā rātou noho ki runga i tō mātou anō whenua nei horoeka take... Kīhai rātou e whakaaro atu mo te kori tinana, ēngari mo te whakapakari, āe! Kei reira bro. Mo te whakapakari tinana arā ko ngā para whakawai arā wēra mau rākau, wēra tūmomo āhuaranga. Mēnā ka titiro tātou ki ngā momo tākaro, kei reira hoki, nā te mea ko ngā tākaro koia te taumata tuatahi nē, kia whakapakari i te tangata. I ā ia e tamariki ana ka tau haere ia ki te āhua o tōna tinana.

(The way in which we lived on our own land meant we had little concerns....They did not think about physical activity, but for strengthening, absolutely! It was there bro. For developing the body there was para whakawai that is to practice the use of weapons, those types of activities. If you look at our type of games, it is there as well, because games are the first platform to develop the body, as they are a child, they begin to understand the functions of their own body).

Te Waati supported this view reflecting on the intentional nature of activities, *“in relation to pastime games there was an understanding of how to utilise energy.”*

Taonga tākaro, traditional Māori games and past times, are mentioned here and these were commonly described as a form of traditional Māori physical activity. In some cases, taonga tākaro were used as a means to share mātauranga relevant to the community, to develop the physical literacy to participate fully in society, and in other cases simply for the fun and entertainment value that they would bring. The element of joy within taonga tākaro appears to also permeate many aspects of traditional Māori life. In particular, the joy experienced by individual's, whānau, hapū and iwi whilst participating

in various forms of physical activity, served to ensure the active participation and adherence to such activities. This was especially important for making the mundane or difficult tasks attractive, notably those activities that contributed to individual and collective wellbeing outcomes such as gardening. As Dr. Heke noted:

To maintain peak performance is difficult. And the way that we sustain effort is to include enjoyment. And so there had to be other parts that went with it that would help sustain that enjoyment. And there's a number of opportunities in all of our environments that would do that, like running rapids or in the ocean when its pumping, or being on a high point on a maunga (mountain) when you're looking back out at where you've just come, all these things give us a connection to place.

These descriptions shared by participants indicate that traditional Māori physical activity is considered important, and a part of a broader holistic system contributing to overall wellbeing. Participants also talked of the specific mātauranga and tikanga connected to physical activities, and how such activities such as taonga tākaro had the propensity to contain elements of joy to ensure motivation and adherence.

4.4 Theme 3 – He māori te taiao: the Relationship with Nature

Another significant theme relating to physical activity that emerged explored the deep relationship Māori shared in a pre-Colonial era with the natural environment. All participants spoke about how this relationship with nature influenced physical activity, describing; the connection shared by Māori with nature; the spiritual underpinnings of this relationship through atua; how mātauranga of atua informed the beliefs and practices of physical activity; and also, how mātauranga relating to time shaped physical activity.

There was a very strong belief among participants about the significance of the relationship to nature held traditionally by Māori. What also emerged was the way in which this relationship influenced traditional Māori beliefs and practices of physical activity. This is explained by participants when describing the many ways Māori relate with nature, and how this is maintained through to the present day through expressions of physical activity. As Te Hurihanganui reported in defining the terms *taiao* meaning 'environment', and *māori* meaning 'natural':

Taiao. 'Ta' means 'to create', 'i' create that from the past, 'a' and 'o' that which is 'physically superior' and 'physically neutral'. Then you put those together and you get 'Ta' which means 'to create', 'i' 'to create that of the past', and 'ao' 'in this day, time, and space, and age'. Then you get 'tai' which are 'the waves that are experienced from that', or 'the energy vibration', in to 'ao' in to 'this world of light'. So, taking creation and making sure it's moving in this day and age but from past experiences... If we think of the word 'māori' being 'natural', being 'native', being 'normal', and we have a look at the taiao, which is also known as māori, being natural; to start to have an ao Māori perspective we have to go

back to the natural environment, because that was the source of all of our Māoritanga.

Kameta also made the following comment:

We were so connected with our environment on all levels mentally, physically, spiritually... It came out of our reo, and it came out in the way we moved as well... you could see it in kapa haka as well, how we move in kapa haka. We move like our lake, we move like our birds, we move like our environment. Look at all of those kapa haka groups on the coast they move like the waves, like their environment... We were always imitating because of our intimate connection [to the environment].

This relationship that Māori shared with the environment was pervasive across many, if not all, aspects of Māori culture. As a further example, outdoor recreation as a traditional Māori physical activity was described by participants as a means to facilitate this shared relationship with nature. Te Hurihanganui mentioned that *“recreation was the hugest mover of our people, and what recreation used to do for us traditionally, it would help us recreate the footsteps of our ancestors in a natural environment”*. Dr. Heke also alluded to this idea when he said:

I saw some examples of where we would engage with different environments for the pure joy of it. I think ocean sports were like that, where we would see fullah's out there engaging with waves and moving about in those places for enjoyment. But again, I think that even that was underpinned by the idea that they were trying to connect to, and understand, the depth of atua that represented those places... What we're searching for when we're going out to play sport, physical activity, is that connection to a place in the outdoors, and taiao.

Through the interviews with participants, and as mentioned in this previous statement by Dr. Heke, the relationship Māori shared with the environment was understood through the knowledge and the understanding of atua. Mātauranga of atua and their various representations and expressions are how Māori understood all of the seen and unseen components of the universe, including all aspects of the natural world inclusive of physical activity. For example, Interviewee 1 stated:

Ko ngā kōrero katoa, ko tōna mana i heke iho mai. Mai i ngā atua, ki runga ki ngā tupuna, tae noa ki ā ia... Nā kō ngā atua nei, arā ka mutu, ko te taiao tērā nē. Ko te taiao ko te whakatinana mai o ngā atua.

(All of the narratives, their mana is descended from the origin. From the atua, down to our ancestors, down to the person... Now about these atua, they are the environment. Our environments are the physical manifestation of atua).

Equally, Te Hurihanganui supported this view with the comment, *“atua for me is the science of the environment. And understanding the science of the environment can show itself or display itself in a number of different outputs”*. The significance of mātauranga, particularly through pūrākau, help to define the Māori understanding of atua, and thereby

the character of nature and the beliefs of physical activity. Within pūrākau we hear of atua depicting all aspects of nature, while participants also shared their understanding of the pūrākau of atua that illustrate the creation of humankind, the human body and its various movements. For example, Kameta illustrates that:

Our atua Māori are the taiao ay. That is my understanding. The taiao, I mean our atua Māori, when we look at our taiao we're looking at a reflection of ourselves, we're looking at our own reflection. Our genetic makeup is made up of that atua, that atua, that atua.

This was a perspective shared also by Interviewee 1 when he said “*ko wētahi o ngā atua, ngā momo atua kei roto i ahau nei, kei reira a Tāne. Nā te mea ka waiho koe i ahau ki te ngahere kahore au e mate, e matakū.*” (Some of the atua, the atua that are within me, there is Tāne. Because if you leave me in the forest, I won't die or be frightened). Extending on this connection between atua and the Māori body, Te Hurihanganui comments on the relationship to physical activity:

So, everything about atua, and the stories of atua, and the separation of Rangi and Papa were about movement. It was about exploration and movement, because they knew that they were getting into this sedentary space, the limitations of being stuck, and it wasn't doing them any favours as our stories go. So, they knew, they knew to express, to express, to grow, to learn, to live, and to create, they needed to move. So straight away, movement is fundamental for us [as Māori]... When we talk about taiao, we talk about taiao as the environment. But if we go back far enough in our creation stories, everything about the taiao that was created by atua was around movement, growth and freedom.

These views evidence the deep and binding relationship between Māori, the environment, and movement, all understood through the mātauranga of atua.

Participants not only believe that Māori share a belief in atua as representations of the various aspects of the natural environment, but that these very atua are also considered to make up the various parts of the physical body and our power to move. These relationships are underpinned by the spiritual belief system described in the first theme, He Māori te noho, and are again evidenced here through the belief in atua. As a result, mātauranga of atua appear to have a large influence on the tikanga and practices of physical activity carried out by Māori. As an example, Interviewee 1 described the way in which Māori traditionally likened the stature and movement of the human body to the environmental characteristics of atua:

Kaore anō au kia kite atu i tētahi tauira, i tētahi whakatauākī rānei e mea ana, “haere koe ki te moana ka puta koe kia rite ki a [au]”. Engari ka mea rātou “ka haere koe ki te moana me mau atu koe ki te kaha o Tangaroa”. Ka kōrero mo te taiao kē nē hei tauira mo te tiro o te tangata. Anā, “tū toka moana”. Ko ērā ngā tauira i waiho nei, ngā waihotanga o rātou mā hei tauira.

(I have not yet seen an example, or a proverb that says, “should you go to the ocean you will become like [me]”. But what they do say is “should you go to the ocean, you will grasp the strength of Tangaroa”. They talk of the environment as the example of how a person should look. For example, “to stand like a rock in the ocean”. Those are the examples that remained, bestowed from the past as examples).

Dr. Heke extends on this point outlining the mātauranga within pūrākau as providing the blueprint for understanding the body, and also of the tikanga that shape the way Māori engage with different environments. In the following statement, Dr. Heke describes through the pūrākau of the Pakanga Atua, the Battle of the Gods, how Māori have established their mana to actively interpret and engage in various environments:

You recall that I had a bit of work with [a kaumātua]² up in Kaikohe and he opened my eyes to a whole range of different bodies of information, but those made sense again, maybe last week. During the Pakanga Atua when they're in the final stages there, Tūmatauenga went back out and engaged with all of his siblings in different environments. The consequence of that was that it gave us status between Rangi and Papa because we knew all of those different environments... Whereas all of the environments independent, were in that phase of the kuaretanga, where they were completely ignorant of each other. So, if you took a rākau from the forest and put it in the ocean it did nothing, it just floated. And if you took a tupoho from the ocean and put it in the forest, the same thing would happen with it, it didn't know what to do. And each of those environments independently don't know what to do. When you put them together and show some connection between some of them, that's where you get the transferability. I think our role as a descendent of Tūmatauenga is to enact, or realise that status as interpreters of environments. Not to be the ones that are above them, but to be able to show generalisations of knowledge that comes from a connection between two taiao, and show how we can use that in other places.

This discourse of Māori having the mana to understand environments is supported by Kameta in this statement to follow when he acknowledged the mana of Tāne over the forest and of Tangaroa over the ocean, and thus the need for Māori to understand the mātauranga related to those environments in order to engage them successfully. By doing so it looks as if Māori would have the agency to physically navigate those various environments effectively, be it to snare birds in the forest, or collect shellfish in the ocean:

For the iwi, if we were closer to Tāne we had to really get to know Tāne and everything that he provides. We needed to connect with him, you know, and get to know his rhythms and all the kai that he provides. We had to live in harmony with Tāne. We pretty much had to become Tāne. It was the same thing with our moana as well. We had to know all the rhythms of the moana, we had to know all the currents and all the kai that he provides.

In a similar example, Interviewee 1 recollects conversations with his kaumātua about the manner in which they worked in the garden. Here Interviewee 1 describes how the mana

² On request of the participant, the name of this kaumātua has been retracted to maintain their privacy.

of Rongo, the atua of the kūmara and of cultivated kai, guided the behaviour and physical activity of his kaumātua while working in the kūmara garden:

Nā ka titiro ki ngā tikanga mo te whakapūawai o ngā purapura, o te kūmara nei. Ehara i te mea ka tuku noa rātou. Ka āta hiki mai ki raro, ka mahia i ngā matimati, ka pā ki te whenua nei. Engari i a au e tamariki ana, ka rongo au i ngā kōrero o ōku ake nei kaumātua nei e mea rātou ehara i te mea he mahi noa iho nei, ka noho koe i runga i te rangimārie. He mea nui tēnā, i a koe e whakatō ana i te purapura, kei raro koe i te mana o Rongo. Nō reira i roto i tērā akoranga me whai koe ki tōna āhua, anā he rongoā ki ahau, kia houhou te rongo, kia maungārongo to āhua nei. Nā reira ko te mahi nei me āta mahi. Ehara i te mea ka patupatu koe i te whenua kāo. Me āta whakamahi i te kūmara.

(Now to look at the customs for the development of tubers, of the kūmara. It is not merely discarded down by them. Carefully they are lowered, with the fingers, to connect to the earth. When I was a child, I heard the conversations of my elders who would say that it was not just any odd work, you would act with a sense of harmony. That is a significant thing, while you are planting tubers, you are under the mana of Rongo. Therefore, under those teachings you conduct yourself by his likeness, that is a form of medicine to me, to be at peace, in a state of serenity. So, this type of work is careful work, it is not like you go about thrashing the earth, no. You must be careful with the kūmara).

These are only but a few examples among many shared by participants that describe the way in which mātauranga of atua influenced how Māori traditionally understood their relationship with various environments, and accordingly, the manner that physical activity was carried out.

Extending on the previous point, the understanding of different environments or the characteristics of different atua was also connected to a traditional Māori perspective of time. The rising and setting of stars, the phases of the moon, the flowering of various flora, and the migratory patterns of birds and fish were all environmental indicators of time that appear to have shaped physical activity as Māori. For example, Dr. Heke describes here how different periods of the year presented opportunities to participate in certain forms of physical activity:

There were periods of the year where they would know that they're in a particular phase, and that they would engage [in a physical activity] for an intended outcome. And there were other times of the year where the makeup of the people that were in that group were inclined, and they would just go and there wasn't much structure to it.

Dr. Heke later indicates that maramataka, the traditional Māori lunar calendar, may also signal a period of the month that might best suit certain forms of activity:

I think there's probably strong grounds for looking at what happens within maramataka, and aligning which days require input from other members; versus other days where people are quite happy to get that done on their own; versus those days where they'll do something that's mentally demanding; versus

something physically demanding; and there's other days where they're not capable of that at all.

