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MĀ WAI E KAWEA TAKU KAUAE KI TĀWHITI?

Utilising mātauranga Māori to convey us into the future

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Abstract

Traditional knowledges are not homogeneous or tidy; they often contain hidden meanings and tensions. In some cases, they are contradictory and therefore understanding them requires careful analytical and critical thought. The marginalisation and exclusion of Indigenous knowledges in contemporary contexts has perhaps been (falsely) justified because they do not easily translate into non-Indigenous ways of knowing. The purpose of this article is to critically examine traditional Māori knowledge and epistemology in relation to modern challenges and meaning-making. Indigenous conceptual frameworks allow for Indigenous interpretation of our experiences on our own terms. A key argument presented by this article is that to utilise mātauranga Māori in genuine and transformative ways, we must first strip back layers of misunderstandings caused by colonisation to develop indigenised understandings that empower us to harness the colour, the contrast and the complexity of Indigenous knowledges in our contemporary contexts.

Keywords

education, epistemology, knowledge, mātauranga Māori, research

Introduction

The Indigenous people of Aotearoa New Zealand are collectively and politically known as Māori. Hapū and iwi are organised through shared genealogy, each often striving to maintain their tribal sovereignty and uniqueness. While iwi Māori are independent and diverse, we acknowledge our shared experiences as colonised people, and like many colonised or politically marginalised peoples, we are often forced to present, and are frequently represented, as homogeneous in a range of sociopolitical contexts. The term "Māori" is used here to differentiate the Indigenous people of Aotearoa from non-Indigenous people; it is not intended to imply homogeneity. Many of the ideas discussed throughout this article have been developed through life experience and a research project involving knowledge from various hapū and iwi of the author. Many Māori will have differing, contrasting and equally valid perspectives of traditional knowledges and of the histories recounted here. Dominant power structures have devalued multiplicity, whereas our own Indigenous worldviews enable us to navigate, manage and engage

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with multiplicity as a natural and normal human activity.

Conventional Western education systems have taught Indigenous peoples to mistrust not only the wisdom of our ancestors but also our own instincts, inspirations and creativity (Battiste, 2008). Alarmingly, social networking platforms are also increasingly breeding mistrust by engendering and encouraging individualised sets of "facts" and "knowledge" that appear to be "truths" through constant exposure to information that relentlessly reinforces individuals' opinions (Orlowski, 2020). This modern phenomenon is anti-intellectual as it positions evidenced-based critical thought as elitist (Orlowski, 2020). Consequently, opinions become facts, and information is confused for knowledge. The elevation of collective knowledge bases, proven over long periods of time by groups of people, is argued for in this article. Traditional, cultural knowledge has the potential to combat the disorder caused by individualised sets of knowledge that constantly reinforce uncritical sameness in thought.

This article seeks to contribute to the search for solutions to long-standing and ongoing issues in Aotearoa caused largely by a tenacious colonial education system, by emphasising the empowering, creative potential of mātauranga Māori. This article maintains that Indigenous knowledge is epistemology—the science, philosophy and practice of knowing about existence based on the lived histories of Indigenous peoples (Dei, 2011).

First, this article will critically discuss Māori epistemology to highlight that reclaiming traditional Indigenous knowledge in research and education is crucial in challenging ongoing injustice as it has powerful potential to solve complex contemporary problems. Second, nuances in mātauranga Māori, specifically knowledge from the kauae runga and the kauae raro will be analysed to illustrate the complexity and diversity of Indigenous knowledge. According to Meyer (2008), "We must develop new theories from ancient agency so we can accurately respond to what is right before our eyes" (p. 217). This article will argue that this might be achieved through critical analysis of epistemological frameworks and knowledge inherited from our ancestors.

Ka tiritiria: Powerful epistemic knowledge

Rapua ngā aho tapu. Ka tiritiria,
ka poupoua ki a Papatūānuku,
ka puta ki te whei ao, ki te ao mārama.
Seek the sacred threads.
They fall and become pillars on Earth,
so that we may emerge first into the dawn,
then into the world of light.
—He tauparapara tawhito

Hegemony is the domination of one entity by another (Gibson, 1986). Traditional Western research has performed the tasks of maintaining hegemonic sociopolitical power relationships in Aotearoa. An important aspect of conceptual frameworks grounded in Indigenous knowledge is to challenge myriad inequities perpetuated by Western research. The tauparapara above reinforces Meyer's (2008) view that knowledge is limitless, vast and subjective. This tauparapara charges humanity with the responsibility to perceive all types of knowledge; to search it out, to interpret, analyse and critique; then establish and embed it for the use and prosperity of humanity. This process causes a transition from ignorance into enlightenment, and then finally into a state of understanding and full consciousness.

The epistemic language used in the tauparapara above connecting the cosmological to the physical world in the context of the dawn illustrates that becoming fully conscious is not merely the development of mental intelligence but a process of mediating the intellectual *and* the spiritual by engaging all of the senses, to operate at full capacity. One way of achieving this seemingly idealistic feat is through research that draws on epistemologies that deviate from dominant Western discourse and empower alternative perspectives and "fuel[] dreams of alternative possibilities" (L. Smith, 2012, p. 201).

Research for Māori, like it is for the rest of humanity, is not a new concept. In the tauparapara above, "rapua ngā aho tapu" is a reminder from tohunga to search, re-search and analyse the physical and esoteric spaces around us. Māori scholars of the ancient academy were immersed in praxis, in that action and analysis were an inseparable (L. Smith, 2012) and continuous process in informing the lives of our people. Research became problematic for Māori when our epistemologies collided with those of Western Europe. From this juncture, research was used as a "tool of colonisation" (L. Smith, 2005, p. 116) in order to subjugate and invalidate Māori epistemologies and practices. In the chaos caused by this philosophical collision, Māori were repositioned as powerless, which impacted negatively on our own and others' perceptions of ourselves, our culture and our knowledges.

The dominant paradigms used in Western social research can arguably be organised into

three main categories: positivistic, interpretive and critical (Sarantakos, 1998). Historically, Māori have not benefited from research conducted about us largely because the paradigm that sought to understand us was that of positivism that claimed to be scientific, objective, neutral and, therefore, "true". L. Smith (2012) argues that empirical positivism, which forms the basis of traditional Western research on Māori, is in fact sets of values, conceptualisations and theories of knowledge that are culturally oriented, serving the purpose of objectifying, marginalising and colonising Māori (see also Cram, 2001).

Duran and Duran (2000) contend that the "objectification of science is nothing more than ongoing social control and hegemony" (p. 88). This type of research, heavily biased towards Western ways of knowing, has a dual effect on society. At systemic levels, those with political power utilise the findings of such research to develop and justify laws, policies and initiatives that maintain both unequal power relationships and systemic racism. On a personal, common-sense level, individuals and groups form ideas about what counts as real based on what has been "proven" by research (L. Smith, 2000, 2012). A particular danger of a positivist approach is an unwavering reliance on a singular definition of "knowledge" and "truth" that fails to acknowledge that all knowledge is contestable.

Elabour-Idemudia (2011) argue that knowledge production processes have been dominated by Western philosophical beliefs and worldviews that undermine Indigenous philosophical thoughts. "Ka tiritiria" in the tauparapara above describes a Māori philosophical view of knowledge production. "Tiritiria" refers to the way in which knowledge is passed from the spiritual realm into the physical—it falls as raindrops do to splash upon the earth (personal communication, Te Warihi Hetaraka, September 11, 2014). From this perspective, knowledge is produced externally on a spiritual plane; it is deciphered by tohunga through cosmology, then critiqued, constructed, reconstructed and internalised under tapu in the physical world.

This worldview perceives knowledge as an entity so vast and varied that a singular way of knowing is unfeasible. No one person or single group could ever behold it all—just as it would be impossible to stand in the rain and catch all the raindrops. L. Smith (2012) concurs that cultural knowledge systems contain multiple ways of knowing and multiple traditions of knowledge. Meyer (2008) also argued that Indigenous ways of knowing "expand[] the idea of what knowledge is supposed to be and in truth is—vast, limitless, and *completely* subjective" (p. 218). This worldview has been disregarded by Western philosophy, particularly in research, through positivism. Positivist methodology dictates that its own rules of knowledge production are "normal" and "correct", and that anything outside of positivist, Western criteria is barbaric and repugnant (L. Smith, 2012).

Dei (2011) contends that it is not possible for marginalised groups to ask dominant groups to merely make space for alternate knowledges to co-exist. Instead, we must challenge hegemonic power structures, such as those found in academic discourse. Dei (2011) insists that simply asking for space will affirm the continued dominance of particular forms of knowledge. Utilising Indigenous knowledges in research is a resistance strategy. Conceptualisations, epistemologies and philosophies of ancestors provide logical and robust theoretical space from which to conduct research.

Battiste (2000) contends that shared dialogues between academics and Indigenous peoples will assist in challenging dominant Eurocentric discourses that continue to misunderstand and marginalise Indigenous knowledges. Using Māori-centric, Indigenous and te ao Māori conceptual frameworks in research will contribute to transformative dialogue that illustrates a conscious attempt to challenge academic discourses, which continue to privilege Western knowledge (L. Smith, 2012) and refute the validity and depth of theoretical knowledge contained in the whakapapa and discourse of ancestors.