Similarly, Kameta describes his understanding of the relationship between the various indicators of time and the forms of physical activity that were carried out traditionally:

A lot of our stars and our environments shaped our type of activity and what we done.... You know a lot of those games, those team building games, were run during the winter. And that does make sense that a lot of those tākaro games were to keep people occupied, to keep having fun during the cold times and people were close in those months of Pīpiri, in those months of Hōngongoi, Hōnonoi, Honohonoī, Here-turi-kōkā, around now. A lot of those games are designed for those particular times... When the berries from [a prominent native] tree ripen and then they drop, and that's another way we use to call that time... that's the beginning of summer. It's got a name for the beginning of summer, and when those berries used to drop, ripen and drop, they used to attract whole lot of [manu] to migrate to [a known area]...it was also the time when our Whare Tū Tauā would run and migrate around the same time.³

These examples demonstrate that traditional Māori physical activity was greatly influenced by mātauranga relating to aspects of time, and the experience of seasonal changes in the environment. These periods were traditionally understood through mātauranga of various environmental indicators such as the rising and setting of particular stars, the varying phases of the maramataka, or the fruiting of certain trees.

4.5 Theme 4 – He Māori i tāmi: the Impacts of Colonisation

The final theme that emerged with participants was an overwhelming sense of the ongoing impact of colonisation on the traditional Māori beliefs, values and practices of physical activity. In investigating the degree to which participants believed that traditional Māori beliefs, values and practices were still relevant in a modern context, there were both reflections on the experience of colonisation in Aotearoa New Zealand, and the need for decolonising practices.

During the interview with Te Hurihanganui he described a traditional Te Arawa view of kawa and tikanga and the relationship these have to physical activity:

If we have a think about it in a Te Arawa perspective, kawa is the science right. Kawa is what we know about atua. Kawa is that body of knowledge and how that drops down in to mātauranga. That's kawa. Those things don't change. [For example] this cloud will form this rainfall. You know what I mean? And that's because these two atua have come together in the scientific union, or environmental union and it has produced this outcome. That's kawa. Our tikanga is how we react to that particular kawa. So this one cycle, this cloud, and moisture, have come together to form this rain pattern, now therefore what do we do? Do we just go and hide inside, are we still able to work outside, will it affect our crops, there's tikanga around all those kinds of things that are

³ On request of the participant, the name within this quote have been retracted to maintain the tapu and privacy of the mātauranga shared.

starting to position our physical expression for what that kawa, [and] scientific output, has produced.

These understandings may have framed the way in which Te Arawa developed mātauranga of atua and environments, which were set in kawa, and resulted in certain tikanga that would guide a physical activity response. However, reflecting on this process in a modern context Te Hurihanganui clearly understood that this was no longer a common practice or understanding when he said:

What we've done is we've moved away from the understanding of the kawa, therefore, the tikanga has changed and we've applied tikanga on modern expressions of what we would do. So the gap between kawa and tikanga has widened... Has the socialisation of the way we think about things influenced kawa and tikanga? Yes. Are they the same as they would've been 50 years ago? No. Are they the same as what it would have been pre-Pākehā? One hundred percent not. Are they still applicable to now? Yes, they are. The challenge is that we have individualised our approach to everything so much, that we think our health and wellbeing is ours alone.

In this statement, Te Hurihanganui's view is one that believes the traditional Māori understandings of kawa and tikanga have been influenced by modern society, particularly as a result of shifting from a collective to an individualised approach. Similar reflections were shared by other participants when in describing a traditional Māori practice that informed physical activity, participants recognised that such beliefs, understandings and practices were no longer common. For example, in describing how Māori would forecast the weather Dr. Heke's reflection was that *"those [were] fairly common practices we used to engage with a lot, but we've pulled away from those, and we've been looking at the individual bodies of knowledge"*. In another example, Te Waati shared a similar sentiment while describing the development of Māori Movement. Te Waati had this to say:

We recognise that the movements that were performed in those days, pre-colonisation, there was a purpose, a reason, and a meaning behind what they did - now times have changed.

These examples identify the experience shared among participants of the different approaches to physical activity known today, and how these contrast to their understanding of a traditional Māori approach. Te Waati takes this further by describing how modern approaches to physical activity are largely different to a traditional Māori approach:

There's a true power and there's a true light, and there's a false power and a false light. At the moment in this colonised world that we live in, we are serving a false light, therefore we're using false powers to emanate what a system is designed to be, which was never our way of life. We don't have any affiliation or any whakapapa that resonates with that world.

This statement differentiates a mātauranga informed approach to physical activity as the “*true power and true light*”, compared to a colonised approach that has no whakapapa connection to Māori as the “*false power and false light*”. How this experience of colonisation impacts Māori is then described by Te Waati later in the interview:

We're from the generation of the fatherless generation... They're isolated and confused in their own body, which means they aren't connected to their wairua or their manawa... Living very top heavy in their minds, and a very colonial way of thinking. We needed to break all of that down and recognize that intergenerational trauma played a massive part in the position that we are currently in as Māori and as tāne.

Thus, the experience of colonisation described by participants continues to impact the belief, values and practices of Māori physical activity. These experiences appear to have changed the way in which Māori consider, understand and participate in physical activity today. In the same vein, Kameta shared a similar view, however, whilst he speaks of a lost approach to traditional Māori physical activity, more importantly he reflects on the severed relationship with nature:

We were always imitating [nature] because of our intimate connection...we don't have that intimate connection as much as we used to before. But that's our challenge, the revitalization of our mātauranga to reclaim that and really harness that connection back can strengthen our connection with the environment. He oranga kei roto (There is a form of wellbeing within it).

Given the strong relationship Māori shared with nature, the disconnection from nature described here by Kameta is likely to continue to impact approaches to physical activity for Māori, but more importantly, likely impact negatively on the belief system and wellbeing of Māori in modern society. As a result, revitalising traditional Māori beliefs, values and practices of physical activity surfaced in conversations as critical.

Māori beliefs, values and practices were considered by participants to still be relevant in a modern society and context. Dr. Heke strongly agreed with this point and explained his position by describing the ways in which Māori have continued to interpret and make sense of their world over time. Through this lens, it is Dr. Heke's view that Māori must continue to draw from the past and interpret the world they live, just as our Māori ancestors once did in their time. By doing so, mātauranga continues to shape the beliefs, values and practices that enable Māori to survive and thrive:

I personally think that they're hugely relevant, probably more so now than they've ever been...there's been an interest, a desire, to return to some of the information from the past in order to make some predictions on what might happen in the future. But, what people sometimes forget, is that those were still social commentaries of the period, which suggests that we need to be continuing that process now, that we still need to be, as representative of this space and time, interpreting our world just as they did 150 years ago, 500 years

ago... We have some obligations, and potential, to engage with some of that information from the past and come up with contemporary commentaries on ways to cope.

When asked if this represented the creation of new knowledge Dr. Heke responded by saying:

Well, I think it's always going to be the synthesis of all information from the past in contemporary situations and showing its applicability or transferability, as I mentioned earlier, into new challenges. Just like when we see stories about ancestors coming here from Tahiti and being halfway, they'd never been here before, but they certainly knew what it meant to travel the ocean from their background as someone Tahitian. But when they arrived here, they had to come up with a whole body of new knowledge to explain things that they've never seen before. And they do that by understanding what they've seen in their past, and what they've seen when they arrive, and that therefore gives them a new way of explaining situations that are really beneficial for them.

As an example of a form of physical activity that draws from the mātauranga of the past and locates this with a modern context, Te Waati described how Māori Movement was impacting participants:

People felt connected to a deeper sense of their wairua, a connection to their essence. This was a connection that was far deeper than just performing a movement because you wanted to get fit, look sharp, or lose weight, or for whatever superficial reason they thought they were using it... Once you could tap into that deeper connection, it would open up all of the endless opportunities about igniting your infinite potential, which is your true power.

Here we begin to identify that Māori beliefs, values and practices are not only relevant for Māori today, but that they also have the potential to positively impact the holistic wellbeing of Māori. It is Te Waati's understanding that mātauranga informed physical activity such as Māori Movement has the potential to connect to the wairua, the spiritual element, of participants. This is a similar view shared by Kameta when he is asked about the value of mātauranga and Māori values in physical activity:

There's a deeper connection in our traditional activities like kapa haka, and like waka ama, that's why our people are in those spaces, our people, my people, the Māori people. They are in those spaces, and they stay in those spaces for a long time.

This view shared by Kameta highlights the similarities between Māori Movement and other popular forms of Māori physical activity such as kapa haka and waka ama. This may be the result of Māori activities being underpinned by mātauranga, and practiced in accordance with Māori values. When asked to describe these particular values Kameta calls them the “tangas”, meaning the Māori values that carry the suffix ‘tanga’ such as whanaungatanga and manaakitanga. These “tangas” are suggested by Kameta to be important to Māori participation in physical activity and are inherent in activities such as

Māori Movement, kapa haka and waka ama. He later adds that these Māori values and practices can be, and are, applied to non-Māori activities such as rugby:

All our tangas are present as well in those Pākehā sports like rugby because we made it our own. There's that strong whakawhanaungatanga presence in rugby and those types of sports, and it keeps us connected as an iwi.

Emerging is the relevance of Māori beliefs and values to physical activity for Māori, and these can be applied to both Māori and non-Māori forms. There was also a sense among participants that Māori were primed and ready to reclaim their Indigeneity and mātauranga informed approaches to physical activity. Here, Kameta shares his reflections on his experience of the value of Māori beliefs, values and practices in physical activity:

What I've learnt through the maramataka is that everything is timing. I believe our people are ready for it, and hungry for that mātauranga. Our mātauranga like maramataka has come at a time that it's become a craze. Why? Because it resonates with us. I believe our people are finding themselves in it, and we should, because this is our whakapapa. It resonates when we see ourselves in it.

Supporting this view was Te Waati when he noted:

Once you start to gain some understanding on how to utilize the [Māori] concepts that we were teaching, they could feel empowered that they were utilising it for something good. And then that gave them confidence to be able to build more of a skillset, which gave them a sense of confidence and self-worth.

This final theme, He Māori i tāmi, highlights the beliefs shared by participants of the impact of colonisation on marginalising the traditional Māori beliefs, values and practices relevant to Māori physical activity. Meanwhile participants also shared the potential for mātauranga and Māori values to decolonise the current state, and reclaim Māori approaches to physical activity leading to broader holistic outcomes, such as a deeper social, cultural and spiritual connection, and improved self-confidence and self-worth.

4.6 Chapter Summary

The findings of this study identified four key themes through an inductive kaupapa Māori thematic analysis of participant views and opinions. These four themes were described as; He Māori te noho: the characteristics of traditional Māori society; He Māori te āhua: a holistic system of wellbeing; He māori te taiao: the relationship with nature; and He Māori i tāmi: the impacts of colonisation. Although the four themes are presented independently here, it is important to state that they are not intended to be understood as detached from one another, rather, these themes are interrelated and to some degree co-dependent. To sum up these findings, participants identified that traditional Māori

physical activity is characterised by a Māori cultural definition connecting the activity through whakapapa to a source of mātauranga. This mātauranga is connected to the bodies of Māori knowledge pertaining to various atua, and because aspects of nature are the physical manifestation of atua, traditional Māori physical activity is connected to broader systems and practices that stem from an innate relationship to the natural world.

Chapter 5 – DISCUSSION

5.1 Chapter Introduction

This study set out with the aim of exploring the traditional beliefs and values of Māori towards physical activity in order to; provide insights into the mechanisms that motivate Māori to be physically active; and highlight the role of traditional Māori beliefs and values in addressing the increasing rates of physical inactivity among Māori. In the following chapter we discuss the findings of this study framed by the following key questions:

1. What is traditional Māori physical activity?
2. In what ways did traditional Māori knowledge inform Māori beliefs of physical activity?
3. In what ways did traditional Māori values underpin Māori physical activity?
4. How does traditional Māori knowledge and values shape Māori physical activity today?