Kauae runga: Reclaiming spiritualised ideologies

Wairuatanga, a dimension of kauae runga, was the lifeblood of my ancestors; it was the conduit through which they interacted with, and in, the world. Every aspect of traditional life was weighed, measured and read against aspects of spirituality (Edwards, 2010; Hiroa, 1982; Whatahoro, 2008). Many Māori continue to perceive the physical world as immersed in the spiritual realm (Pere, 1982). Dei (2011) explains that a spiritualised view of humanity is one characteristic of indigeneity—that for many Indigenous peoples there is no space between non-material and material. The inseparable link for Māori between the spiritual and the physical is illustrated time and again by narratives linking cosmology to biology. There are innumerable Māori histories that repeatedly link the science of the properties of the universe to human biology. This is perhaps to serve as

a reminder that, first, humanity is inseparably linked to the wider environment and universe; in this sense, there is no space between the physical and spiritual.

Dei (2011) refers to the "mind, body and soul nexus" (p. 9), which constitutes an integral part of Indigenous knowledge. Incorporating Indigenous knowledges and philosophy of spirituality in research and in the academy is one example of seeking to repair the physical, material, emotional and spiritual damage caused to marginalised groups through practices of colonisation (Dei, 2011). A Māori conceptual framework starts with wairuatanga and is driven by the necessity to rapua ngā aho tapu—search for the sacred threads that bind the spiritual and physical. The belief that knowledge is constructed and reconstructed under tapu provides a philosophical foundation from which to critically engage with ideas of methodology without being subjected to the continued "epistemic colonialism" (Duran & Duran, 2000, p. 86) caused by positivist research methodologies.

Learning from the kauae runga took place under tapu to preserve the knowledge for longevity. The whare wānanga was the site of Māori scholarship, of mātauranga and pedagogical practices restricted to men and women specifically chosen as young children (Hemara, 2000) by tohunga and kaumātua. Higher order Māori academy has been in existence for generations and yet, in the search to rectify current educational and wider social inequities experienced by many Māori, the spiritualised ideologies of the kauae runga are not reflected in contemporary curricula, pedagogical practices or policies. A possible reason for this is that many Māori did not have access to this level of scholarship, as it took place in isolation from everyday life. Another reason may be that so much of our traditional forms of education in both kauae runga and kauae raro were entrenched in societal structures and ways of living that have been denigrated through colonisation.

Marsden (2003) argues that the Platonic dualistic perspective of the universe that partitions life into the secular and the spiritual was a position reinforced by Enlightenment scientific philosophies. The isolation of knowledge from spirit is reflected in modern New Zealand education, which is founded on the notion of free, secular and compulsory education for all (non-Māori) children as prescribed by the original Education Act of 1877. Since the earliest Māori encounters with Western education, "the unifying thread, the spiritual dimension had been withdrawn" (Marsden, 2003, p. 43) forcefully and purposefully by colonial forces that came to control our education. The epistemic perspective that knowledge is bound to spirit permeates Māori language, and yet modern education continues to compartmentalise and isolate knowledge from wairua and, increasingly, isolate knowledge from understanding.

Sharma (2005) argues that structural practices "persist in otherising certain minority spiritual ideologies, values and sacredness" (p. 154). In the New Zealand context those structures have been built by forcing underground higher order knowledge in Māori communities. The traditional security surrounding the knowledge of the kauae runga perhaps made for an easier othering process because, in a relatively short period of time, tohunga and their teachings became not just othered, but subterraneous, feared and ridiculed in wider New Zealand society. Meyer (2008) contends that, worldwide, the weight of hegemony and forced assimilation collapsed the higher orders of Indigenous knowing; for Māori this process has put so much pressure on kauae runga knowledge, and on our abilities to access, manage and understand it, that it has become an often misunderstood rarity.

Modern education, and literacy, has been viewed as a means of power that can be used to control society and the environment (Jenkins, 1993). By this definition, knowledge is power; it is profitable and can benefit us personally. An argument presented by traditional Māori knowledge holders emphasises the responsibility attached to attaining knowledge: knowledge from the kauae runga is earned (Hetaraka, 2020). While it is tied to whakapapa, it is not a birthright, nor a commodity of the elite. The process of attaining this knowledge is difficult, which ensures that the knowledge is respected. Mead (2012) concurs that mātauranga Māori is a specialist field, highly regarded by those who do not have it. In a modern society that always expects instant gratification and access to all knowledge, at all times, the notion that one must *earn* the right to learn some things may be incomprehensible.

Meyer (2008) contends that knowledge that endures is driven by spirit; it is a life force connected to all other life forces. This is the power of knowledge from the kauae runga. Despite the persistence of Western knowledge and culture, some people retain this level of knowledge and are respected for it (Mead, 2012). However, the fragmentation caused by deeply entrenched structural practices that have successfully othered our spiritual ideologies has left the general Māori population with only pieces of knowledge from

the kauae runga. Many of us desperately attempt to piece together the fragments so that we might be closer to understanding the workings of the universe according to our ancestors. That we know this higher order knowledge still exists just beyond our consciousness is evidence of its powerful and enduring connectedness.

Kauae raro: Collective knowledge of human activity

The kauae raro is the domain of practical, scientific and socio-ecological knowledge; it constitutes the knowledge we need to know in order to function, be productive, be successful and socialise in the physical world (Hetaraka, 2020). Meyer (2008) argues that knowledge such as this is a unifying wisdom as it is embedded in function, awareness and usefulness. This is the knowledge that all members of a society are entitled to, as it is essential to development, socialisation, sustenance and cultural reproduction. The cultural milieu of an iwi is instilled in children not through formal schooling but through their living and participating in all aspects of their community, over a long period of time (Marsden, 2003; Rangihau, 2011).

The function of the kauae raro as a means by which to reproduce and modify cultural and social knowledge is the reason the term "mātauranga tuku iho" was chosen by the influential and powerful chiefs of Te Whakaminenga in 1835 to describe the cultural knowledge that would be handed down from one generation to the next, as Māori experienced greater contact with other cultures (Hetaraka, 2020). Mead (2012) describes mātauranga Māori as having a past, present and future, a concept exemplified in the thinking process of Te Whakaminenga.

Te Whakaminenga understood that Māori culture would evolve with ongoing contact with other cultures, and they maintained the power to decide what aspects of our culture would be vital to retain so that Māori could continue to prosper and be proactive within a changing social landscape. Significantly, in 1835 these chiefs also identified aspects of the new Western knowledge they had encountered to be included as mātauranga tuku iho. This illustrates their intention to broaden Māori knowledge bases to include useful aspects of other cultures, and evidences their perception that Western knowledge belonged to the kauae raro, which therefore entitled all Māori to attain it in order to function effectively in our changing social circumstances. However, aggressive assimilationist policies and racist attitudes towards Māori were used to prevent us from fully accessing Western knowledge and participating in the positive aspects of New Zealand society (Hetaraka, 2020).

Ka poupoua: Engaging deeply with pillars of knowledge

Education did not arrive in Aotearoa with Europeans; it is an inherent building block in the foundations of our culture. Education was carefully nurtured and expanded as our ancestors traversed the Pacific, ensuring the spiritual and physical needs of the people were met on the ocean, and in new lands. Mātauranga Māori is taken for granted here as the basis of a dynamic and valid education system that collided with an equally dynamic knowledge system. Developing a sense of the depth of knowledge that once existed within Māori education and society may influence greater understandings as to why the social, education and political systems imposed on Māori have been, and continue to be, problematic for so many.

Tohunga were scholars within the academy of the whare wānanga, their role making them arguably the most revered and respected members of society (Gudgeon, 1907). One role of tohunga is to interpret and disseminate knowledge—physical and practical, as well as esoteric and spiritual knowledge (Marsden, 2003). The following analysis of mātauranga Māori considers the position, shape and survival of traditional knowledge in modern contexts. Distinctions are made in the analysis of traditional Māori knowledge—mātauranga from the kauae runga, which is esoteric, spiritualised, philosophical knowledge, and mātauranga from the kauae raro, which is practical, scientific, social knowledge—and the intricate link between the two that ensures they co-exist as parts of a comprehensive whole.

Mead (2012) explains that the Māori religious system forms the philosophical underpinnings of traditional mātauranga Māori and therefore provides ethical rules about notions of tapu and noa. On this foundation, Māori identity, culture, language and social structures were developed. The perspective that all knowledge is tapu formed the basis of the first iteration of formal Māori education in Aotearoa. The differentiations between tapu and noa also provide the basis for differentiated knowledge types. Traditional Māori knowledge can be categorised into tapu knowledge from the kauae runga, the upper echelons that formed the curriculum of whare wānanga; and knowledge from the kauae raro, the noa sociocultural and environmental knowledge required for successful survival, growth and development.

Many traditional narratives and histories

exemplify the differentiations between types of knowledge, and repeatedly link epistemology to human biology. Lee (2005) posits that Indigenous narratives are not mere myths and legends; they are in fact creative representations of the lives and actions of our ancestors, designed to preserve ancestral knowledge and to reflect worldviews. The Māui narratives are used here to illustrate the knowledge preserved by ancestors, which is accessible by examining beyond the often outrageous surface of the narratives to critically analyse the deeper messages. Māui is an ancestor common throughout the Pacific whose numerous innovations and groundbreaking theory testing continue to be taught within Polynesian cultures.

Lessons from Māui, the weaver of knowledge systems

Māui is remembered as an ancestor whose accomplishments enabled the growth and prosperity of civilisation throughout the Pacific. Māui was able to achieve feats that to our contemporary minds appear to be impossible, and he is therefore known as a demi-god. By utilising a Māori conceptual framework to analyse narratives and histories passed down through generations, it becomes apparent that Māui had in-depth understandings about the physics of the universe, which can be attributed to his education.