5.2 Niho Taniwha: a Model of Tūpuna Kori Tinana

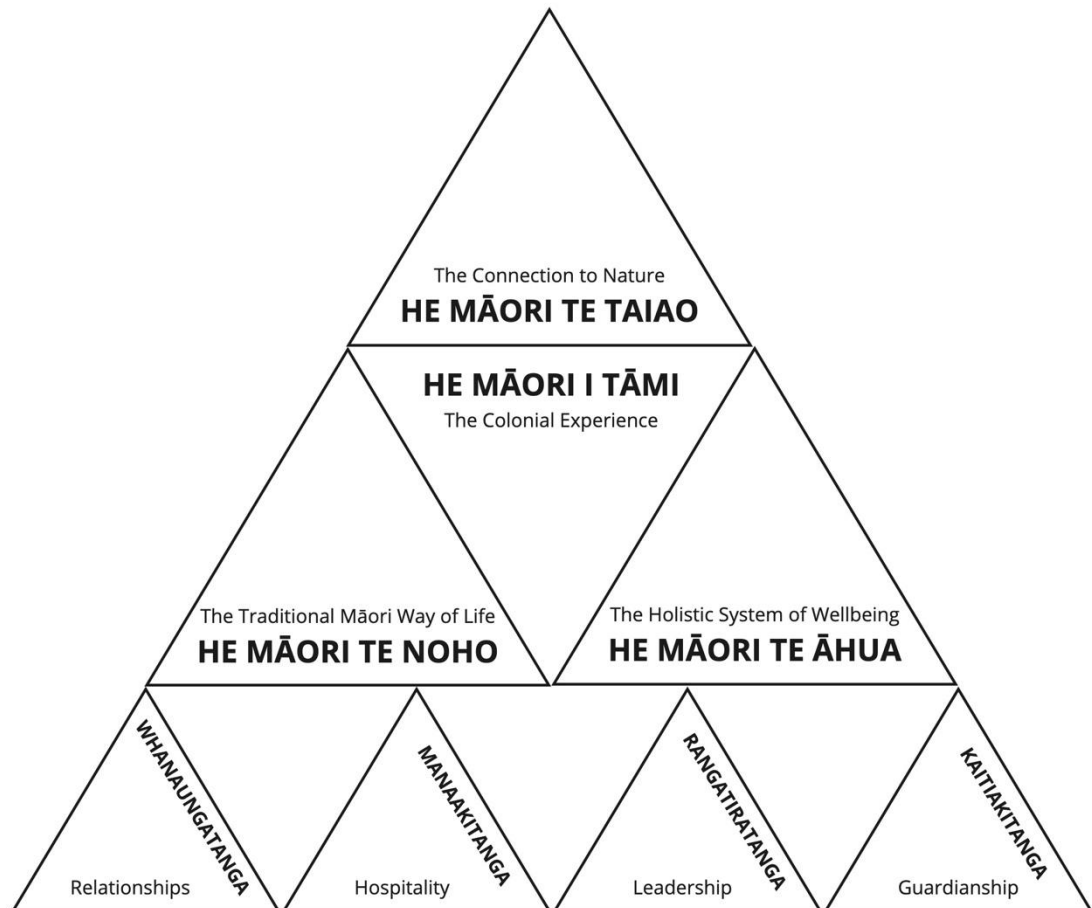
The Niho Taniwha Model of Tūpuna Kori Tinana below conceptualises the findings of this study as a metaphorical representation of the themes and values that have emerged. The niho taniwha design is widely used across Māori artforms and has its origin in tukutuku panels, and in tāniko weaving found on the hems of korowai (cloaks). The niho taniwha represents the realm of mythology and a chief's lineage to the gods (Moorfield, 2011). Within this model, the themes are identified by the four large niho, or triangles, positioned above, with the four smaller niho below depicting the four key values. Presented in this way, I demonstrate the holistic, interrelated and connected qualities of the themes and values as they relate to physical activity.

In Māori narratives and mythology we descend from our atua and natural environments. For this reason the theme *He Māori Te Taiao* is positioned in the apex of the model. It is from this position that all other elements of the model connect and draw their whakapapa from. Descending from this are the two themes *He Māori te Noho* and *He Māori te Āhua*. Both of these themes describe the human nature of Māori in traditional Māori society. The fourth theme *He Māori i Tāmi* is positioned in the centre to acknowledge the impact colonisation has on the surrounding three themes. This is again reinforced by the inverted niho depicting its negative and suppressive force. Beneath the four themes we find the four underpinning values of traditional Māori society that emerged in this study; whanaungatanga, manaakitanga, rangatiratanga and kaitiakitanga. These values set the foundation for the expression and practice of the themes that sit above. Together the

Niho Taniwha Model of Tūpuna Kori Tinana brings together the four themes and values discussed further in this chapter.

Figure 2

Niho Taniwha: a Model of Tūpuna Kori Tinana



5.3 What is Traditional Māori Physical Activity?

To define traditional Māori physical activity we must discuss traditional Māori society to understand the conditions in which traditional Māori physical activity was carried out. Secondly, within the framing of traditional Māori society, we discuss how te reo Māori defines and describes Māori physical activity. Through this section I apply a kaupapa Māori lens in order to give meaning and understanding to the findings that describe and define traditional Māori physical activity.

5.3.1 How Traditional Māori Society Defines Māori Physical Activity

The findings of this study identified the theme *He Māori te noho* which described the characteristics of traditional Māori society in a pre-Colonial era. Within this theme, a number of distinct features were identified relevant to traditional Māori physical activity, including Māori having autonomy over their lives and affairs; the active way of life; the

social and communal approach to living; the mātauranga and tikanga that maintained wellbeing; and the spiritual aspect of traditional Māori life. This time period was one where Māori-defined beliefs, values and practices were dominant, resulting in a unique Māori understanding of physical activity. This study identified Māori autonomy as a condition of traditional Māori society. In particular, the concepts of tino rangatiratanga and mana motuhake were raised by Interviewee 1. These concepts are consistent with the more recent work by McKegg et al. (2013) mentioned in the literature review which identified the degree to which activities are governed, managed and delivered by Māori. This domain was one of five identified in Sport New Zealand's developmental evaluative framework, Te Whetū Rēhua. As a modern framework for increasing leadership and participation in physical activity and recreation as Māori, Te Whetū Rēhua supports the position that Māori control and decision-making authority is important. Consequently, tino rangatiratanga is a condition of traditional Māori society that appears relevant to understanding traditional Māori physical activity.

Another finding in this study highlights that in traditional Māori society, physical activity was a part of everyday life. Prior studies that have noted the prevalence of physical activity in a pre-Colonial era emphasise that Māori were largely considered horticultural farmers who, foraged, hunted and fished for food (Ross & Hamlin, 2007). Extending on this view, experts in traditional Māori martial arts like that within Te Whare Tū Tauā, also indicate the need for a level of physical competency as a matter of survival in traditional Māori society. As Pita Sharples points out in the Waka Huia episode on Māori weaponry by M. Pihama (2011):

Ko te mea tuatahi mō te tangata e pīrangi ki te mau rākau, ko ngā waewae i te tuatahi. Ki te kore e taea e ia te nekeneke i tana waewae, ki te pekepeke ēra āhuatanga, mōmōu tāima te ako i te mau rākau. Ki te kore e taea to tinana ki te haere ki ngā taha, kia huri, erā atu āhuatanga, peke ki mua, peke ki muri, ēra āhuatanga, ka mate koe. Nā reira ko te nuinga o ngā karo [he] karo o ngā ringaringa me te mau rākau, ēngari ka whakamahia ko ngā waewae i te tuatahi.

(The first thing a novice must learn are the foot movements. If a person can't move their feet, can't jump, that sort of thing, learning weaponry is a waste of time. If you can't move from side to side, twist and turn, jump back and forth, you will die. Most of the blocks are with the staff in hand, but using the legs first).

The need for movement as a matter of survival was a view supported by the findings of this study. Participants shared varying descriptions of subsistence activities that required physical movement in order to ensure the survival of whānau, hapū and iwi. The participants also attribute this active way of life to a high level of physical wellbeing, a position and perspective shared by early observations of Māori by Pākehā explorers mentioned in the literature review. For example, Price (2010) outlined his view of the stature of Māori:

The Māori race developed a knowledge of Nature's laws, and adopted a system of living in harmony with those laws, to so high a degree, that they were able to build what was reported by early scientists to be the most physically perfect race living on the face of the Earth. (p. 214)

The evidence and findings of this study highlight that physical activity was embedded across much, if not all, of traditional Māori society. As a result, the physical wellbeing of Māori was maintained as a necessity of survival. This is an important finding for understanding the conditions of traditional Māori society that frame the definition of traditional Māori physical activity.

A further condition of traditional Māori society to emerge from this study was the significance of a collective approach. The participants in this study described the extent to which individuals traditionally lived within a whānau, hapū and iwi context, where shared responsibilities and obligations were expected and maintained. In particular, I highlight the comment by Te Hurihanganui who described one's obligation to their nation and the concept of "nationhood". This is supported by the text *The Old Māori* by Makereti and Penniman (1986) that described that "the Maori did not think of himself, or do anything for his own gain. He thought only of his people, and was absorbed in his whānau, just as the whānau was absorbed in the hapū, and the hapū in the iwi" (p. 38). The collective approach emerges as an important value in traditional Māori society and is discussed further, later in this chapter. Further analysis of the various traditional Māori whakatauākī or proverbs evidences the worldview held in traditional Māori society of the importance of being physically active and contributing to collective outcomes. For example, the commonly shared whakatauākī that follows speaks to the advantages of industry in opposition to the undesirable results of laziness, "tama tū, tama ora; tama noho, tama matekai" meaning "the working person flourishes, the idle one suffers hunger pangs" (H.M. Mead & Grove, 2004, p. 358). Another whakatauākī sharing a similar perspective is "he tangata momoe, he tangata māngere, e kore e whiwhi ki te taonga" meaning "a lackadaisical and lazy person is not likely to obtain wealth" (H.M. Mead & Grove, 2004, p. 121). There are numerous iterations of whakatauākī like these that have a proclivity for active contribution and illustrate the degree to which the work ethic and active requirements in traditional Māori society was ingrained and expected. This is further coupled with whakatauākī that particularly reinforce the significance of the collective approach. For example, "ehara taku toa i te toa takitahi, engari he toa takitini" meaning "my strength is not that of a single warrior but that of many" (H.M. Mead & Grove, 2004, p. 24), speaks to the value of the collective effort of many to complete a project or achieve an outcome. Similarly, the whakatauākī "he tokomaha ki te mahi kai, ka hinga te hoariri" conveys that "with many to work at providing food, the enemy will fall" (H.M. Mead & Grove, 2004, p.129) suggesting that the full participation and cooperative

efforts of the community are required to ensure survival. What emerges here is the importance and centrality of working together as a whānau, hapū, and iwi for the collective benefit of all in traditional Māori society. Positioning this finding within the context of a physically active way of life described previously may suggest that the collective approach was the motivating factor contributing to participation in physical activity. This was a specific finding by Warbrick et al. (2016) who demonstrated how Māori men felt a level of responsibility and accountability to their peers as intrinsic to their motivation in a modern approach to physical activity. Albeit a modern study, it indicates that the collective approach in traditional Māori society was important given that this perspective persists in the present day. Therefore, this result may be explained by the fact that physical activity carried out in traditional Māori society was the unintended consequence of an active lifestyle, driven by a social norm and need to contribute to whānau, hapū and iwi outcomes. Whatever the case, the collective approach was inherent in cultural values and principles in traditional Māori society and shaped the way in which Māori engaged in traditional Māori physical activity.

Another integral aspect of traditional Māori society that emerged in this study is that of mātauranga and the ways in which it maintains the wellbeing of whānau, hapū and iwi. Mātauranga, defined previously in the literature review, is concerned with the Māori knowledge, comprehension or understanding of all aspects of the universe. It is the way in which Māori understand the natural order of the universe and make sense of the world. In other words, mātauranga informed a Māori worldview in traditional Māori society. From this perspective, mātauranga became central for informing the behaviours and practices in traditional Māori society, and thereby the understanding of traditional Māori physical activity. For example, described in the Deed of Settlement of Historical Claims (2017) between Ngāti Tūwharetoa, Te Kotahitanga o Tūwharetoa and Her Majesty the Queen, is Ngāti Tūwharetoa mātauranga regarding one of Ngātoroirangi's kaitiaki, Horomātangi. Living in a cave beneath Motutaiko Island within lake Taupō-nui-ā-Tia, Horomātangi was our most powerful taniwha who was known to disrupt the water, and throw about large stones in the area. As a result, Ngāti Tūwharetoa travellers would avoid moving through the stretch of the lake between Motutaiko and Te Karaka Point. These Tūwharetoa behaviours and practices were maintained and mediated through cultural constructs such as tikanga and kawa. This example demonstrates how mātauranga of Horomātangi results in tikanga that ensures safety by guiding the behaviours and physical activity practices of Tūwharetoa. Similar comments about local tikanga informing the way in which whānau, hapū and iwi engaged in physical activity were also raised by participants in this study. Furthermore, this finding of mātauranga contributing to the wellbeing of whānau, hapū and iwi in traditional Māori society, is consistent with the established literature that recognises mātauranga for shaping Māori perspectives of health today

(Durie, 1998; Durie, 2004; I. Heke, 2014; Pere & Nicholson, 1991). A similar growing body of literature also indicates how relevant mātauranga is to contemporary physical activity (Henwood, 2007). What is interesting about these studies is that mātauranga becomes the basis through which we understand the Māori world compared to a Western worldview, and this mātauranga is shared in particular ways. For example, in traditional Māori society pūrākau and waiata were means through which Māori would pass on mātauranga through generations. Pūrākau have been specifically described as a pedagogical method for sharing mātauranga in order to perpetuate and preserve whakapapa and future generations (Lee, Hoskins, & Doherty, 2005). Pūrākau and waiata were cultural tools for learning that were also raised by the participants in this study, while they also spoke about the experiences they shared with their tūpuna as another way that mātauranga was imparted to them. This was the experience of Interviewee 1 while working in the garden, and Te Hurihanganui who learnt manaakitanga through the supply of firewood for his community. Similarly, Brown (2016) describes how mātauranga was embedded into various traditional Māori games when he wrote, “if a physical, social or psychological skill was thought necessary for tribal resilience it would be studiously integrated into a form of popular play – such educational nous reflected the sheer artistic, technological and intellectual acumen of our forebears” (p. 20). Thus, mātauranga becomes important for informing tikanga and kawa that guide physical activity behaviours and practices that support positive outcomes for the collective, and this mātauranga is shared through various cultural tools such as pūrākau, waiata and even through physical activities such as traditional Māori games. Given the relevance of mātauranga for shaping the understanding and perspective of Māori in traditional Māori society, it must also contribute to defining traditional Māori physical activity. This is discussed further in the response to the next key question.