According to some histories, Māui was raised separated from his mother and siblings. This enabled his first education to be conducted in an esoteric, tapu space under the tutelage of his supernatural ancestor, Tāne-nui-a-Rangi. This education began when Māui was an infant, and the curriculum he was taught may have been informed by takutaku, kawa and wairuatanga. That Māui was taken by Tāne-nui-a-Rangi to the upper realms to compete this education is symbolic—this is the knowledge of the kauae runga, literally "the upper jawbone".

Many today cannot definitively identify the curriculum taught to Māui during his time with Tāne-nui-a-Rangi because knowledge from the kauae runga was highly protected by tohunga, passed on in very specific ways, to people identified by tohunga as having the characteristics and eminence to continue to protect it while simultaneously using it to strengthen their hapū and iwi. Kauae runga knowledge was a powerful tool that allowed Māui to perform tasks beyond the capabilities of ordinary humans. He used this knowledge to gain access to spaces, resources and people that would assist him in changing the future of his people, who would become the peoples of the Pacific. While his knowledge of the kauae runga was powerful, his education was not completed until he had inherited kauae raro knowledge from his human elders. This is again a symbolic representation of ancient Māori philosophy, in that highly spiritualised knowledge becomes powerful when translated into practices that benefit human endeavour, and vice versa.

In some histories Māui violently and unceremoniously rips the lower jawbone from his grandmother Murirangawhenua. In others Māui stealthily finds her to tell her he would like it for its magical properties: Murirangawhenua then gifts the lower jawbone she has been holding specifically for him (Alpers & Hanly, 1996). In all Māui narratives it is Murirangawhenua's lower jawbone that allows Māui to complete many fantastic deeds. Murirangawhenua's lower jawbone is a personification of knowledge from the kauae raro.

Māui was entrusted with knowledge from Murirangawhenua and used it to navigate into and across the Pacific. Māui has been credited by Māori with fishing up, or more accurately discovering but not populating, Aotearoa New Zealand. The narrative of Māui using his grandmother's lower jawbone to fish islands out of the vast ocean is one repeated throughout the Pacific, in both hemispheres, and is likely to be a recording of the discovery of the Pacific (Fenton, 1885). Māui's abilities as a navigator and explorer were not extraordinary for people who, even during his time, must have been spectacular wayfinders. What is exceptional is the nature of his grandmother's knowledge.

Murirangawhenua was an ancient, in some accounts blind, woman. How did she know the location of islands far to the south that had never felt human footfall? How could she know constellations to follow that were most likely in a different hemisphere to the one in which she lived? Murirangawhenua was able to instruct Māui on aspects of the kauae raro—navigational markers, geography, astronomy, physics and the nature of a vast unexplored ocean—without ever having had made the journey herself. One English translation of her name, "Furthest Boundary of the Land", gives a potential clue as to how far away from Aotearoa, or even the Pacific, she lived, yet she knew that in lands never seen before, Māui would find resources aplenty to sustain his exploration and to ensure his safe return home. Māui sat at his grandmother's knee and inherited her jawbone—her vital knowledge of the kauae raro in the form of geography, technology, environment

and science. He then expertly interpreted it based on his initial education in the kauae runga.

According to many Māori histories, Māui's education in many of the aspects of the kauae raro came under the instruction of the māreikura. His knowledge of fire came from his aunt, Mahuika, and Māui then shared this technology throughout the Pacific. He secretly followed his mother, Taranga, to Te Rarohenga to learn sciences, biology, weaving and netmaking. It was also through his observations of his mother that Māui came to understand the complexities of human relationships. Māui's female ancestor Hine-nui-te-pō taught him his final lesson about the nature of human limitations and mortality. She taught Māui that human survival is closely linked to our understanding and protection of environments and ecosystems. The ultimate lesson from Hine-nui-te-pō was that to ignore signs and warnings from nature that are made as clear to us as the incessant twitter of the fantail, and to persistently cause imbalances in our environments and relationships, will ensure our own demise.

Māui is an ancestor who weaves the layers of knowledge from the kauae runga and kauae raro. We remember Māui as a demi-god because he had the ability to balance highly spiritualised knowledge with practical, scientific and technological knowledge in such a way that he appears to be part human, part god. He exemplifies physical, spiritual and intellectual strength, and is also a notorious trickster. Māui operated using all his senses; he was a fully conscious demi-god. Māui was all these things because he had a complete education: he used the philosophical knowledge from the kauae runga to inform his pragmatic and experiential learning in the kauae raro. These layers of knowledge and their complex interfaces supported Māui's many achievements and adventures that fuelled continued knowledge production about the nature of the universe, the world around us, and ourselves, for generations.

The histories that have travelled with the Māui narratives have retained both kauae raro and runga knowledge that is not always immediately obvious to our modern, colonised minds. The examples of Māui constantly pushing the bounds of what is known and knowable, of testing information, of critiquing, and exploring provide us with a template for research that has the potential to connect deeply with diverse knowledges.

Mead (2012) maintains that mātauranga Māori as a pool of knowledge is inclusive and dynamic, as illustrated by the two distinct forms of knowledge discussed here which contribute to the wider context of mātauranga Māori. However, it appears that for many, the differences between the two are confused by modern contexts and by competing epistemologies—including traditional Māori, modern Māori, non-Māori, and religious epistemologies. The systematic degradation of traditional Māori knowledge, which endangered our language and removed our traditional social structures, began by disrupting the kauae runga, the philosophical, cosmological and spiritual mātauranga that underpinned Māori culture and social structure. Disrupting the epistemic understandings of any people will inevitably impact on kauae raro knowledge and the continuation of culturally sustaining practices. The following discussion will analyse these layers of mātauranga Māori in order to highlight the complex ways they interact to form a cohesive epistemology.

A dynamic and multi-faceted epistemology

Presenting mātauranga Māori dimensions of the kauae runga and kauae raro separately is not intended to give the impression that they operate in isolation from each other. A key feature of the kauae runga and kauae raro is that, while the pedagogies and audiences were different, they were interconnected by wairua and by action. In defining differences between Kaupapa Māori theory and mātauranga Māori, Royal (2012) asserts that "mātauranga Māori . . . is used merely to label a body of knowledge. It does not tell us what we might do with this body of knowledge" (p. 33). If knowledge from the kauae runga and knowledge from the kauae raro are viewed as separate entities or, conversely, rolled together as one entity without definitive layers, rather than being viewed as essential parts of a broader context, this conclusion is understandable. However, if we understand that each dimension plays a specific role in this overall body of knowledge, then mātauranga Māori begins to look more like a combination of theory, kauae runga, and practice, kauae raro. In Kaupapa Māori theory, G. Smith (2012) describes the interface between theory and practice as praxis.

Kauae raro can be understood as the knowledges attached to human activity that are accumulated, reflected upon and adjusted as each generation invents new innovations in the times and environments they face (Mead, 2012). In this way knowledge from the kauae raro can be seen as "how" we do things, with the "why" embedded in the kauae runga. For example, the tikanga (which are an aspect of kauae raro) attached to the

construction of a new whare deems the building be constructed by men, then opened at dawn, with the first person entering the building being a puhi. Kawa (an aspect of the kauae runga) provides the rationale attached to the tikanga, which is a complex acknowledgement of the interaction between the physical and the spiritual, and the balance between the sacred roles of both men and women.

According to traditional Māori knowledge, the opening of a building is symbolically linked to childbirth. Women are restricted from the building process because of their sacrosanct role in childbirth. The men's role is to construct; the women's role is to give life to that construction. The opening of a new building must happen at dawn to re-enact the process of passing through the dark birth canal, into the world of light. The ancient takutaku that are recited during the opening rituals tell of the ancestor Tāne-nui-a-Rangi travelling to the furthest reaches of the universe and retrieving all conceivable energy forces to imbue them into the heart of the new building. The only person capable of ensuring the building is infused with those energies gathered by Tāne-nui-a-Rangi, or to give life to the building, is a puhi, the highest-ranking virginal female. This is not to say we believe the building is alive; it is an acknowledgement of the energy in the environment that went into the making of the new structure. The philosophy links the physical practices to deeper spiritual energies of the universe. It is a sign of respect to those elemental forces that have protected, and will continue to protect and give sustenance, and is also an acknowledgement of the reciprocity between humanity and our environment. With the environmental challenges we currently face, our collective futures depend on us remembering these ancient philosophies and practices.

This is a very abridged version of the "why" of one small aspect of human activity, used simply to demonstrate the link between the kauae runga and the kauae raro. It also serves to illustrate how in modern times our "why" is often absent from the "how" because of the degradation of mātauranga Māori. When mātauranga Māori is perceived singularly, absent of layers, devoid of the essential element of analysis that once had its foundations in the kauae runga, the problem is not one of having a label for the body of knowledge with no instructions as to what to do with the knowledge, as Royal (2012) argues. Conversely, it essentially becomes a body of knowledge that *does* tell us what to do, but we are not given reasons as to *why* we are doing it. Our actions become meaningless, and our energies disconnect from the energies of the rest of the universe. Just as G. Smith (2012) argues that action without analysis is dangerous to Kaupapa Māori theory, in understanding mātauranga Māori, separating action in the form of kauae raro from theory and/or analysis in the form of kauae runga is also dangerous.