The final condition of traditional Māori society that emerged in this study was the spiritual nature and belief of Māori. It is interesting to note that all participants in this study mentioned or referenced atua as a means of describing various aspects of Māori society, be they traditional or contemporary. The mātauranga of atua informed participants about the purpose and meaning behind particular behaviours and practices. For example, Interviewee 1 described how the atua Rongo guided the spirit in which one gardened. The spiritual element of traditional Māori society is well documented and supported, particularly in relation to understanding the Māori worldview (Barlow & Wineti, 2009; Best, 1973; Durie, 1985; H.M. Mead & Mead, 2003). These findings suggest that traditional Māori physical activity must also carry a spiritual component for Māori. If traditional Māori society held a belief in their creation and descent from atua, and the physical manifestation of atua are embodied in nature, then outdoor physical activity might be considered a way to facilitate whakapapa-based relationships with one's

ancestors and atua. For example, gardening connected one to Rongo, fishing connected one to Tangaroa, or bird snaring connected one to Tāne. This was a sentiment supported by Kameta who outlined the need for Māori to understand the various environments represented by different atua, in order to engage in those environments effectively.

Similarly, because spirituality defines cultural constructs of mana, tapu and mauri, then physical activity also has the potential to mediate and influence the tuakiri, or the spiritual anatomy of Māori. This was a point raised by Karaka (2015) where he described the power of physical activity to uplift one's mana through having the prestige and authority over one's actions. Achieving challenging tasks or overcoming adversity through physical activity, such as climbing a tupuna maunga, winning a race, or swimming a great distance, can all contribute to one's mana. In this way, physical activity can contribute to mana motuhake, the right to be self-determining, to have the authority and control over the functioning of the Indigenous body. Given that the Māori experience of colonisation in Aotearoa New Zealand has resulted in reduced rates of physical activity and increased rates of obesity, salvaging the Indigenous body from a modern Colonial lifestyle by restoring Māori health, might then be considered an act of rebellion or activism to address the Māori experience of colonisation. With these points in mind, the spiritual nature of Māori is significant and a foundational condition of traditional Māori society that also holds true today. Therefore, to describe traditional Māori physical activity with an absence of a spiritual underpinning would be inaccurate.

Through an analysis and review of the findings of this study, traditional Māori physical activity is defined within the context of traditional Māori society. The five key domains of traditional Māori society identified in this study suggests that traditional Māori physical activity; (a) exists within an environment of Māori autonomy; (b) is embedded into all parts of life; (c) must contribute to the collective good; (d) is understood and sustained through mātauranga; and (e) has a spiritual origin and connection. From this position traditional Māori physical activity would be consistent with the common reductionist definition of physical activity as any bodily movement produced by skeletal muscle that results in energy expenditure (Caspersen et al., 1985). It would also align with the WHO's four categories of physical activity that include physical movements for leisure, work, active transportation, and domestic purposes (World Health Organization, 2010). However, a traditional Māori definition of physical activity also extends on these definitions and categorisations in the context, motivation and meaning of physical activity, and how it is carried out. Traditional Māori physical activity occurs when Māori have tino rangatiratanga, mana motuhake, and complete agency over their lives. It is motivated by Māori values of whanaungatanga and manaakitanga contributing to the collective good. Lastly, traditional Māori physical activity consists of a spiritual belief that

connects the physical to a spiritual experience, such as the ability to influence one's mana, tapu or mauri. In doing so, it can facilitate mana motuhake by reclaiming Indigenous health outcomes and address colonial experiences, such as obesity. In these ways, traditional Māori physical activity must be considered unique to Māori and Aotearoa.

5.3.2 The Role of Te Reo Māori in Defining Traditional Māori Physical Activity

Within the framing of traditional Māori society previously discussed, I turn now to analyse how te reo Māori defines and describes traditional Māori physical activity. The phrase 'physical activity' is not widely or specifically defined in many of the Māori dictionaries reviewed in this study. This was one of the challenges encountered early in this study. As a result of framing the key questions by an English phrase, defined by a Western worldview, it has proven difficult to find a direct and meaningful Māori definition of physical activity. The difficulty of defining and translating concepts between te reo Māori and the English language is discussed by Magallanes (2011) as an ongoing challenge and experience through the Aotearoa New Zealand legal system and broader society. This may support the view that mātauranga is underpinned by a different paradigm, worldview and knowledge system compared to a Western perspective. As a result, there was no consistent te reo Māori terminology for traditional Māori physical activity shared by participants. This may have been the result of undertaking the interviews in English and not questioning specifically for a Māori term to describe traditional Māori physical activity. Nonetheless, there were two specific examples shared by participants worth noting here.

Te Hurihanganui describes physical activity using the term *taiao* a term often used to describe 'the natural environment', and subsequently expresses the various parts of this term to draw greater meaning. From this approach, Te Hurihanganui attempts to describe how physical activity is fundamentally about connecting in the present time, to the past and to atua, through movement. In this way Te Hurihanganui is building an understanding of traditional Māori physical activity as having a very strong connection to the natural world and environment, going so far as to say that the term *taiao* itself defines physical activity for Māori. This perspective supports the previous finding of the spiritual element of Māori society, and thereby the connection to nature and tūpuna. On the other hand, Interviewee 1 naturally uses a different phrase more commonly known today to describe physical activity which is *kori tinana*. Owing to its popularity, it is for this reason I chose *kori tinana* to describe physical activity in the title of this thesis. To better understand the Māori definition of the phrase *kori tinana* we explore the definitions provided in English by the Te Aka Māori Dictionary compiled by Moorfield (2011),

together with the Māori definitions provided in He Pātaka Kupu: te kai a te rangatira (New Zealand Māori Language Commission, 2008). It is interesting to note here that He Pātaka Kupu assigns each word a domain named after specific atua. This provides mātauranga and definitions within a cultural context rather than the English approximation alone. He Pātaka Kupu was created from the basis that it is a Māori belief that all things are descended from atua, and as a result, Māori terminology also share a whakapapa to atua. In the context of the conditions of traditional Māori society discussed previously, the way in which a language defines a concept can add additional information to this analysis. However, as Miedema and De Jong (2005) has stated, “concepts are clearly more than language: they are historically, socially and psychologically rooted, and need to be understood in this context. A mere translation is often inadequate” (p. 236-237). Therefore these definitions to follow intend to add further perspective to this study, to strengthen the meanings and interpretations Māori made of traditional Māori physical activity.

Firstly, the Māori term *tinana* is used to describe the physical body. The term *tinana* is widely used today and refers to the ‘body’ or ‘torso’, or the ‘main part of anything’, as in the body of a person or tree, or a body of ocean (Moorfield, 2011). It is the aspect of the body that is seen with the eyes, as opposed to the spiritual aspect of the body, the *tuakiri*, which is not. The term *tinana* is assigned to Ranginui and Papatūānuku and is perhaps reflective of the descent of the physical world from these primordial parents. With regard to the human body specifically, the word *tinana* is assigned to Tāne given his role in shaping the first female being Hineahuone, and thus becoming the creator of humankind (New Zealand Māori Language Commission, 2008). Likewise, the term *ōkiko* is another related term defined in English as ‘something physical’. However, the root word *kiko* means the ‘flesh’, ‘body’, or ‘substance of something’, while the prefix *ō* means ‘of’, ‘belonging to’, ‘from’ or ‘attached to’. Hence, the term *ōkiko* describes the concept of ‘being’, or ‘belong to’, the flesh or body (Moorfield, 2011). In this way it is similar to the word *tinana* and carries the same assigned whakapapa to Tāne. Through these two definitions of the physical body we learn that Māori have the terminology to describe the physical body, and of note, is terminology specific to all aspects of the physical body excluding any spiritual component. This terminology also recognises the connection of the *tinana* to Tāne and more broadly to Ranginui and Papatūānuku.

Secondly, we look to the Māori term *kori* which is defined by the Te Aka Māori Dictionary as to ‘move’, ‘wiggle’ or ‘play’. The term *kori* is also a term used to describe “an active, vibrant or energetic person” (Moorfield, 2011). This term *kori* shares various whakapapa to atua depending on the context and use of the word. For describing small movements *kori* is connected to Rūaumoko, the youngest child of Papatūānuku considered

responsible for earthquakes and volcanic eruptions. For describing the general action of moving *kori* is then connected to Tāne, and perhaps this whakapapa is related to the relationship movement has with the tinana. Lastly, and interestingly, if *kori* is describing movement for mahi ngahau (forms of entertainment) or for whaikōrero (formal speech making), the whakapapa is assigned to Tūmataunga (New Zealand Māori Language Commission, 2008). This last point is interesting given that Tūmataunga is often associated as the atua of man and war. This is not to be confused with Tāne as the creator of humankind, where Tūmataunga is the atua of humankind itself. Ngā taonga tākaro, the various games and pastimes of traditional Māori society, are considered the domain of Rongo and Rēhia as atua of peace and entertainment. However, ngā taonga tākaro were also seen to contribute to one's physical conditioning, particularly in preparation for entering Te Whare Tū Tauā, the school of Māori weaponry and warfare, the domain of Tūmataunga (Brown, 2016).

Similarly, the whaikōrero that takes place on the marae is an integral part of the pōwhiri, a traditional and cultural process of Māori engagement. Components of the pōwhiri are designated to Tūmataunga as a means of maintaining the safety of the whānau, hapū and iwi in ritual encounters with unknown visitors. The whaikōrero falls into this area, and as such, the assignment of the word *kori* to Tūmataunga during acts of whaikōrero comes from this Māori logic. In addition to the word *kori* for describing movement, and in likeness to the English language, there are many other Māori terms to describe various types of movement. For example, the word *neke* means to 'move' or 'shift', while *nekeneke* indicates to 'move gradually', 'move about', or 'manoeuvre' (Moorfield, 2011). Both of these terms are connected to Tāwhirimātea the atua of the various winds and storms, and likewise Tāwhirimātea is considered to move about from place to place (New Zealand Māori Language Commission, 2008). Another example is the word *koiri* which describes 'the way one bends the body', 'sways', and 'moves to and fro' (Moorfield, 2011). The term *koiri* is also connected to Tāwhirimātea together with Rūaumoko. The connection to Tāwhirimātea is owing perhaps to the to and fro nature of the winds, while the whakapapa to Rūaumoko is given possibly for the small repetitive type of movements described (New Zealand Māori Language Commission, 2008). It must be noted that Māori terminology appear not to be static or defined singularly, rather they are dynamic and are defined within the context of its use. As these previous examples point out, Māori terms such as *kori* can mean and take different whakapapa depending on the context to which it is applied, in this case by the nature of the movement, be it large or small, and in what setting it occurs, be it for play or speechmaking.

Given the brief analysis of te reo Māori used to describe physical activity by participants and in defining texts, physical activity that is described and defined in te reo Māori

requires additional consideration of the historical and socio-cultural context of its use. The phrase *kori tinana* is the most common Māori phrase used to describe physical activity today, which was also used by one participant. However, this does not appear to be used exclusively, given this study also found the use of another term *taiao*. Of note, the use of the term *taiao* to describe physical activity for Māori further strengthens the position of this thesis that traditional Māori physical activity has a strong connection to the natural environment. In both cases, the Māori terms and phrases take into consideration the aspects of the language described above, meaning that they are capable of describing the physical aspect of the human body and the associated movement that is generated. In this way, *kori tinana* would be most consistent with the scientific definition described earlier as “any bodily movement produced by skeletal muscles that results in energy expenditure” (Caspersen et al., 1985).

However, *kori tinana* does contrast to this scientific definition given the spiritual and cultural meanings evident through the *whakapapa* to *atua* that can modify the contextual meaning of the *kupu*. Depending on the *whakapapa* involved, a definition of traditional Māori physical activity derives multiple meanings, and subsequent sources of *mana*, *tapu* and *mauri*. This is consistent with the traditional Māori view of physical activity that recognises the presence of *mana*, *tapu*, and *mauri* and the potential to impact not only the physical but the spiritual elements of *oranga* (wellbeing) for *whānau*, *hapū* and *iwi*. As a result of these findings, it is more appropriate to describe traditional Māori physical activity with a phrase that takes into consideration the definitions and meanings already discussed. To this end, the phrase *tūpuna kori tinana* is a more meaningful definition of traditional Māori physical activity. By including the term *tūpuna* I acknowledge and reference the *kori tinana* undertaken by my *tūpuna* in traditional Māori society, together with the worldview and paradigm that underpins it. Thus, *tūpuna kori tinana* is an apt title for this thesis. To conclude this section, *tūpuna kori tinana* is understood to be shaped by the conditions of traditional Māori society, and is described in *te reo Māori* in such a way that acknowledges and upholds the *mātauranga*, worldview and beliefs of Māori.

5.4 In What Ways did Traditional Māori Knowledge Inform Māori Beliefs of Physical Activity?

In discussing *tūpuna kori tinana* I raise the significance of *mātauranga* for underpinning a Māori worldview; how *mātauranga* contributed to maintaining the wellbeing of *whānau*, *hapū* and *iwi*; and the way in which *mātauranga* shaped *te reo Māori* and thereby the meaning of physical activity. It is appropriate here, as an integral element of informing Māori beliefs of physical activity, to consolidate the findings of this study in relation to *mātauranga*. In this section we discuss the findings of this study in relation to the various

aspects of mātauranga, and how mātauranga shapes the Māori understanding, belief and practice of physical activity for Māori.

5.4.1 Mātauranga of Physical Activity

Taking the definition of mātauranga presented in the literature review, mātauranga of physical activity would have developed over multiple generations, been consistent with a holistic and whakapapa-informed system of knowledge, and would have been harmonious with the Māori understanding of the universe. The findings of this study identified two themes that strengthen and further our understanding of the mātauranga of physical activity. Consistent with this definition of mātauranga, the theme *He Māori te āhua* identified physical activity as part of a broader holistic system of wellbeing. Within this theme, mātauranga shapes the understanding of physical activity as something that is holistic and connected to all parts of Māori life, while traditional Māori games and the element of joy facilitated the development, maintenance and transmission of such mātauranga within and across whānau, hapū and iwi. Likewise, the theme *He māori te taiao* also aligns to this definition of mātauranga and demonstrates how the relationship Māori shared with the natural environment shapes mātauranga of physical activity. In particular, mātauranga relating to the natural world recognised through the various atua, informed the Māori understanding, belief and practice of physical activity. As mentioned previously in the findings, both of these themes, *He māori te taiao* and *He Māori te āhua*, and to a certain extent the theme *He Māori te noho*, are interrelated and co-dependent. This means that these themes should not be considered in isolation of each other, but recognise that they are connected through mātauranga to all aspects of the Māori universe and the natural world.