The differential forms of knowledge were in constant dialogue with one another through the social structure of traditional Māori society. Ariki, tohunga and rangatira were educated through whare wānanga and therefore had access to epistemological and spiritualised understandings of the workings of the universe. Their role was to analyse ancient bodies of knowledge in relation to their current contexts; they interpreted the flow of information, processes and events of the universe (Marsden, 2003), and they discerned what knowledge would be disseminated more widely, and when. This information continually informed the actions and developments of hapū and iwi, ensuring that all action, whether our modern perspectives perceive them to be good or bad, were informed by an analysis of wairua and the wider universe. Members of whānau, hapū and iwi were then responsible for the knowledge and languages distinct to each region, and for developing and passing on linguistic, scientific, socio-ecological and contextual knowledges from the kauae raro.

Conclusion

Social and functional knowledges are more readily accessible and visible, even between social groups, so aspects of the kauae raro tend to be seen and more readily understood in contemporary contexts. Mātauranga Māori, in the broad sense, is made up of two distinct types of knowledge that constantly communicate with each other and form the basis of Māori epistemology and culture. This depth of understanding was the context from which Māori engaged with new cultures and technologies. It was against mātauranga Māori that decisions were weighed as leaders navigated their people into the future. It was mātauranga Māori that also came to be the target for extermination—first by missionaries, then by colonialists and educationalists (Hetaraka, 2020). Like other Indigenous and marginalised peoples, ours is not a narrative of subordinate natives dominated by the West; rather it is a history of complicated and nuanced relationships backed by powerful but often competing epistemologies.

This article advocates for research that utilises Indigenous conceptualisations and epistemologies that challenge Western worldviews that have dominated academic discourse and maintained

power relationships. According to Dei (2011), when Indigenous knowledge and indigeneity are reclaimed, marginalised and colonised peoples gain intellectual agency and become the subjects of their own experiences, histories and stories. Māori ancestral philosophical beliefs provide a space from which Māori can describe and interpret our experiences. Reclaiming mātauranga Māori as a valid epistemological framework for knowledge production has the potential to contribute to the transformation of hegemonic power structures within research and education.

The conceptual framework discussed in this article is inherently Indigenous; it works with and validates Indigenous systems. Deep analysis of our histories and narratives must result in propagating a belief that we are philosophers, theorists, scientists, practitioners—that we are human beings with profound understandings about the workings of the universe. This article has highlighted that engaging deeply with mātauranga Māori and traditional Indigenous knowledges provides a valid approach to research and should be used in research practice to conserve and continually replenish a resource that has long been pillaged by the Western inquiry processes.

Glossary

aho	cord, thread; umbilical cord
aho tapu	sacred cord, thread
Aotearoa	New Zealand
ariki	highest rank in traditional Māori sociopolitical structure
hapū	sub-tribe, smaller tribal grouping
he tauparapara tawhito	an ancient incantation
Hine-nui-te-pō	goddess of death
iwi	larger tribal grouping
ka poupoua	to establish
ka tiritiria	to disseminate, spread
kauae raro	socio-cultural, scientific, pragmatic knowledge; lit. "the lower jawbone"
kauae runga	philosophical, theoretical, esoteric, cosmological, spiritual knowledge; lit. "the upper jawbone"
kaumātua	elders (both male and female)
Kaupapa Māori	Māori research theory
kawa	invariable socio-ecological conventions based on highly spiritualised understandings of the conception of the universeMahuika
Māori	Indigenous peoples of New Zealand
māreikura	knowledge holders who have female energies
mātauranga Māori	Māori knowledge
mātauranga tuku iho	inherited knowledge
Māui	in this context, a significant Māori ancestor
Mā wai e kawea taku kauae ki tāwhiti?	"Who will carry my chin tattoo into the future?" Whakataukī asking who will continue the whakapapa represented by a moko kauae; on an epistemic level it refers to the survival of mātauranga Māori and the advancement of Māori far into the future
moko kauae	chin tattoo worn by Māori women
Murirangawhenua	a grandmother of Māui
noa	unrestricted state of being
puhi	high-ranking virginal female
rangatira	chief in traditional Māori socio-political structure
rapua ngā aho tapu	seek the sacred threads
takutaku	ancient/pre-colonial incantations
Tāne-nui-a-Rangi	in this context, a significant Māori ancestor Also known as Tāne Mahuta
tapu	specific spiritual and physical conditions and restrictions enforced to ensure safety
Taranga	the mother of Māui
tauparapara	an ancient incantation; saying that contains hidden meanings
te ao Māori	Māori world; Māori worldview
Te Rarohenga	the underworld, but not the underworld as understood by non-Māori; Rarohenga is likely to be a location south or below where the storytellers lived
Te Whakaminenga	The Gathering—collective name of a specific group of influential chiefs in the early 1800s
tikanga	variable, context-dependent sociopolitical guidelines

tohunga	experts/scholars of the ancient Māori academy
wairua	spirit
wairuatanga	spirituality
whakapapa	genealogy
whakataukī	proverb
whānau	family grouping; to be born, give birth
whare	house
whare wānanga	ancient Māori academy
whenua	land; placenta

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PRACTICE THEORY

A framework for enabling Vision Mātauranga in science, technology and innovation

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Abstract

The science policy framework Vision Mātauranga (VM) was launched in 2005 by the former Ministry of Research Science and Technology (MoRST) with the aim of unlocking the science and innovation potential of Māori knowledge, resources and people through "distinctive R&D" (MoRST, 2007, p. 4). Plenty of literature theorises *why* mātauranga Māori is necessary for innovation, but the *how*, or *practice*, of implementing VM in a meaningful way is unresolved and under-researched. In this article, we look to practice theory to identify constituent and interdependent elements that are required to form, change or embed the VM policy practice aim of distinctive R&D activities. To do this, we examine Māori discourses in published literature over the past 10 years. We then analyse key themes from the literature using Shove et al.'s (2012) three-element model of materials, competences and meanings to show the practice of VM requires improved integrative work reliant on the "carrying" of interdependent elements between different practices that either enable or constrain VM policy. We suggest that practice theory provides a tool to establish VM as normal practice and shape the trajectory of VM practice necessary to meet the scale of science, innovation and technology in Aotearoa New Zealand.

Keywords

Indigenous science, innovation, practice theory, sci-tech collaboration, Vision Mātauranga

Introduction

In 2005, the Vision Mātauranga (VM) science policy framework was launched with the ambition to unlock the science and innovation potential of Māori knowledge, resources and people (Ministry of Research Science and Technology [MoRST], 2007). It was an initiative amongst several others begun at that time that might be referred to as the "Māori potential" approach, aimed at ensuring "Māori aspirations for optimal quality of life" (Te Puni Kōkiri, 2007) so that Māori "make choices for themselves" (Barcham, 2012, p. 64). Over the

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intervening years, much has shifted and changed in the research and science & technology (sci-tech) sectors to meet this ambition. However, criticisms abound as to how the policy has been and ought to be implemented, including at the present time, with the new Sixth National Government aiming "to improve the effectiveness and impact of New Zealand's science, innovation and technology system" (Ministry of Business, Innovation & Enterprise [MBIE], 2024).

MBIE (2024) is currently convening a Science System Advisory Group to review and make recommendations to strengthen the science, innovation and technology system and ensure its future success. In a system where "diversity is limited, and Māori and Pacific Peoples are under-represented and under-served" (MBIE, 2024), there is a need to provide stronger support and direction for Māori research, science and innovation (RSI) than is currently given by VM (MartinJenkins, 2023). The Science System Advisory Group is tasked with developing a set of evidence-based recommendations, including "how opportunities and solutions for Mātauranga can be better realised" within a system that is challenged by systemic issues. These include funding, research infrastructure, regulatory frameworks, system inefficiencies and fragmentation, workforce, and competition. Coordination across government and industry needs strategic redevelopment, and competition between research organisations limits collaboration. If Māori aspirations are to be realised, the "system" and VM require practice change.

In this article, we, who like other Māori researchers have contributed to the discourse on VM, reflect on what we and our peers have been saying over the last 10 years. Our conclusion is that while many of us found a consensus about why a Māori worldview and/or approach should be "standard" within the RSI sector, the *how*, or *practice*, of implementing the policy in a meaningful way is still unresolved. This is not just related to the level of funding, the nature of research undertaken, or the number of Māori involved in the RSI sector—all of which remain problematic. Rather, many of the tensions are at the level of "worldview", or ideology; at the level of infrastructure and institutions; and at the micro-level of human behaviour as individuals and teams react to the demands of Māori and policy. The almost 20 years of the VM policy show that barriers to Māori participation in and benefit from sci-tech still exist. Change will require a more integrated policy approach, including better alignment of the macro (government), the meso (research institutions) and the micro (individual scientists) to give effect to te Tiriti and mātauranga Māori (Amoamo & Ruckstuhl, 2023).

There is nothing new in what we say here. As early as the year after the VM policy's launch, Helen Moewaka Barnes (2006) problematised research and science sector engagement practices, organisational structures, paradigms and processes. These have all been highlighted over the intervening years by many Māori, including ourselves (Ruckstuhl et al., 2019). The question for us, however, is why has change taken so long and been so problematic, and what might account for this?

Our specific interest in this question arises from the pathway that the VM policy has taken in relation to the innovation component of the policy, which is specifically to "realise the contribution of Māori knowledge, resources, and people to economic growth through distinctive R&D activities" (MoRST, 2007, p. 9). As Māori researchers within the Science for Technological Innovation National Science Challenge (SfTI), we have been focusing on the high-tech R&D sector with its underpinning disciplines of physics, chemistry, mathematical, engineering and computer sciences. These disciplines are said to be crucial to Aotearoa New Zealand's high-tech economy but have been some of the last to implement the VM policy. Our observations of the SfTI's processes to "enhance capacity to use" sci-tech with Māori have directed us to consider why such an approach has been necessary. This in turn has led us to practice theory (Alpenberg & Scarbrough, 2021) as a theory of change that elucidates the trajectory of the VM policy in the high-tech R&D sector. We argue that the phrase "distinctive R&D activities" inherently assumes a practice of "distinctive R&D", although what might be distinctive about such R&D is not clear.

We have turned to practice theory to help us understand why or why not distinctive R&D activities have become everyday, embodied, ongoing and routinised activities and whether they are able to realise the contribution of Māori knowledge, resources and people as a recurrent accomplishment (Cirella & Murphy, 2022; Nicolini, 2012). Hence, in the first part of this article we briefly introduce the theory and its usefulness in helping to understand VM's implementation as a phenomenon that occurs within "a field of practices" that includes "knowledge, meaning, human activity, science power, language, social institutions and human transformations" (Schatzki et al., 2001, p. 2). In the next section, encouraged by

practice theory to understand historic precedents (Schatzki, 2002), we examine a selection of literature from Māori academic sources of the last 10 years to identify key recurring themes and provide insight into the VM policy's ability to give effect to realise the contribution of Māori knowledge, resources and people. Our selection is confined to areas that might broadly be defined as high-tech science, given that these are the areas that underpin the SfTI. In the third section, we analyse the themes using Shove et al.'s (2012) three-element model of practice theory consisting of materials, competences and meanings. From this, we identify the elements most prevalent in the literature review that may require additional focusing if the VM policy's aim of unlocking Māori innovation through distinctive R&D activities is to occur. In concluding, we make the case for practice theory as a useful contribution to understanding why change has taken so long in the case of VM and what areas require further work in high-tech science innovation in Aotearoa.

Practice theory and science, technology and innovation

Technological innovation—"a social and interactive process in which collaboration and exchange of knowledge and information play crucial roles" (Hemphälä & Magnusson, 2012, p. 3)—is needed to help tackle complex societal, environmental and economic challenges over increasingly shorter time cycles (Cirella, 2021). These "grand challenges" are complex, dynamic and multi-dimensional, requiring leaders who can collaborate across disciplines and contexts and negotiate competing stakeholder interests (George et al., 2016). Consequently, cooperation amongst diverse actors—science teams, organisations, individuals—to share and integrate knowledge is key (Ardito et al., 2019). Such cooperation requires transcending different institutional or disciplinary logics and developing new capabilities at all levels, congruent with the pathway of open innovation (OI).

OI proposes that enterprises will be more successful if they acquire, assimilate and exploit knowledge from a wide range of internal and external sources for innovative opportunities (Chesbrough, 2003). This raises a "paradox of openness" according to Ritala and Stefan (2021), due to the contradictory role of knowledge as the key resource that creates value when shared, but also as a source of appropriability challenges. Intellectual property (IP) concerns are a frequent initial barrier to OI. In particular, Indigenous peoples have raised concerns on how to protect science-related Indigenous IP when integrating Indigenous knowledge into the innovation system. Patents and other IP mechanisms can provide some solutions, but the paradox of openness often still persists (Ritala & Stefan, 2021, p. 282). While technological innovation sits at the core of OI, non-technical elements are equally important. These include human and relational capacities as well as contexts, assumptions, values and ideologies. How, why and when individuals and collectives engage in and practise OI is particularly relevant in the context of the ambitions of the VM policy.

We have looked to practice theory to explain particular forms of action and social order, including sci-tech systems. Practice theory stresses the importance of activity and work in the creation and perpetuation of all aspects of social life, most of which consists of routinised relations between several agents and objects (Nicolini, 2012; Reckwitz, 2002). Agents in this context are *carriers of practice*, while practices are seen as *everyday embodied activities that require the use of material resources (objects)*. Building on the socially oriented research traditions of Bourdieu (1977), Giddens (1979) and Foucault (2002), theoreticians such as Schatzki and Shove suggest that it is our everyday practices that structure the world around us (Hui et al., 2017). In practice theory, practices, rather than individuals, are the principal unit of enquiry. Consequently, practices rather than practitioners come first as meaning-making, identity-forming and order-producing activities (Chia & Holt, 2008) to enable us to understand social and organisational phenomena.

Practices are discrete entities with their own histories and trajectories and are distinguishable from moments of their enactment or performance (Shove et al., 2012). This distinction is important theoretically for understanding why practices evolve. Evolution in practices can be attributed to the way that various combinations of elements and their repeated performances over time create the practices of practice entities and their actions, institutions and structures (Maller, 2015, p. 53). Hence, a practice theory lens explains how the inter-relationships amongst science, policymaking, knowledge and culture cause organisations and people to shift their practice (Schatzki, 2002). Analytically, it is the *elements* of practice and their changing configurations over time that are important (Shove et al., 2012). Understanding the configuration of the components that make up practices and the dynamic relations between practices thus becomes a core task of analysis. Researchers have shown how social activity is

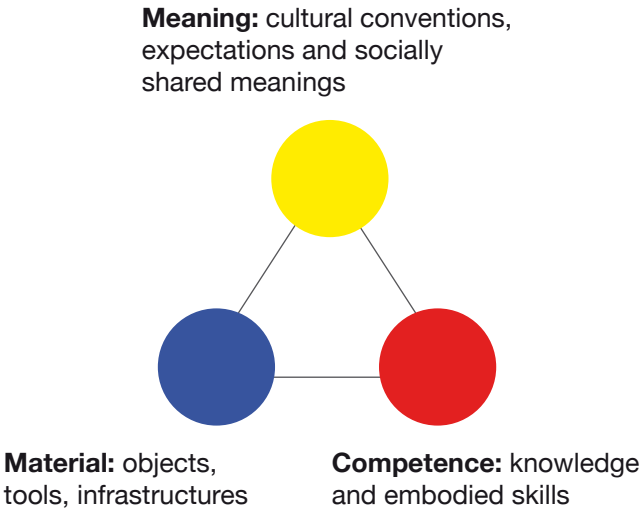

FIGURE 1 The three-element model of practice theory (adapted from Shove et al., 2012).

made up of human, material and discursive elements (Hampton & Adams, 2018; Hargreaves, 2011; Shove, 2017; Shove et al., 2012; Spotswood et al., 2015). As can be seen in Figure 1, Shove et al. (2012) propose a three-element model of practice theory in which practices consist of active integration amongst material, competence and meaning.

Materials include "things" such as technologies, tangible physical entities, and the stuff of which objects are made. *Competences* include skills, knowledge and technique, while *meanings* encompass symbolic meanings, ideas, aspirations and expectations. These elements can be adapted to a wide range of contexts and have been used specifically by Shove (2010) to critique linear models of social change that currently underpin environment policy in the United Kingdom. While often attributed to Shove, this model has drawn significantly from the works of Reckwitz (2002) and from Schatzki's (2010) ideas on materiality to form the idea that practices are composed of three interacting elements. Schatzki (2002) explored various ways in which "practices are intrinsically connected to and interwoven with objects" (p. 106). In combination with a multitude of other authors such as Pantzar and Watson, Shove's work treats these as elements of practice, paying attention to the trajectories (past and present) of elements, and to the making and breaking of links between them (Shove et al., 2012). Therefore, it becomes possible to analyse change and stability without prioritising agency or structure.

While a simplified representation of practices, Shove's approach underlines the centrality of linkages amongst elements. This supposes that elements, however defined, are "out there" in the world, waiting to be linked together. New practices are formed when connections between materials, competences and meanings are renewed time and again. Because practices are dynamic, the material configurations associated with them, and on which they depend, are not fixed. Intervention at one level (e.g., infrastructure, funding, policy or governance) has a wider effect on other aspects of material-practice relations. This has application to how policy like VM is formed and enabled, and to whether it is successful through the relationships between elements over time. As Schatzki (2012) notes, the "bundling" of practices and arrangements is mutually inclusive. That is, practices affect arrangements and arrangements affect practices (Baker, 2022). In this, practices are entities made up of connected actions, doings and sayings, linked by understandings, rules, material arrangements, structures and interwoven timespaces (see below), the bundling of which extends beyond the practice to reproduce everyday and "normal" ways of living and consuming (Blue, 2019). For Shove et al. (2012), practices connect in the bundles and complexes that they do as a consequence of competition and/or collaboration between practices.

Change, then, is a consequence of the integrative work involved. Changing practice requires breaking or challenging the links between a practice's inter-related elements. Thus, transformational change occurs through practices that involve novel combinations of new or existing elements (Shove et al., 2012, p. 7). According to practice theory,

change begins at the micro-level through activism that transforms organisations (Cardinale, 2019; Kohtamäki et al., 2020). This includes the more nuanced understanding of the micro-foundations of collaborative dynamics, relations and enactment in in-between spaces (Yström & Agogué, 2020) and increased focus on everyday praxis at the micro-level (Kohtamäki et al., 2020; Whittington, 2018). Practice theory focuses attention on the micro-practices that shape knowledge creation and exchange, and the collaborative competencies arising from such action. Knowledge is framed as a practical accomplishment through which people develop know-how and understanding (Cirella & Murphy, 2022, p. 362) through an ongoing learning process in which social interactions form, develop and change (Ollila & Yström, 2016). Developing collaborative competences at both the individual and the organisational levels requires looking beyond the *what* and *when* of collaboration to *how* to collaborate.