5.4.2 Mātauranga and the Environment

The theme *He māori te taiao* describes the extent to which physical activity for Māori is connected to a deep intrinsic relationship shared with the natural environment. Previously, we described the ways in which te reo Māori supported the relationship with the natural environment, and similarly the following whakataukākī articulates the way in which Māori described their physical attributes in likeness to the natural world, “anei ngā mea i whakataukītia ai e ngā tūpuna, ko te kaha i te toki, ko te uaua i te pakakē, ko te pakari i te karaka” meaning, “here are things valued by the ancestors, it is the strength of the adze, the vigour of the whale, and the sturdiness of the karaka tree” (H.M. Mead & Grove, 2004, p. 16). This was a view supported by Interviewee 1 who described the way in which Māori traditionally likened the stature and movement of the human body to the environmental characteristics of atua, “*haere koe ki te moana me mau atu koe ki te kaha o Tangaroa*” meaning “go to the ocean, you will grasp the strength of Tangaroa”.

Similarly, haka was another way in which mātauranga of the relationship Māori shared with the natural world was developed, maintained and shared. Kuini Moehau-Reedy describes in a documentary published by Waka Huia of the history of haka taparahi (ceremonial posture dance without weapons) in Te Tairāwhiti, the ways in which haka captured the ancestral landmarks of the area:

Koirā ngā wāhi i kōrerohia e rātou, i whakahuahuatia e rātou i roto i ngā haka nei, ngā rārangi maunga o te haukainga arā a Hikurangi, a Whanakao, a Wharekia, erā rārangi maunga tapu i hakainga e rātou. I hakainga e rātou i te hono ki te taiao, te papa o te whaititiri, te hikohiko o te rangi, ērā mea i hakainga e rātou.

(These are the places they speak of in their haka. The mountains in our region, Hikurangi, Whanakao, Wharekia those sacred mountains. Their haka describes their connection to the environment, the sound of thunder, lightning in the sky and other things). (TVNZ, 2011)

These descriptions echo the statements by Kameta when he described not only the way haka or language articulate the connection Māori have with the environment on a mental, physical and spiritual level; but goes further to explain that through the performance of haka one would imitate and literally move the body in likeness to these environments too. Through the language and cultural devices such as whakatauākī and haka informed by mātauranga, Māori strengthened the relationship shared with the natural world. Consequently, the Māori beliefs of physical activity have a connection to nature; including those movements that are inspired by nature such as the waves of the ocean; and, also movements dictated by nature such as the type of travel required when passing through a forest or over a rocky shoreline.

5.4.3 Mātauranga and Spirituality

Another significant aspect of mātauranga highlighted in the theme *He māori te taiao* is the spiritual underpinnings of the Māori relationship with nature as understood through atua. As described in the results, and discussed in connection to the spiritual condition of traditional Māori society earlier, the mātauranga of atua underpins the understanding and belief Māori have of this relationship shared with the natural environment. It is through whakapapa that Māori make sense of the relationship one has with whānau, hapū and iwi, extending to tūpuna and beyond to mountains, rivers, forests and all other natural environments. This is consistent with the statement by Henare (2001) in the literature review that states that “Māori do not see themselves as separate from nature” (pg. 202) but rather as a descendent of Papatūānuku and Ranginui. The findings of this study strongly support and indicate the knowledge of this spiritual and whakapapa-based relationship to the natural world through atua.

As a result of the mātauranga of various atua, there are many implications for the beliefs and practices of physical activity for Māori. Through a mātauranga informed view, the mana, tapu, mauri and other characteristics of atua shape the way in which Māori engage in physical activity. For example we have mentioned already the nature of Rongo over the practice of gardening. Additionally, this is supported by the whakapapa of kupu in te reo Māori discussed previously, where the domain of atua assigned to each kupu shapes the understanding and thereby the practice of physical activity for Māori. Furthermore, participants describe pūrākau of the origin of the various parts of the physical body as sharing whakapapa with the multitude of atua and children of Ranginui and Papatūānuku. This mātauranga again informs the way in which Māori understand our own bodies and powers, and our beliefs and practices of physical activity. Therefore, it is clear from the findings in this study and the supporting literature, that mātauranga of atua is central to the Māori relationship with the natural environment, and underpins the understanding, belief and practice of physical activity for Māori.

5.4.4 Mātauranga and a Holistic Perspective

With regards to the theme *He Māori te āhua*, I highlight the holistic and interrelated aspect of mātauranga in order to understand the beliefs and practices of physical activity for Māori. The findings in this study distinguishes that knowledge and understanding of the holistic perspective is central to traditional Māori society and a Māori worldview, and therefore tūpuna kori tinana is not seen in isolation but as part of a broader system of wellbeing. Taking for granted the definition of mātauranga, and the importance of atua for underpinning the understanding, belief and practice of physical activity for Māori, I give prominence to whakapapa for ordering mātauranga in a way that connects multiple bodies of knowledge. For example, participants described how the pursuit of mātauranga of atua provided an understanding to be able to engage effectively with atua and their environment, be it Tangaroa and the ocean or Tāne and the forest. Through whakapapa, one recognises that both Tangaroa and Tāne are siblings connected as children of Ranginui and Papatūānuku. Mātauranga of this whakapapa was understood by Māori and observed through various tohu or signs witnessed in nature. This is demonstrated by the mātauranga associated with the tohu of the flowering kōwhai tree that would signal that the kina (sea urchin) of the ocean were fat and juicy (King, Tawhai, Skipper, & Iti, 2005). In this way, mātauranga and whakapapa helped to make sense of the world for Māori and as a result, guides the way in which physical activity is performed and engaged. Whakapapa provides the mechanism to understand the connections between mātauranga that produced physical activity outcomes.

At another level, mātauranga and whakapapa would also hold the holistic view that physical activity in and of itself would be connected to other areas of life, particularly of

oranga. As Henwood (2007) describes it, “physical activity was always an integral part of holistic wellness for Māori”. A finding of this study supports those presented in the literature review of the holistic perspective demonstrated through various Māori health models and frameworks. These were raised by participants as a means to evidence their holistic understanding of physical activity. This characteristic of mātauranga is not only unique to Māori, but also appears to be a common denominator across other Indigenous nations and their knowledge systems. For example, Well For Culture is an Indigenous wellness initiative that aims to reclaim and revitalize Indigenous health and wellness as Indigenous Peoples of North America. Co-founder Chelsea Luger, descendant from the Turtle Mountain Band of Chippewa and Standing Rock Sioux Tribe, describes the way in which movement is part of a holistic system of wellbeing:

Movement is one of the seven circles of wellness, and it's a huge topic in the holistic wellness journey...from an Indigenous perspective we definitely have what I believe is a unique take on movement. We understand movement from an ancestral perspective as well as from a spiritual, mental, physical and emotional perspective. We all need movement as a part of our wellness. It's not just an option, it's not just an extracurricular activity, movement is medicine – literally. (Collins & Luger, 2019)

Together, this evidence of an Indigenous holistic perspective supports the findings of this study that mātauranga is holistic and interconnected. It further strengthens the finding that mātauranga of physical activity is part of a broader connected way of life. Therefore, it can be assumed that mātauranga is a knowledge system that does not isolate knowledge of physical activity, rather that it supports the holistic view of physical activity as part of a system of wellbeing for Māori.

5.4.5 Development, Maintenance and Transmission of mātauranga

As far as the development, maintenance and transmission of mātauranga is concerned, many Māori cultural practices and tools were developed, some of which have been described previously including pūrākau, mōteatea, waiata, haka, and whakatauākī. Another process and tool for sharing mātauranga that was raised by participants was the role of play and taonga tākaro or traditional Māori games. A finding of this study featured taonga tākaro as a means to share mātauranga relevant to the community, for the development of physical literacy, and also for the element of fun and entertainment. These aspects of traditional Māori games are supported and recognised by previous studies and texts. For example; in the text *Games and pastimes of the Māori* (1925a) Elsdon Best describes how traditional Māori games and pastimes allowed Māori children and adults to develop skills and activities that were relevant for their lifestyle requirements. Similarly, according to Thomas and Dyll (1999):

Traditional games and activities required coordination, stamina and fitness. Not only were they ways of having fun; they were also important in preparation for warfare, hunting, gardening, skills and leadership development, strengthening iwi development, and the transfer of cultural knowledge. (p.120)

Interestingly, one interviewee also spoke in-depth about how enjoyment had a role to play, particularly in encouraging participation and adherence. This was a view established in the recent scoping report on a Māori play framework published by Sport NZ which described how “play allows children to experience fun, joy and laughter in a way that is important to them. It is also where they develop and practice life skills” (2020, p. 03). However, the element of fun and joy appears not to have been widely described in the literature relevant to Māori physical activity.

Meanwhile, like Sport NZ’s scoping paper on play, the value of taonga tākaro for the development, maintenance and transmission of mātauranga is supported by an earlier text *Ngā Taonga Tākaro II: The Matrix* (2016) by Harko Brown. This text detailed how ngā taonga tākaro was “integral to the health and wellbeing of tribal life” and “seen as learning tools, to aid social development, to connect Māori with Te Ao Tūroa [the natural environment] and as a means for physical conditioning” (p. 23). Extending on this point, Brown (2016) detailed the way in which Māori intentionally incorporated mātauranga into taonga tākaro in traditional Māori society stating:

If a physical, social or psychological skill was thought necessary for tribal resilience it would be studiously integrated into a form of popular play – such educational nous reflected the sheer artistic, technological and intellectual acumen of our forebears. (p. 20)

This statement supports the finding that mātauranga was purposely embedded into taonga tākaro. This demonstrates that taonga tākaro were not merely games for passing the time or occupying the minds of the young and old, rather they were intentional constructions to develop, maintain and transmit mātauranga to ensure the wellbeing and survival of the whānau, hapū and iwi.

This study has identified the significance of mātauranga for informing Māori beliefs of physical activity. Developed over multiple generations, mātauranga underpinned a Māori worldview and understanding of the universe consistent with a holistic and whakapapa-informed system of knowledge. The findings of this study are supported by existing literature that evidences how mātauranga continues to shape a holistic Māori understanding of physical activity as something connected to all parts of life. It also highlights how mātauranga demonstrates the relationship Māori share with the natural environment, recognised through whakapapa and the subsequent knowledge and descriptions of atua. The mātauranga of atua, supported by a strong sense of spirituality, fundamentally shapes the Māori belief system and as a result, is central to the

understanding of Māori physical activity. So integral was the understanding of mātauranga and whakapapa of atua that these were expressed through many different cultural tools and devices such as pūrākau, mōteatea, waiata, haka, whakatauākī, and taonga tākaro. These cultural tools and devices served to continue to support mātauranga to be developed, maintained, and shared to ensure the survival and wellbeing of whānau, hapū, and iwi. Therefore, mātauranga is the paramount theory that sits behind the beliefs Māori have of physical activity. From this view, physical activity for Māori is descended and takes meaning from atua connecting it to all parts of the Māori universe. It assigns physical activity with the mana, tapu and mauri of atua, and thereby requires tikanga and cultural protocols in order for Māori to engage with it meaningfully.

5.5 In What Ways did Traditional Māori Values Underpin Māori Beliefs of Physical Activity?

For clarity, it would prove useful here to define what is meant by traditional Māori values. Values are defined as the principles or standards of behaviour, and one's judgement of what is important in life (Stevenson, 2010). From this definition, values guide the belief of what is deemed right or wrong. This is better described in the paper by Schwartz (1999) stating that "cultural values represent the implicitly or explicitly shared abstract ideas about what is good, right, and desirable in a society" (p. 25). These definitions begin to clarify that values inform behaviours, and that these values are socially determined and maintained. Māori values are derived from mātauranga and the traditional belief system of Māori (Harmsworth & Awatere, 2013; Henare, 1988, 2001; Marsden, 1988). Hirini Moko Mead (2016) also describes in his book *Tikanga Māori: Living by Māori Values* that values are linked to principles or standards of behaviour; though in particular, he points out that Māori customary values and practices underpin tikanga Māori. Tikanga were described previously as the best practice guidelines that supported and maintained the wellbeing of the community. Thus, traditional Māori values are the standards of behaviour formed in traditional Māori society to determine what is right, wrong, and in the best interests of the community.

Through their descriptions of traditional Māori society, participants in this study identified a number of traditional Māori values. In some cases, participants described specific traditional Māori values. However, in most cases, traditional Māori values were not so much named specifically, rather it was the resulting behaviour that was more elaborately discussed. Participants talked about practices of the collective approach, contributing to the collective good, hard work and industry, the respect for nature, and leadership and authority, all of which have been described previously. These previously described practices are fundamentally informed by traditional Māori values. The following section will identify and discuss, in what ways traditional Māori practices highlighted in this study

help to distinguish traditional Māori values, and how these values underpin the beliefs of Māori towards physical activity.

5.5.1 Whanaungatanga

Specifically mentioned in this study was the traditional Māori value of whanaungatanga. Whanaungatanga is drawn from the root word *whānau*, meaning the extended family, and is concerned with the relationship and kinship connections between individuals. An integral element to defining whanaungatanga is whakapapa, given that it acknowledges the relationship one has to whānau, extending to atua and the wider universe. Roles and responsibilities within whānau, hapū and iwi are understood and practiced through whanaungatanga. Many examples of the practices of whanaungatanga emerged through the descriptions of traditional Māori society described in the findings of this study. The condition of the collective approach is one of such examples that described the way in which whānau, hapū and iwi members lived together, how all members of the community were valued, and how practices and behaviours reflected the desire to maintain and support the wellbeing of the wider community. Kameta spoke about the extent to which whanaungatanga kept people connected as an iwi. Given the value placed on whānau, hapū and iwi relationships, participation in physical activity was described by participants to be guided by whanaungatanga. For instance, Interviewee 1 described the way in which individuals were motivated to engage in physical activity by the desire to participate together as a whānau, hapū or iwi through the quote “*kia rau ngā ringa, ka ngāwari te mahi*” (many hands make light work). As we begin to recognise whanaungatanga as an important value in traditional Māori society, whanaungatanga subsequently influences many, if not all aspects of traditional Māori society not the least physical activity. This finding is consistent with those of previous studies highlighted in the literature review that have shown whanaungatanga to be intrinsic to the motivation of Māori to participate in physical activity (Forrest et al., 2016; Warbrick et al., 2016). Therefore, whanaungatanga as a traditional Māori value is important for understanding the way in which Māori understand and engage in physical activity.

5.5.2 Manaakitanga

Another traditional Māori value that emerged in this study was manaakitanga. Manaakitanga focusses on the positive human behaviour concerned with the care, respect and hospitality one shares with others (Hirini Moko Mead, 2016). It is informed by the cultural construct of *mana* which is defined as meaning ‘authority’, ‘control’, ‘prestige’, ‘power’, ‘influence’, ‘status’, ‘spiritual power’, and ‘charisma’. Mana has to do with the supernatural force in a person, place or object, and is considered to be the enduring, indestructible power inherited from atua (Moorfield, 2011). In this way, mana

connects all aspects of the universe through whakapapa to atua, and it is through this understanding that behaviours are mediated.

The mana of an individual is inherited through whakapapa and can increase or diminish through the course of one's life depending upon their actions and achievements. For instance, the successful gatherer of seafood who provides plenty of kai for the pā (traditional Māori settlement), would be attributed more mana compared to the one who does not. Thus, the traditional value of manaakitanga is about endorsing and upholding the mana of others practiced through care, respect and hospitality. The way in which this underpinned the belief of physical activity was described by participants through the roles and responsibilities individuals held. Specifically, stories were told about the individual responsibility to maintain the wellbeing of the collective. The collective wellbeing of the lived community also extended beyond the living, to the ancestors of the past and the descendants of the future. In this way, manaakitanga influences the sense of responsibility individuals have to the collective, and this can dictate and motivate the way in which Māori participate in physical activity.

These examples describe how manaakitanga can motivate participants to contribute to the collective good and wellbeing of the whānau, hapū and iwi. Thus, manaakitanga might be considered an extrinsic motivator for Māori to participate in physical activity. This is a finding similar to those of previous studies like the work by Karaka (2015) who identified that “nurturing respectful relations and showing manaaki towards people is essential for promoting exercise within a fitness gym” (p. 136); and Waiti (2007) who demonstrated how tikanga informed by manaakitanga helped to develop and enhance a sense of cohesion, self-efficacy, self-esteem, and social support in participating in marae-based physical activity. These studies strengthen the findings of this study that identify manaakitanga as a traditional Māori value important for defining how Māori understand and engage in physical activity.

5.5.3 Kaitiakitanga

The traditional Māori value of kaitiakitanga is another value that contributes to the Māori beliefs of physical activity. Described by Ducker (1994):

Kaitiakitanga denotes obligations or responsibilities incumbent on the iwi, its members and appointed kaumātua, kuia or tohunga to carry out particular functions, be custodians, protectors, guardians of iwi interest, its taonga, various resources it owns.

Kaitiakitanga is the obligation and responsibility one has to protect aspects of the Māori world including, but not limited to, people, places, objects or even concepts like mātauranga. Kameta described kaitiakitanga as the function through which an individual

has the obligation and opportunity to protect one's whakapapa by being physically active and maintaining good health. Knowing the relationship that whakapapa establishes between Māori and the environment, this obligation of kaitiakitanga naturally extends to nature. Seen within a Māori epistemological context, kaitiakitanga is most often defined as the active guardianship or stewardship of environments (Harmsworth & Awatere, 2013).

Supporting this concept of kaitiakitanga, the theme *He māori te taiao* identified the deep-rooted relationship Māori held with the environment, their ancestral locations, and the connection between the taiao and physical activity. This relationship was described and explained to be underpinned by wairuatanga or the spirituality of Māori outlined in the theme *He Māori te noho*. Through wairuatanga, the relationship to the environment held by Māori is defined in a familial way through the whakapapa to atua. As a result, wairuatanga facilitates the kaitiakitanga obligations Māori have to nature. Similarly, given the relationship established to the environment through whakapapa and the responsibility for caring and respectful behaviour, one might argue that this responsibility of kaitiakitanga is also founded on values of whanaungatanga and manaakitanga. Thus, through kaitiakitanga, a responsibility and obligation is required of Māori to maintain the wellbeing of whānau, hapū and iwi, extending to the wellbeing of natural environments. Kaitiakitanga is therefore important for understanding Māori physical activity, as it provides the vehicle through which the wellbeing and whakapapa of whānau, hapū, iwi, and natural environments is maintained. From this perspective, Māori physical activity such as outdoor recreation is a way to facilitate relationships with ancestral environments like maunga, awa and moana, and that this relationship is mediated through kaitiakitanga. This means that physical activity in the outdoors must be undertaken in a way that is cognisant of the mana, tapu and mauri of atua and natural environments. For these reasons, kaitiakitanga is an important traditional Māori value for understanding Māori beliefs of physical activity.

5.5.4 Rangatiratanga

The final value to highlight is the traditional Māori value of rangatiratanga. Rangatiratanga is defined in the Māori dictionary as the right to chieftainship, the right to execute authority, and stems from the root word *rangatira* meaning 'high ranking', 'chieftain', 'chieftainness', 'noble', and 'esteemed' (Moorfield, 2011). A more useful definition for the purposes of this paper is described by Margaret Mutu (2010):

[Rangatiratanga] is high-order leadership, the ability to keep the people together, that is an essential quality in a rangatira. The exercise of such leadership in order to maintain and enhance the mana of the people is rangatiratanga. (p. 26)

This description of rangatiratanga by Mutu better defines the way in which rangatira serve the best interests of the community through both leadership, and the ability to maintain and enhance the collective mana of the people. Tino rangatiratanga, as it has been described throughout this paper, is more concerned with the absolute authority over one's life, a characterisation of traditional Māori society described in the theme *He Māori te noho*. Since the arrival of Pākehā and the ensuing violent disruption of Māori autonomy and sovereignty in Aotearoa New Zealand, tino rangatiratanga has since become synonymous with the fight for Māori Indigenous rights to sovereignty and autonomy in a post-Colonial era. Rangatiratanga is essential for understanding Māori beliefs of physical activity as it is central to promoting Māori autonomy and decision-making power as it relates to physical activity.

Supporting the value of rangatiratanga for shaping the understandings of physical activity for Māori is the evaluative framework *Te Whetū Rēhua* by Sport NZ discussed previously. Through *Te Whetū Rēhua*, rangatiratanga is attributed as one of five domains described in the literature review for ensuring Māori governance, management and delivery of Māori sports and physical activity including traditional Māori games. Similarly, other studies have also identified rangatiratanga as a traditional Māori value contributing to the success and effectiveness of health intervention for Māori (Forrest et al., 2016; Hamerton, Mercer, Riini, Mcpherson, & Morrison, 2014). Interestingly, the paper by Karaka (2015) also touched on how the value of rangatiratanga has the potential to foster the motivation of Māori to participate in physical activity, by strengthening personal agency and control of one's health and wellbeing. Thus, the evidence and findings of this study suggest rangatiratanga is an important value for understanding Māori beliefs of physical activity.

Traditional Māori values are important for determining the beliefs of Māori towards physical activity because they set the standards of behaviour that determine what is right, wrong, and in the best interests of the community. These are values that are informed by mātauranga and often practiced through tikanga Māori. Given the position of this study to define tūpuna kori tinana within the context of traditional Māori society, this study highlights a number of values directly relevant to informing the beliefs of Māori towards physical activity. These traditional Māori values include; whanaungatanga; manaakitanga; kaitiakitanga; and rangatiratanga. These values may not be the only ones significant to understanding Māori physical activity, and as Hirini Moko Mead (2016) notes, in general there is continual debate about what values are considered most important to Māori. Nonetheless, what has become clear through this writing is the extent to which traditional Māori values inform the desirable behaviours of society, and consequently underpin Māori beliefs of physical activity.

5.6 How Does Traditional Māori Knowledge and Values Shape Māori Physical Activity Today?

So far, this chapter has examined and evaluated the ways in which mātauranga, and Māori cultural values informed Māori physical activity. Today, the socio-cultural context in which Māori live is vastly different to the conditions of traditional Māori society, and as such, contemporary approaches to Māori physical activity also differ. Much of the evidence to date on Māori approaches to physical activity are commonly underpinned by mātauranga and incorporate various Māori values. Many of these studies also align to Māori health models and frameworks. The findings of this study adds further support to this evidence acknowledging the significance of mātauranga for underpinning Māori beliefs, values and practices of contemporary Māori physical activity. However, given the differing socio-cultural context resulting in the diverse lived realities of Māori, modern approaches to Māori physical activity not only employ mātauranga and Māori cultural values, but also require the need to consider and address the ongoing impacts of colonisation. What is meant by this is that Māori physical activity today often also reflect kaupapa Māori principles which fundamentally take for granted what it means to be Māori, contextualises this within the colonial experience, and seeks to emancipate Māori communities to be self-determining. Hence, the key aspects of contemporary Māori physical activity are to provide opportunities to learn about mātauranga and reinforce Māori cultural values; to strengthen whānau relationships; connect to one's spirituality through nature; and address colonisation to reclaim tino rangatiratanga and mana motuhake. This section will compare and contrast various modern approaches to physical activity to discuss the ways in which mātauranga and Māori cultural values continue to shape Māori physical activity today.

There are few examples in available literature and across popular media of contemporary Māori physical activity. However, of the approaches canvassed in this study, such as Sport NZ's national programme He Oranga Poutama, Māori Movement, and the social enterprise initiative PATU™, mātauranga and Māori cultural values are deemed to be important. To add to these examples, there is growing popularity of taonga tākaro, or traditional Māori games, to revitalise its practice while providing opportunities to learn mātauranga Māori and reinforce Māori cultural values. Taonga tākaro enable Māori to partake in physical activity while learning aspects of mātauranga such as tikanga, pūrākau, karakia and other forms of knowledge (Hokowhitu, 2004). This is supported by Brown (2016) who describes the use of traditional Māori games at the time of Matariki, the Māori new year, as a medium through which not only active recreation is enjoyed, but where relationships are strengthened, and cultural practices, values and knowledge are reinforced between generations:

Games were enjoyed and played passionately during the intense celebrations of Matariki, but they also had purpose outside of being purely recreational. They served to sustain spirituality; they united individuals, hapū and iwi; and with their associated karakia, waiata, haka and tikanga, they also helped to keep the connections to Te Taiao strong and transport Māori culture through the ages.
(p. 44)

In this example, the fundamental reason for participating in modern Māori physical activity in the form of taonga tākarō, resides in the transfer of mātauranga through experiential learning and spiritual practice, in contrast to achieving any particular health outcome. Note that Brown highlights how taonga tākarō are also a means to sustain spirituality, to strengthen whānau relationships and connections, and maintain the relationship with the taiao or the natural environment. Again, these are key aspects relevant to contemporary approaches to Māori physical activity.

Another contemporary approach is the Atua Matua Health Framework by Dr. Heke (2014) mentioned briefly in the literature review, which is described as a “health system that uses traditional Māori environmental knowledge to understand health from an Indigenous perspective” (p. 04). More specifically, the Atua Matua Health Framework is underpinned by mātauranga which is localised to a specific environment through whakapapa, interpreted with huahuatau (metaphor), and physically expressed through a form of whakatinanatanga (physical application). This framework provides the basis through which localised Māori approaches to physical activity, underpinned by mātauranga and a relationship to nature, can be developed at a community level. For these reasons, the Atua Matua Health Framework has been applied across various sectors and settings who have an interest in Māori health and physical activity including schools, kura, sports trusts, national outdoor recreation bodies, and Māori organisations.

For example, in educational settings, the joint Aotearoa New Zealand government initiative between Sport NZ, and the Ministries of Health and Education – Healthy Active Learning – is applying the Atua Matua Health Framework through the Tapuwaekura Pilot. The aim of the Tapuwaekura Pilot is to promote and improve wellbeing of tamariki and rangatahi through quality physical activity, healthy eating and drinking in schools, kura and learning services across Aotearoa New Zealand in a way that is significantly relevant and meaningful to, for and as Māori (Sport New Zealand, 2020). Once fully delivered and evaluated, the Tapuwaekura Pilot has the potential to further demonstrate the findings of this study that mātauranga, tikanga and te reo Māori can play an important role in informing physical activity approaches for Māori. Given the holistic view of the Atua Matua Health Framework it is unsurprising that this framework is not only being applied to improve wellbeing through quality physical activity, but also extends to healthy eating

and drinking. This suggests that the findings of this study may be relevant in other areas and domains contributing to Māori wellbeing.