Practice theory also aligns with the direction of scholarship on innovation that brings into focus themes of integration and diversity. Such works have focused on issues like collective activity (Welch & Yates, 2018), the study of strategy as practice (Whittington, 2006, 2018), intermediary practices in university–industry innovation (Cirella & Murphy, 2022), the role of space and boundary objects to facilitate collaborative innovation (Caccamo, 2020), and how material objects, devices and resources figure in what people do (Shove, 2017). Shove et al.'s (2012) elemental approach is therefore a useful framework from which to consider the R&D aspect of the VM policy. It enables us to understand that practices are defined by interdependent relations between materials, competences and meanings, and that for them to be effective they need to be repeatedly linked together and renewed time and again (Shove et al., 2012).

As we noted, practices are mobile or dynamic, thus the material configurations associated with them, and on which they depend, are not fixed. The stability, routinisation and ongoing accomplishment of a practice is determined by elements being repeatedly linked together in similar ways. Hence, for the VM policy to create products, processes, systems and services from Māori knowledge, resources and people through distinctive R&D activities requires changes, for the science and innovation system generally and for Māori in particular. The initial VM policy remains vague about these elements; hence paying attention to sustained and repeated integration of elements of practice over time (Echeverri & Skålén, 2011) can provide insight into the everyday doings and interactions that support science and innovation collaboration with Māori. What is distinctive about Māori R&D comprises a nexus through which interactions occur within, against and beyond the status quo (Vunibola & Scobie, 2022). We would argue Māori partnering in or leading RSI delivery has the potential to create beneficial impacts in a way that more generic approaches do not. This leads to improving extant barriers of the past 20 years since the VM policy was implemented. We now turn to evaluating the themes in our literature review against practice theory and what this suggests about Aotearoa's science and innovation system in relation to Māori.

Methodology, findings and analysis

We analysed 56 academic outputs drawn primarily from the physical and engineering sciences and the natural and health sciences. This allowed us to identify a cohort of Māori researchers' key observations on mātauranga Māori and the science, technology and innovation (STI) system (Table 1). The review targeted peer reviewed journal articles, conference papers, book chapters and reports, and included systematic reviews, policy articles, empirical and experimental data, theoretical/conceptual findings, and model development. This helped us present a general picture of the state of knowledge on mātauranga Māori and science, what has changed, what needs to change, and who was writing on the subject.

Our data set is somewhat skewed by the dominance of established research in environmental, ecological and biological sciences versus research in "high-tech" disciplines of engineering, clinical and physical sciences, artificial intelligence, digital and space sciences. This may reflect the limited human and financial capital in the New Zealand economy due to its size and the need to focus our approach on high-tech science and innovation to meet grand challenges. There are real opportunities for Aotearoa in areas of emerging research such as space and aerospace, biotechnology, quantum technology and advanced materials and medical technology (MBIE, 2024).

As Table 1 shows, over the 10-year time frame six themes dominated:

1. Collaboration is viewed as important but requires cultural competency and the engagement of non-Māori scientists.
2. Māori worldviews are holistic, and Māori ways of working essential for Māori

TABLE 1 Key themes derived from our literature review

Theme		No. of outputs	Sample of outputs
Collaboration/ engagement	Collaboration between the science sector and Māori is important to achieving shared technical knowledge and absorptive capacity. Sci-tech projects and research-focused institutions (universities, Crown Research Institutes, government departments) should be collaborative, discussing, sharing ideas and insights. Some researchers find it difficult to engage with Māori due to lack of resources and cultural competency (experience with tikanga and mātauranga) as well as the lack of "bridging" or "brokering", as many projects lacked a Māori researcher (intermediaries).	40	Amoamo & Ruckstuhl, 2021; Kaiser & Saunders, 2021; Kukutai et al., 2021; Martin, 2021; Muru-Lanning, 2012; Ruckstuhl et al., 2019
Holistic worldview	Holistic Māori processes are essential for Māori knowledge, resources and people to contribute to STI. Māori decision-making processes are holistic, based on social, cultural, environment and spiritual indicators. Science needs to be understood from a Māori perspective, using a mātauranga Māori lens to translate science across boundaries.	32	Johnson et al., 2021; Keegan & Cunliffe, 2014; Kukutai et al., 2021; Mika et al., 2017; Ruckstuhl et al., 2019
Science and technology as agents of colonisation	There has been marginalisation of Indigenous knowledge as inferior and as a "pseudoscience" in the shadow of "real science". Western science (WS) has been and continues to be an agent of colonisation, domination, power and control, and a key barrier to increasing the uptake of Māori into science. The paradigms that operate in the RSI sector in Aotearoa do not easily cater for Māori knowledge, excluding Māori from many areas of research and positioning Māori as the "other" for not adopting WS ways. Māori, Pacific and other Indigenous groups experience racism and targeting online and in social media.	20	Broughton & McBreen, 2015; O'Carroll, 2013; Prussing & Newbury, 2016; Ruckstuhl et al., 2019; Ruwhiu et al., 2022; Stewart, 2020
Epistemology/ ontology	There are ontological and epistemological distinctions between Indigenous knowledge/mātauranga and WS. Integration requires examination of the epistemological origins of each knowledge system and the societal drivers that shape them. Mātauranga Māori highlights similarities; WS is analytical and focuses on differences. Both have their own integrity but are different ways of looking at the world.	21	Hikuroa, 2017; Mercier, 2018; Morgan & Manuel, 2020; Rauika Māngai, 2020; Roberts & Wills, 2019; Stewart, 2019
Protection/ control of mātauranga (data sovereignty)	Contention around Māori data and data sovereignty. Māori data should enable self-determination and mātauranga should be protected against misappropriation. Māori communities have to assume responsibility for the governance of data and shift capacity to use mātauranga Māori and Māori data to focus on creating insights and initiatives.	17	Greenwood et al., 2011; Hudson et al., 2017; Kukutai & Taylor, 2016; Sterling et al., 2021
Technology/ context of IT	Technology is being used creatively for particular kaupapa incorporating tikanga to bring Māori together and encourage connection, as well as spread important information about te reo, tikanga and whakapapa. Applying this context to IT is essential for the uptake of technological innovation for Māori and for increasing the number of Māori in leadership roles.	20	Kawharu et al., 2021; Keegan & Sciascia, 2018; Ruwhiu et al., 2022; Whaanga et al., 2021; Wilkinson et al., 2020

NOTE: Drawn from a review of 56 research outputs published during the last 10 years from the fields of engineering; environmental science; digital technologies; medical and health sciences; language communication and culture; physical, chemical and Earth sciences; mathematical, information and computing sciences; and commerce and management.

knowledge, resources and people to contribute to STI.
3. There are ontological and epistemological distinctions between Western science and mātauranga.
4. Science is another agent of colonisation that has affected Māori social, economic, environmental and spiritual wellbeing.
5. The issues around Māori data sovereignty and governance include mechanisms and policies through which Māori exercise control and protection over data.
6. The context of IT and technology is essential for the uptake of technological innovation for Māori.

The theme of the importance of collaboration was strongly emphasised by 40 authors in our sample, including in recent reports like *A Guide to Vision Mātauranga: Lessons from Māori Voices in the New Zealand Science Sector* (Rauika Māngai, 2020) and *Te Pūtahitanga: A Tiriti-led Science–Policy Approach for Aotearoa New Zealand* (Kukutai et al., 2021). According to many of the authors, collaboration requires non-Māori researchers to be open and willing to share findings with Māori and for Māori to be part of the research process. This includes Māori leadership as essential for the uptake of technological innovation for Māori. However, some of the literature explained that non-Māori researchers struggle to interact and collaborate with Māori due to lack of cultural competency (Martin, 2021). Here, SfTI research has found that the role of science intermediaries (Māori and non-Māori) who can guide cross-cultural engagements can be integral to bridging the science–Māori knowledge interface, as articulated through the VM policy (Ruwhiu & Amoamo, 2021; SfTI, 2020).

Twenty-one articles raised the *ontological and epistemological* distinction between science and mātauranga Māori. A predominant theme related to mātauranga Māori as a *holistic knowledge system* (32 articles) based on inter-relationships (whakapapa) and deeply embedded in the ethics, values and obligations of Māori collectives. Many authors (20) noted that mātauranga Māori has been applied and adapted to a variety of contemporary contexts, progressively and creatively adopting and adapting technology for socioeconomic uses in ways that incorporate tikanga (Kawharu et al., 2021; Keegan & Sciascia, 2018; Ruwhiu et al., 2022; Wilkinson et al., 2020). However, there were cautions. Mead (2012) noted that mātauranga Māori is nuanced to its context. Decontextualising mātauranga Māori runs the risk that scientists will view it as a "one-size-fits-all", abstracting and therefore potentially minimising its contribution (Ogilvie et al., 2018). Cherry-picking elements of mātauranga Māori devalues holistic approaches, including the ability to *protect mātauranga Māori* (17 articles) through appropriate mechanisms such as IP laws, with calls for data sovereignty (Hudson et al., 2017). In a world where information appropriation and unethical data use is prevalent (West et al., 2020), authors recognised that current legal tools do not provide adequate protection of mātauranga Māori.