Further demonstrating the application of the Atua Matua Health Framework to modern physical activity approaches for Māori, is a series of 'How to' videos developed by Dr. Heke together with Toi Tangata and Te Papa Tākaro o Te Arawa. These easy-access online resources provide examples of physical activity informed by the various whakapapa of different atua and kaitiaki such as the kāhu (harrier hawk), rō tāne (stick insect), and the whai (stingray) (Toi Tangata, 2016). These video examples present forms of physical activity informed by mātauranga of the natural environment, providing mātauranga of one's connection to nature, and the opportunity to express this connection through physical activity. These mātauranga informed approaches to Māori physical activity exemplify the value of Māori knowledge, values and behaviours for improving the relevance of physical activity initiatives for Māori. In addition, they also contribute to outcomes greater than individual or population-wide health outcomes by furthering broader Māori development goals that aim to realise the aspirations of Māori.

The predominant Western worldview and approach to physical activity in Aotearoa New Zealand is indicative of the underpinning scientific method of inquiry. As described in the literature review, this perspective has led to the biomedical and reductionist view of physical activity that is concerned with the systems and processes of the body. The public health response to increasing physical activity rates is thereby informed from this view. A view coupled with the neoliberal theology of 'individual responsibility' which locates physical activity as a choice of personal obligation. The premise of individual responsibility diminishes the role that one's environment, and their historical experience including colonisation, plays in the perception and participation of physical activity. Approaches like those described in the literature review such as the setting of national physical activity guidelines, public health mass media campaigns like 'Push Play', and primary care approaches such as 'Green Prescription' dominate the approaches to physical activity in Aotearoa New Zealand.

Similar to the findings of this study concerning the Māori approach to physical activity, the Western approach utilises varying strategies to communicate and transmit the knowledge and practice of physical activity to members of society. For example, the Ministry of Health's Healthy Eating and Activity Guidelines (2015a) set the recommended standards for all of Aotearoa New Zealand to ensure positive health outcomes. Likewise, the findings of this research highlighted whakatauākī as a tool used by Māori to set the social expectation of members of society to be active. In the same way, pūrākau and waiata were another means to share mātauranga of physical activity in perhaps the same

way as mass media such as the 'Push Play' campaign. Lastly, primary care approaches of prescribing physical activity like GRx might be likened to the tohunga who instructed various aspects for developing the body such as those found in Te Whare Tū Tauā for the arts of war, or Te Whare Tapere for games and entertainment. These aspects demonstrate that there are similarities between the Māori and Western public health approaches to increase physical activity participation particularly in terms of the value of sharing knowledge or mātauranga.

However, there are significant differences between Māori and Western approaches to physical activity that have also emerged. The Western approach differs to the Māori approach to physical activity in a number of ways including the prioritisation of; individualism over collectivism; reductionism over holism; the physical over the spiritual; and the intellectual superiority of the Western worldview over mātauranga. The Māori value of whanaungatanga underpins the collective approach that has been highlighted as a central aspect to traditional Māori physical activity. Whanaungatanga locates individuals within the context of their whānau, hapū and iwi and has proven to remain integral to modern approaches to Māori physical activity. In contrast, the Western perspective and definition largely isolates physical activity from the family context by centring the individual. Despite recognising the value of physical activity to community wellbeing (World Health Organization, 2018), the Māori approach goes further to acknowledge not only the benefit of physical activity on collective outcomes, but that physical activity in and of itself cannot be separated from the whānau context. Even when physical activity is carried out alone by individuals, there remains whakapapa connections to ancestral environments.

Another difference highlighted in this study is the interconnected and holistic perspective of Māori towards physical activity, in contrast to the reductionist perspective of the Western worldview. This is most obvious in describing Māori physical activity as part of a holistic system of wellbeing described in by the theme *He Māori te āhua*. The reductionist and biomedical view acknowledges the interrelated systems of the body, and the influence physical activity has on physical, mental, and emotional health outcomes of the individual. However, given the collective mentality and perspective of the Māori approach, a traditional Māori perspective on physical activity encapsulates and acknowledges the relationship and connection of all things extending beyond the individual to whānau, societal, and environmental level outcomes.

This relates to another difference that emerged which details the significance of the spiritual aspect of Māori physical activity compared to the position of a Western worldview. The prominence of evidence determining the physiological and psychological

health benefits of physical activity in the past, has undervalued the significance physical activity has on the social, emotional, intellectual and spiritual dimensions of health (Cañadas, Veiga, & Martinez-Gomez, 2014). As mentioned in the literature review, Durie (1998) supports this position when he describes the Western approach as having less concern with the spiritual and intangible elements described by Māori models of health. However, in recent decades, the contribution of one's spirituality to overall wellbeing, and the interplay between the spiritual and physical body, is growing in recognition (Chirico, 2016). This is exemplified by more recent studies that highlight outdoor recreation as positively impacting the spiritual health of individuals (Hansen & Jones, 2020). A Māori perspective of health and physical activity deemed important by this study encapsulates this spirituality, challenging the long-held view of the reductionist approach that devalues the immeasurable spiritual elements.

The Western approach to physical activity differs again from a Māori approach as it takes for granted what is considered 'normal' and thus operates in ways unimpeded within Aotearoa New Zealand society. What has surfaced in the findings of this study is that *tūpuna kori tinana* is characterised by *tino rangatiratanga* and *mana motuhake*, elements not described or included in Western approaches. In a modern context, Māori physical activity operates in a colonising society, and as such, specific approaches cognisant of the power imbalance and societal norms are required. The He Oranga Poutama programme is a good example of this, where one of the five key outcome areas is to ensure Māori governance, management and delivery of initiatives. This approach requires a specific focus on ensuring Māori control of initiatives recognising that the current sport and recreation sector has lacked meaningful investment in Māori leadership and decision-making. This is an experience that differs for mainstream providers that align to the Western approach, resulting from the intellectual superiority and dominant position of power it holds in Aotearoa New Zealand. Thus, Māori approaches to physical activity specifically employ kaupapa Māori principles that aim to decolonise and re-Indigenise Māori approaches.

5.7 Chapter Summary

Mātauranga and Māori cultural values are integral to understanding the beliefs of Māori towards physical activity in both a traditional and modern context. Given the ongoing experience of colonisation, modern Māori physical activity is not only underpinned by mātauranga and Māori cultural values, but is characterised by kaupapa Māori and Māori development principles that aim to revitalise Māori ways of being, while concurrently addressing ongoing harmful and oppressive colonial constructs. Physical activity is not a passive agent, rather, it has been described as a colonial tool to subjugate Māori, particularly Māori men, by limiting Māori to the physical pursuits (Hokowhitu, 2004) and

establishing the discourse that Māori are 'naturally' physical and violent (McNeill, 2008). Through the history of Aotearoa New Zealand, Western perspectives and approaches have marginalised mātauranga and Māori cultural values across all domains of society not the least sport, active recreation and physical activity. These challenges persist today with all participants acknowledging the impact colonisation has had on the Māori way of life and consequent views and beliefs of physical activity. Therefore, mātauranga and Māori cultural values continue to be relevant and important in the modern context and this is supported by Henwood (2007) who also described that "programmes seeking positive outcomes for Māori need to be grounded in Māori realities, knowledge and aspirations" (p. 157). Furthermore, and most significantly, Māori approaches to physical activity must actively address the colonial experience of Māori by providing safe opportunities to engage in mātauranga and practice Māori cultural values, while dismantling harmful colonial constructs and ideologies.

Chapter 6 – CONCLUSION

6.1 Chapter Introduction

This study set out with the aim of exploring the traditional beliefs and values of Māori towards physical activity in order to; provide insights into the mechanisms that motivate Māori to be physically active; and highlight the role of traditional Māori beliefs and values in addressing the increasing rates of physical inactivity among Māori. This study found that traditional Māori physical activity is unique to Aotearoa New Zealand and is characterised by; Māori having tino rangatiratanga, mana motuhake, and complete agency over their lives; an underpinning of mātauranga and Māori values; and wairuatanga that connects the physical practice to a spiritual experience. A Māori definition of traditional Māori physical activity is dynamic, and draws various meanings owing to mātauranga that recognises the whakapapa to atua, and the subsequent Māori values that emerge from this. To this end, the phrase and title of this study, *tūpuna kori tinana*, is a more meaningful definition of traditional Māori physical activity given that it upholds the mātauranga, worldview and beliefs of Māori. Mātauranga is the paramount theory that underpins the Māori worldview and beliefs of Māori physical activity. It is an ongoing process of knowledge creation, drawing from the past, present and future, and positions the understanding of Māori physical activity within the context of all visible and invisible aspects of the Māori universe. From this view, physical activity for Māori is descended, and takes meaning from atua, reinforcing the relationship Māori share with the natural environment. This assigns Māori concepts of physical activity with the mana, tapu and mauri of atua, and thereby requires tikanga and cultural protocols in order for Māori to engage meaningfully. These tikanga and cultural protocols are mediated through the traditional Māori values of whanaungatanga, manaakitanga, kaitiakitanga, and rangatiratanga. These Māori values are informed by mātauranga and set the communally agreed standards of behaviour that are important for Māori physical activity. Overall, this study has strengthened the position that mātauranga and Māori cultural values remain important for informing modern approaches to Māori physical activity. In addition, owing to the experience and ongoing impacts of colonisation, kaupapa Māori principles are also integral and required for modern Māori approaches to physical activity. This is different to both a traditional Māori approach and a Western approach as kaupapa Māori principles fundamentally take for granted what it means to be Māori, contextualising this within the colonial experience, and aims to emancipate Māori communities to be self-determining. This study has gone some way towards enhancing our understanding of how critical mātauranga and Māori cultural values are to motivating Māori to be physically active.

6.2 Practical Implications

These findings will be of interest for interested stakeholders across a socio-ecological model including individuals, whānau, hapū, iwi, institutions, and the wider society who seek to address the increasing rates of physical inactivity among Māori. At an individual and intrapersonal level, Māori physical activity is a tool to address the colonial experience of Māori while simultaneously revitalising mātauranga and Māori cultural values and practices. For example, the findings presented in this study can confirm for Māori that physical activity in the outdoors is a means to reconnect to ancestral sites of significance, revitalising the relationship to atua and nature. This also comes with the responsibilities of kaitiakitanga which requires one to ensure that physical activity preserves, or even enhances, natural environments rather than diminish it. Additionally, given the whakapapa of physical activity to atua, engaging in Māori physical activity can contribute to increasing one's mana and rangatiratanga. This has the potential to motivate Māori to be self-determining and dismantle the oppressive nature of obesity as a physical manifestation of colonisation.

Extending to whānau and families on an interpersonal level, this study further confirms the place of whānau as the foundation of Māori society, and the role Māori physical activity can play in establishing, strengthening and maintaining relationships. Given the significance of social relationships on individual and collective wellbeing, engaging in Māori physical activity as whānau collectives will be important. Similarly, Māori who participate in individual physical activities or sports such as swimming, would benefit from recognising the contribution of that activity to the collective good. As an example, winning a gold medal at the Olympics in an individual sport, would add mana not only to the individual, but also to their whānau, hapū, iwi and nation as a whole. Thus, Māori physical activity can facilitate whanaungatanga and contribute to whānau level outcomes.

Considering then the implications of the findings of this study at a hapū, iwi and institutional level, mātauranga becomes integral for underpinning the formal and informal rules and expectations relevant to Māori physical activity. Local workplaces, schools, community organisations, social and religious organisations would value from reflecting mātauranga and Māori values as a means to increase participation, engagement and adherence by Māori. Critically, tino rangatiratanga is an important factor which requires such organisations and institutions to be cognisant of the need for Māori physical activity approaches to be owned, governed, managed, developed and delivered by Māori in accordance with mātauranga and Māori cultural values.

Lastly, at a societal level the findings of this study urges a significant shift in the societal attitudes, beliefs and practices that impact Māori physical activity. This study has highlighted the historical and ongoing impacts of colonisation on Māori physical activity and how many of the harmful colonial constructs of race, class and gender perpetuate discriminatory and oppressive attitudes, behaviours and practices in physical activity for Māori. Furthermore, established social norms have facilitated the separation of Māori from nature severing the close connection Māori once shared to the environment. Mātauranga of atua is central to the Māori relationship with the natural environment, and underpins the understanding, belief and practice of physical activity for Māori. By underpinning physical activity with a Māori understanding of tūpuna kori tinana, Māori and all New Zealanders may benefit from a more intimate connection to nature. This extends further to applying a Māori lens to new environments and ecosystems such as built-up cities and indoor facilities like gyms and sport-centres, in order to create new interpretations and expressions of mātauranga that facilitate Māori to engage authentically with these spaces. This would be an extension to the kaupapa Māori gym described by Karaka (2015) by moving beyond the application of Māori cultural values, and articulating the benefits and risks associated with the built-up environment on Māori health and wellbeing outcomes via new interpretations of atua. This would attempt to answer the question “of all of the atua, who would hold the mana over a sporting complex or gym facility?”, and thereby guide the beliefs and practices of Māori within that setting. The challenge, however, is that the attitudes, behaviours and practices prevalent in Aotearoa New Zealand, are deep-rooted and require long-term, sustained resource and effort to overcome.

Public policy on improving physical activity for Māori requires strategic investment across a physical activity system. Benchmarking against other systems approaches (Price Waterhouse Coopers, 2015) this would include; (a) investing in direct participant programmes to increase the knowledge of mātauranga and Māori cultural values relevant to Māori physical activity; (b) building the skills of the relevant workforce to implement Māori physical activity; (c) providing communities with the support and resource to develop and implement their own approaches to Māori physical activity; (d) addressing harmful social norms through mass communication and media strategies to raise awareness and understanding of Māori physical activity; (e) advocating for the collective agency of government, organisations, corporations and communities to mobilise on addressing the needs to strengthen Māori physical activity approaches; (f) legislative and policy reform to address the factors underlying the absence of Māori approaches to physical activity; and (g) accepting mātauranga as having mana-ōrite or equal value as Western knowledge systems by investing in to Māori research,

evaluation, and monitoring that supports the continual learning and development of a comprehensive physical activity system.

6.3 Limitations

The major limitation to this study was the low number of participants interviewed resulting in findings that are less generalisable to all Māori of Aotearoa New Zealand. A low sample size may also risk assuming for fact, the concepts that have been shared here among only a few participants. I have attempted to eliminate findings that are not strongly supported by other sources of evidence to address this. Similarly, being limited to the voice of tāne also means that this study is not representative of the views and experiences of wāhine and other gender diverse communities. This is important given the evidence indicating that traditional Māori society was balanced by the roles of all sexes and genders (Anne Mikaere, 1994). Notwithstanding the limited sample size and make up, it must be noted that a kaupapa Māori methodology recognises that the mātauranga shared by participants is considered a taonga and must be protected and respected. As a result, owing to the whakapapa and experience of participants, their respective tapu and mana adds a greater level of cultural significance to the findings of this study.

6.4 Recommendations for Further Research

Further research is required to extend on the findings of this study. Specifically, studies on the current topic undertaken with a greater number of Māori participants representing a diverse connection to one's Māori language and culture, could help determine the effectiveness of using traditional Māori beliefs, values and practices with these groups in a modern context. Similarly, understanding that Māori are not a homogenous group subscribing to the same beliefs, values and practices, an investigation located within a specific hapū or iwi would provide more relevant mātauranga distinctive to that hapū or iwi. Finally, additional information drawn from a broader analysis and review of sources of mātauranga such as; waiata; oriori; mōteatea; karakia; mahi toi; and kōrero tuku iho, to name a few, would help to establish a greater degree of understanding to this area of study.

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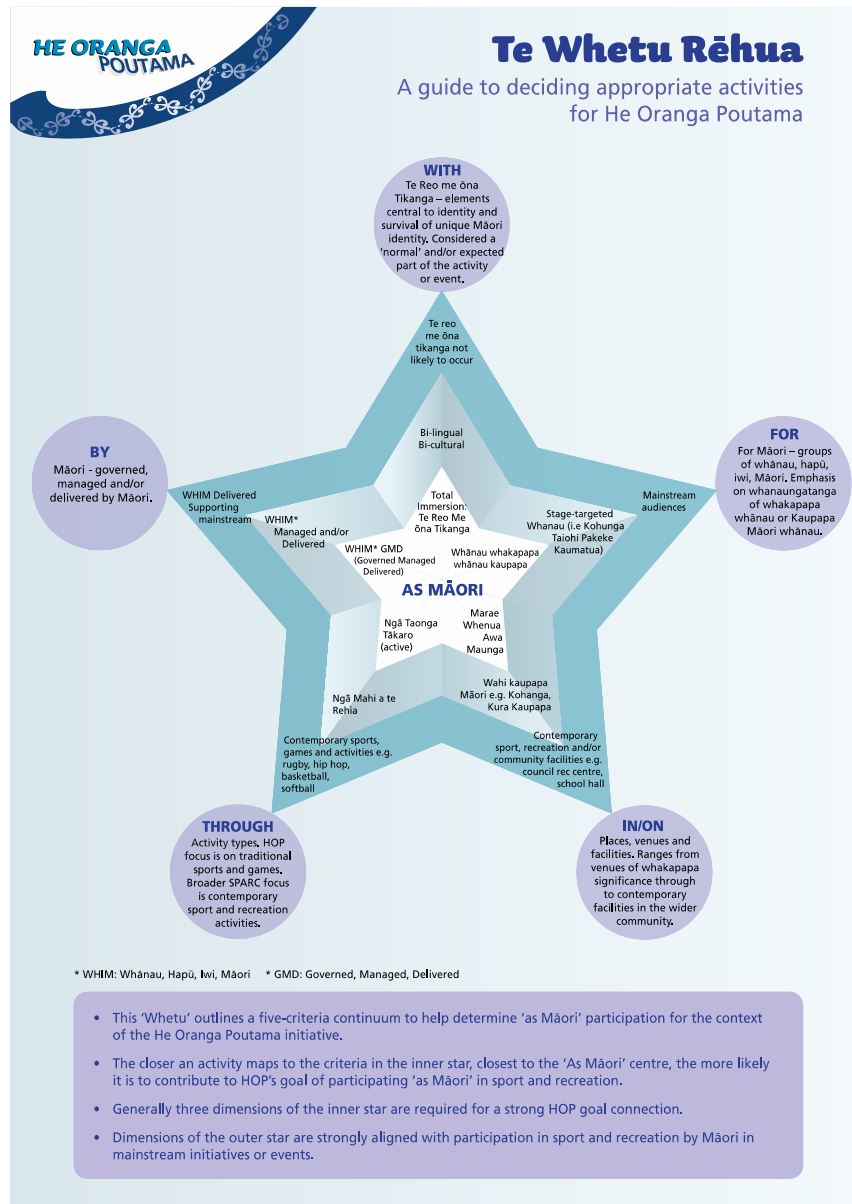
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APPENDICES

Appendix A – Te Whetū Rēhua



Figure 3: Te Whetu Rēhua



Appendix B – Ethics Approval



Auckland University of Technology Ethics Committee (AUTEC)

Auckland University of Technology
D-88, Private Bag 92006, Auckland 1142, NZ
T: +64 9 921 9999 ext. 8316
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

6 August 2019

Isaac Warbrick
Faculty of Health and Environmental Sciences

Dear Isaac

Re Ethics Application: **19/232 Kori tinana: Traditional Maori beliefs of physical activity**

Thank you for providing evidence as requested, which satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC).

Your ethics application has been approved for three years until 5 August 2022.

Non-Standard Conditions of Approval

1. Please ensure the safety protocol includes a plan in the event that a 'check out' of interviews from the researcher is not received;
2. Data and Consent Forms must be stored by the applicant on University premises.

Non-standard conditions must be completed before commencing your study. Non-standard conditions do not need to be submitted to or reviewed by AUTEC before commencing your study.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the [Auckland University of Technology Code of Conduct for Research](#) and as approved by AUTEC in this application.
2. A progress report is due annually on the anniversary of the approval date, using form EA2, which is available online through <http://www.aut.ac.nz/research/researchethics>
3. A final report is due at the expiration of the approval period, or, upon completion of project, using form EA3, which is available online through <http://www.aut.ac.nz/research/researchethics>
4. Any amendments to the project must be approved by AUTEC prior to being implemented. Amendments can be requested using the EA2 form: <http://www.aut.ac.nz/research/researchethics>
5. Any serious or unexpected adverse events must be reported to AUTEC Secretariat as a matter of priority.
6. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEC Secretariat as a matter of priority.

Please quote the application number and title on all future correspondence related to this project.

AUTEC grants ethical approval only. If you require management approval for access for your research from another institution or organisation, then you are responsible for obtaining it. You are reminded that it is your responsibility to ensure that the spelling and grammar of documents being provided to participants or external organisations is of a high standard.

For any enquiries, please contact ethics@aut.ac.nz

Yours sincerely,

Kate O'Connor
Executive Manager
Auckland University of Technology Ethics Committee

Cc: temiri.rangi@gmail.com

Appendix C – Participant Information Sheet



Participant Information Sheet

Date Information Sheet Produced:

30 July 2019 (edited 23 February 2020)

Project Title

Kori tinana: Traditional Māori beliefs of physical activity

An Invitation

Tēnā koe, he uri tēnei nō Ngāti Tūwharetoa, Te Arawa, Ngāti Maniapoto me Raukawa e karanga ake nei. Ko Te Miri Rangi taku ingoa, he pou ahurea Māori ahau ki Te Kaporeihana Āwhina Hunga Whara.

I am a descendent of Ngāti Tūwharetoa, Te Arawa, Ngāti Maniapoto and Raukawa. My name is Te Miri Rangi and I currently work for ACC leading kaupapa Māori approaches to injury prevention.

I am studying towards a Master of Health Science and undertaking research to understand the traditional Māori beliefs and values of kori tinana or physical activity. I would like to invite you to take part in this research and share your insights and stories to help inform and shape the future use of physical activity for Māori. You have been invited because you either self-identify or someone has identified you as a suitable participant.

What is the purpose of this research?

Māori cultural concepts and practices emerge as central to the way Māori think about and participate in physical activity. However, the fundamental Māori concepts specific to physical activity are yet to be explored by academia, rather, a broad range of concepts that leverage off of established models of Māori health appear to guide the current promotion, prescription and use of physical activity for Māori.

This research seeks to explore the traditional beliefs of Māori about physical activity in order to determine the mātauranga and Māori values that underpin Māori physical activity. In this way, this study will contribute to knowledge of understanding how Māori define physical activity. It is envisaged that these findings will help determine the traditional Māori knowledge and values specific to physical activity, in order to guide the future promotion, prescription and use of physical activity for Māori. The findings of this research will form my masters thesis and may be used for academic publications and presentations.

How was I identified and why am I being invited to participate in this research?

You are being invited to take part because you are:

- Māori
- Over the age of 18 years
- Identify yourself as having specialist skills, experience, or knowledge of mātauranga relating to physical activity

How do I agree to participate in this research?

Once you have read and understood this information sheet and had the chance to have any questions answered, you will be asked to complete an informed consent form – that will be provided by me (the primary researcher). Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

Your major contribution to this project will primarily be via a simple interview process. If you choose to participate, you will be one of around 6-8 participants. An interview will give me the opportunity for us to talk and for me to ask you some questions about your understanding of the values and beliefs that underpin Māori physical activity.

The interview will be conducted in a mutually agreed upon venue and at a time that suits. I will ask you about a range of topics that are relevant to understanding traditional Māori perspectives of physical activity, and its relevance in a modern context. Importantly, you will have the opportunity to share relevant stories around Māori physical activity.

I will record and transcribe the interview data, and you will be given the opportunity to review or revise your comments. The information I receive from research participants will then be weaved together with other sources of mātauranga to help frame a definition of Māori physical activity more consistent to the views and aspirations of Māori.

What are the discomforts and risks?

It is unlikely that you will experience any discomfort from participating in the research.

How will these discomforts and risks be alleviated?

Although the risk of discomfort during discussions is minimal because of the mana-enhancing focus, if you do feel uncomfortable during the interview process at any time, we can end the discussion at your request.

What are the benefits?

The benefit of participating in this research is that you will be contributing to a positive narrative about Māori physical activity. Your participation will inform and contribute to the development of a thesis and relevant publications to redefine Māori physical activity.

What compensation is available for injury or negligence?

In the unlikely event of a physical injury as a result of your participation in this study, rehabilitation and compensation for injury by accident may be available from the Accident Compensation Corporation, providing the incident details satisfy the requirements of the law and the Corporation's regulations.

How will my privacy be protected?

You will have the opportunity to be in control of your privacy. It is the intent of this research that participants can choose to remain identifiable in certain parts of the data. This means that you can decide whether you want some information kept private or not. This means that if you choose to be named in the research, your iwi, hapū, whānau, and community may be able to share in the acknowledgement of your contribution. All other aspects of confidentiality will be maintained, your personal information will be stored safely, and it will only be used for the purposes of this research.

What are the costs of participating in this research?

By participating in this research, you will be agreeing to contribute a significant amount of your time. I would anticipate that your total time investment would be approximately 3 hours, including the interview, and any potential follow-up or reviewing of your interview data. These activities can be spread over different days, depending on your availability.

What opportunity do I have to consider this invitation?

2 weeks

Will I receive feedback on the results of this research?

Yes. You will be offered a summary of the findings of this research.

How is this study being funded or supported?

This study is being supported financially through various grant and scholarship schemes through the Ministry of Health, Tuaropaki Trust and the Tūwharetoa Māori Trust board.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Isaac Warbrick, Isaac.warbrick@aut.ac.nz, +64 9 921 9999 ext 7591.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTC, Kate O'Connor, ethics@aut.ac.nz, 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Primary Researcher:	Te Miri Rangi	temiri.rangi@gmail.com	021 045 1819
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Project Supervisor Contact Details:

Project Supervisor:	Isaac Warbrick	isaac.warbrick@aut.ac.nz	+64 9 921 9999 ext 7591
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Approved by the Auckland University of Technology Ethics Committee on *type the date final ethics approval was granted*, AUTC Reference number *type the reference number*.

Appendix D – Consent Form



Consent Form

Project title: *Kori tinana: Traditional Māori beliefs of physical activity*

Project Supervisor: *Isaac Warbrick*

Researcher: *Te Miri Rangi*

- ☐ I have read and understood the information provided about this research project in the Information Sheet dated 30 July 2019 (edited 23 February 2020).
 - ☐ I have had an opportunity to ask questions and to have them answered.
 - ☐ I understand that notes may be taken during the interviews and that they will also be audio-taped and transcribed.
 - ☐ I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
 - ☐ I understand that if I withdraw from the study then I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
 - ☐ I agree to be named in the publication of this research (you will have the opportunity to amend this option and any data that is connected to your name). Yes ☐ No ☐
- If you do not choose to be named in this research, you can still participate and remain anonymous.
- ☐ I agree to take part in this research.
 - ☐ I wish to receive a summary of the research findings (please tick one): Yes ☐ No ☐
 - ☐ I wish to have all of my personal data returned. Yes ☐ No ☐

Participant's signature:

Participant's name:

Participant's Contact Details (if appropriate):

.....

Date:

Approved by the Auckland University of Technology Ethics Committee on *type the date on which the final approval was granted* AUTEK Reference number *type the AUTEK reference number*

Note: The Participant should retain a copy of this form.