Such issues run into the theme of systemic racism and marginalisation of mātauranga Māori /Indigenous knowledge (Broughton & McBreen, 2015; Prussing & Newbury, 2016; Ruckstuhl et al., 2019; Ruwhiu et al., 2022; Stewart, 2020). This theme, in turn, links to another theme raised in 20 articles, with Western science seen as *an ongoing agent of colonialism*, creating barriers for Māori due to the lack of culturally safe spaces within current institutions for Māori, which is particularly problematic for early career Māori researchers (Kawharu et al., 2021; Ruru et al., 2019; Waiti & Wikaire, 2021).

Analysis of themes against Shove et al.'s (2012) three-element model and mātauranga Māori

Having identified these key themes, we now turn to Shove et al.'s (2012) analytical approach to understand the components of and dynamic relations amongst the elements that are required to form, change or embed the VM policy practice aim of distinctive R&D activities through Māori knowledge, resources and people. Table 2 presents Shove et al.'s (2012) three-element model and identifies the types of influences that either enable or constrain a policy like VM in RSI systems.

Materials

In our analysis, the VM policy falls into the materials category, under a loose definition of policy infrastructure. Shove et al. (2012) describe materials as objects, infrastructures, tools, hardware—generally, the physical and visible "things" deployed in a practice. Materials have a fundamental purpose in determining the lifecycle of a practice and can be viewed as active actors that have a role in enabling, shaping, entrenching or constraining practices (Kadibadiba et al., 2018). For Reckwitz (2002), things can be seen as sites of understanding, or materialised understandings. In this sense, then, a policy that appears

TABLE 2 Analysis of themes against Shove et al.'s (2012) three elements of practice theory

Meanings (Cultural conventions, expectations, socially shared meanings)	**Competences (Knowledge, embodied skills)**	**Materials (Objects, infrastructure, tools)**
Te Tiriti: colonisation, racism, equity, sovereignty.	*Partnership*: Māori leadership/ governance/decision-making, low number of Māori in science and technology.	*Policy infrastructure*: VM policy, funding, application forms, data sovereignty tools, law, IP contracts.
Ontology/epistemology/axiology: holism, mātauranga vs Western science, Māori values.	*Holistic processes*: collaboration, co-creation, co-design, wānanga.	*Embodied mātauranga*: marae, Māori locations, Māori design, pūrākau.
Māori context of IT/science: kaupapa, relevance of R&D to Māori aspirations.	*Cultural competence*: engagement, tikanga, te reo, karakia, waiata, maramataka, mentoring Māori early career researchers, intermediaries, absorptive capacity.	*Research infrastructure*: entities, institutions, safe Māori R&D spaces, data.

on websites can be downloaded as a PDF, and appears in numerous documentary references across government, academic and other locations as a materialised understanding that Māori knowledge, resources and people should have the potential to be key contributors to the economy through distinctive R&D activities. Therefore, the policy can be read as an intent to enable, shape and entrench a new set of practices into the STI system.

However, as Shove et al. (2012) explain, it is the *linkages amongst elements* that entrench a practice. Hence, the VM policy's materiality, whether in the form of application forms for funding, written contracts, IP laws, data sovereignty tools, and so on, requires linkages to other materials, on both the Māori and the non-Māori research institution side (e.g., embodied mātauranga in the context of Māori locations). For Māori, co-creation processes such as wānanga can only happen on-site so that the "context" of the research is understood. Control over Māori data requires more than just legal interventions. Options like digital markers that focus on accurate provenance, transparency and integrity in research engagements around Indigenous data support Indigenous communities' consent processes and the appropriate use of their data.

There also needs to be clarity about what the VM policy means by "distinctive" R&D activities. For example, leadership models like Takarangi (Kawharu & Tapsell, 2021) can be replicated across both Western and Indigenous systems. Takarangi is novel, grounded in whenua and taonga, and gives expression to rangatiratanga. It is a model that helps address low Māori researcher capacity in the physical sciences as well as maximise the potential of mātauranga Māori in combination with high-tech innovation.

Finally, there needs to be linkages to the capabilities and knowledge of non-Māori scientists and Māori to undertake such activities. Capacity development programmes build competency and engagement with Māori through attendance at events (e.g., the Federation of Māori Authorities annual hui). Attendance at such hui brings critical reflection on the purpose of research, changing assumptions about Māori needs, and influences how grant applications are written for research that incorporates new methodologies.

Moreover, the connections between materials, competences and meanings must be renewed time and again. Therefore, as a material intervention tool, the VM policy in its R&D innovation intent is only one part of one element.

Competences

While Shove et al.'s (2012) framework focuses on how elements are linked, unlinked and then relinked in new configurations to create new practices, this is not to say that individuals are rendered

invisible. As many authors in our literature review argue, Māori values, worldviews, knowledge practices and kaupapa cannot be instigated without Māori people. In Shove et al.'s (2012) analysis, however, it is not individuals that are the principal unit of enquiry. Rather, individuals as "carriers of practice" have the skills or competences that constitute the embodied knowledge required for the carrier to succeed at the performance of a practice.

The findings of our literature review show that most authors argue for collaboration and engagement between scientists and Māori as key to realising the contribution of Māori knowledge, resources and people. The competences for collaboration and engagement, however, fall into different categories. From a partnership perspective, Māori leadership needs to be assured often at a governance level, so that decisions about science, whether system-wide or project-level, have equal input from Māori—an extension of the te Tiriti aspiration. Thus, specific Māori models of leadership appropriate to the sci-tech and entrepreneurship disciplines, such as the Takarangi model (Kawharu & Tapsell, 2021), try to tease out and then point to potential implementation practices. The Takarangi model guides Western and Māori science cooperation in areas including leadership foci, risk management, leadership practices, and complementary but different guiding values (Kawharu & Tapsell, 2021, p. 20).

Partnership and equal decision-making with Māori in the context of science and R&D are not intuitive. New collaborative processes are needed, often couched in terms such as *co-creation* or *co-design*, to draw together Māori and non-Māori understandings around a particular R&D topic. This points to "distinctive R&D" activities being novel, systematic, transferable and reproducible. Our literature review highlighted case studies that explore particular approaches to such co-creation, often taking place on marae or in Māori-controlled spaces, which we describe as the infrastructure of "embodied mātauranga". Science R&D co-design, co-creation and wānanga, as the case studies and some of the more theoretical articles show, require new competences, on both the Māori and the non-Māori sides. Collaborative practices require "matching the levels of preconditions between partners" with individual actors bringing their own views to such collaborations, including specific representations (meanings) of science and innovation (Cirella & Murphy, 2022, p. 358). As we have argued using ideas drawn from theories of how firms absorb and then apply R&D knowledge to create new products or processes, science teams absorbing Māori approaches to science requires not just engaging intellectually with a Māori worldview (meaning), but also experiencing it through mātauranga embodied in things or places materially meaningful to Māori.

Cirella and Murphy (2022) also note that there needs to be sufficient number of "carriers" of a practice if it is to become an ongoing, routinised and recurrent accomplishment. Many of the authors in the literature review argue that there needs to be a higher degree of cultural competence amongst scientists if Māori, and by extension Aotearoa, are to benefit from distinctive R&D. As Table 2 reflects, such competency includes practices that appear adjacent, irrelevant, or even oppositional to sci-tech, such as te reo Māori, karakia, waiata, maramataka. Often the science sector relies on intermediaries, whether non-scientist Māori engagement brokers or Māori researchers, and in particular Māori early career researchers, to be the carriers of these practices. However, given the low number of Māori in sci-tech disciplines, and that such competences appear as not "core" to R&D, it is not surprising that there is difficulty in recruiting a sufficient number of carriers, leading to non-Māori scientists' feelings of cultural inadequacy and fear of engagement (Ruwhiu & Amoamo, 2021) and for Māori, needing culturally safe environments, and mentoring or advocacy—particularly for early career Māori researchers (Waiti & Wikaire, 2021). Policies designed to increase the number of Māori engaged or trained in sci-tech disciplines are recognition that without a sufficient number of carriers VM's aspiration for distinctive R&D is merely tokenistic—the "levels of pre-conditions" on both the science sector and Māori sides do not match to a sufficient degree.

Meanings

As our literature review shows, the VM policy, as a tool of the science sector, comes with significant preconceptions and a lack of socially shared meaning between the science and Māori communities. Practice theory alerts us that symbolic meanings, aspirations and ideas associated with a practice are vital for recruiting, retaining or disengaging practitioners (Baker, 2022). This is reinforced by our literature review, which found that many authors refer to the science sector as an agent of colonisation, both in the past and in the present through lack of equity in research institutions and ongoing racism in communication technologies. That data is being seen as an issue of Māori sovereignty reinforces that what was promised in te Tiriti—authority to control and protect

taonga—has failed to be delivered. Therefore, policy recommendations from Māori such as a Tiriti-led science–policy approach (Kukutai et al., 2021) are a documentary reminder that te Tiriti and its place in the RSI sector are still not shared from a common framework of understanding and therefore linkages to other elements are tenuous.

In relation to the ontological, mātauranga Māori is holistic, grounded in whakapapa and relationality between the human and not human. In terms of epistemology, how Māori understand what is and is not knowledge reinforces that mātauranga Māori and the science sector have different frames of reference. Many authors emphasise that these different frames of reference are founded upon particular values that may sit uneasily within a "strict" sense of what science is. For example, Kukutai et al. (2021) argue that a value such as manaakitanga, which has its roots in caring for Māori community, has an overall benefit to the STI system because it can be applied to the system as a whole. However, unless manaakitanga can be materialised in some way—materially or through a skilled action—then such values remain as unlinked elements. Given the historical precedent accompanying lack of te Tiriti partnership, many of the authors lay out instances of where and why Māori knowledge has been minimised as not "real science", as well as instances of its physical or intangible form being appropriated without acknowledgement or recompense. These instances underlie calls for more appropriate and tangible policy infrastructure in the form of changes to IP processes or particular tools like digital markers that protect mātauranga Māori.

A third area where the meaning of the VM policy has failed to be shared relates to how the contribution of Māori knowledge, resources and people must be framed within the context or kaupapa of Māori aspirations for themselves. As some authors noted, Māori use sci-tech tools for many kaupapa Māori purposes, such as revitalisation of te reo Māori (Keegan & Sciascia, 2018), Māori culture (Greenwood et al., 2011), e-health (Henry et al., 2017) or to embed Māori values into an industry such as fisheries to protect the environment (Ogilvie et al., 2018). Therefore, the linking of Māori values, frames of reference and, as Schatzki (2009) describes it, the "timespace process" whereby everything that people do has a history and a setting, are fundamental to achieving the VM policy's aspirations.

Conclusion

We have previously argued (Ruckstuhl et al., 2019) that there are no VM implementation methods within the sci-tech sector and particularly not in the high-tech disciplines that are the focus of our literature review. Rather, implementation has been case by case and ad hoc. We noted the relative infancy of Aotearoa's high-tech R&D sector, and that its underpinning "hard" sciences have been some of the last to implement the VM policy. The still low capacity of Māori scientists in these disciplines plays a factor vis-à-vis the more established cohort of Māori researchers in the biological and environmental sciences. Over the last decade, and as indicated in the proposed Science System Advisory Group review (MBIE, 2024), Māori knowledge, leadership and approaches are increasingly being accepted as a necessary component of the science sector. However, there is still some way to go before the materials, competences and meanings of these approaches are routine or a practical accomplishment (Cirella & Murphy, 2022). Hence, this analysis, based on our own and others' experience as captured in the literature review, provides an opportunity to focus on the elements necessary to truly embed the ambitions of the VM policy as it pertains to the creation of distinctive R&D activities.

As noted in *A Guide to Vision Mātauranga* (Rauika Māngai, 2020) and *Te Pūtahitanga* (Kukutai et al., 2021), the material traces of past practices stemming from colonialism and lack of partnership has resulted in Māori having limited opportunities to influence the science–policy interface. However, as these reports also advocate, including local, culturally situated and contextualised knowledge about complex problems can help solve real-world social, economic and environmental challenges. From a Māori context, and as Shove et al. (2012) identify, to achieve this will require new configurations of existing elements along with new elements in conjunction with those that already exist. As part of sci-tech innovation practices, VM policy is not just a communicator of symbolic meaning, status or identity; its value lies in the integration of forms of material, competence *and* meaning. All three elements must exist for the performance of the practice (Spotswood et al., 2015), and practices have to be performed to be sustained (Blue, 2019). If VM is to be fully realised, people have to enact it—successful implementation depends on who practises it and when, where and how it is practised. For Schatzki (1996), the actions and causally linked doings and sayings enacted in the performance of a practice collect

into various sorts of spatiotemporal networks that run through and connect different practices into "institutions", "groups" and "systems" (p. 89). While entities like MBIE, SfTI and institutions can make VM "happen"—they cannot succeed without the carriers of practice and the competences and meanings required to constitute and reproduce the *practice* of VM. The practice of "distinctive R&D" is further challenged by bias against novelty, lack of diversity, too much focus on the technical, the timing of decisions, and decision-making processes themselves. While it is sometimes thought that practices as entities are closed blocks or patterns that are then filled out by performances that maintain or change the social order, for Schatzki (2016) their enactment in context-specific situations forces a reinterpretation and therefore an innovation that represents more than pure reproduction (p. 25).

Taking a cue from Schatzki's and Shove et al.'s works, we can attempt to understand social phenomena in sci-tech innovation through the life-cycle of practices, activities, bundles and arrangements. The practice of the VM policy in the RSI system as a phenomenon occurs within "a field of practices" that includes "knowledge, meaning, human activity, science power, language, social institutions and human transformations" (Schatzki et al., 2001, p. 2). Competency needs appropriate materials and tools to perform the intended practice (VM), while individuals draw on specific meanings to perform practices.

Practice theory is not one, unifying theory. However, given its limited application in high-tech innovation, its usefulness is under-researched. Through a practice theory lens, the ways in which "things" (encompassing materials, competencies and meanings) are acquired, appropriated and used routinely lead us to conclude that there is scope for relating the results and insights of sci-tech studies to a more extensive analysis of how practices evolve. In this, the elements of material, competence and meaning are rearranged to foster the best science most relevant to Aotearoa. For Māori to benefit and participate requires a conscious and very deliberate set of practices that resonate with and align to Māori innovation aspirations (Ruckstuhl et al., 2019). This will set the scene to design and enhance processes as iterative, interactive, ongoing, routinised and recurrent accomplishments that create a pathway to normalise VM engagement.

If we are to take these ideas forward, we need to conceptualise practitioners (i.e., scientists) as but one dimension of the reproduction of practice. The elemental approach provides a lens to examine configurations—or practices—that work because material elements and those of meaning and competence are linked together and transformed through *the process of doing*. Practice theory goes beyond describing what people do. Practices are, in fact, meaning-making, identity-forming and order-producing activities (Chia & Holt, 2008; Nicolini, 2009). This raises fundamental questions concerning how collaborative innovation is done, the meaning of that which is done, and how practices constitute and shape the collaborative space between Western science and mātauranga Māori. While the template for the enactment of VM is still a work in progress, we suggest that practice theory provides a powerful tool in shaping the trajectory of VM practice necessary to meet the scale of STI in Aotearoa.

Glossary

hui	meeting
karakia	ritual chants, prayers
kaupapa	topic
manaakitanga	hospitality, generosity
marae	open space or courtyard where people gather, generally in front of a main building or meeting house
maramataka	Māori lunar calendar
mātauranga	knowledge
pūrākau	narratives
rangatiratanga	self-determination
taonga	treasure, anything prized
te reo Māori	the Māori language
te Tiriti	the Treaty (of Waitangi); New Zealand's founding document
tikanga	custom, protocol
waiata	songs
wānanga	learning space
whakapapa	genealogical links, lineage/ancestry
whenua	land

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THE IMPORTANCE OF CULTURALLY SAFE ACTIVE SCHOOL TRAVEL OPTIONS TO ENABLE TAMARIKI MĀORI TO FLOURISH

A narrative review and model

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Abstract

To better understand the low and declining trends in active transport, there is a clarion call for town planners to develop sensitivity and sensibility towards the cultural backgrounds, realities and priorities of Māori. This will be important in producing more sustainable, healthy and equitable neighbourhoods. This paper outlines the results of a narrative literature review and consultation on tamariki Māori and travelling to kura. Tamariki Māori face barriers to active transport similar to those of other children, including a lack of access to suitable urban infrastructure, but these are exacerbated for tamariki Māori by historical issues. Factors influencing the feasibility of active transport options for tamariki Māori include school choice, concerns about neighbourhood safety and lack of access to places of importance to whānau Māori. Ultimately, the review reinforces the importance of creating culturally safe active transport options that enable tamariki Māori to flourish.

Keywords

active transport, child rights, Indigenous rights, neighbourhood safety, transport equity, built environment

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Introduction

> Ko te ahurei o te tamaiti arahia ō tātou mahi
> *Let the uniqueness of the child guide our work*

Increasing opportunities for participation in active school travel (i.e., walking or wheeling to and from school) may positively affect climate change goals and ultimately benefit Māori health outcomes. While a substantive body of research exists to help understand factors related to active school travel globally (Ikeda et al., 2018; Smith et al., 2017; Wong et al., 2011) and in Aotearoa New Zealand (Smith et al., 2020), localised and population-specific knowledge is less prevalent. In Aotearoa, as in many other industrialised countries, active school travel has precipitously declined (Ministry of Transport, 2015). Across the motu, a small but growing evidence base is beginning to highlight whānau aspirations to increase active travel options for tamariki Māori (Raerino et al., 2013; Spray et al., 2020). Academics and community members have agreed that meaningful inclusion of Māori realities and designing of infrastructure that enables the continuation of ahurea Māori within the neighbourhood are essential (Hoskins, 2008; Spray et al., 2020).

This review seeks to identify the key ideas within the literature on tamariki Māori with a focus on factors that might affect active travel to school and understanding what matters most for tamariki Māori to enable equitable active travel options. We first provide a background on the benefits and inequities in active travel to school, with a focus on tamariki Māori. Next, we outline the methods used to undertake the review and describe our Indigenous-centred approach. We then describe the results from this process, including the key themes that we developed. Next, we contextualise this research within the broader evidence base and provide recommendations in the discussion and recommendations section. Finally, we conclude with a suggested path forward and highlight the importance of tino rangatiratanga for Māori, leading to whakamana in all transport planning and other community policy.

Generally, communities that can partake in active travel have a propensity towards better physical and mental health (Raerino et al., 2013; Roth et al., 2012; Stark et al., 2018; Wild et al., 2021). Research by Davison et al. (2008) concluded that children who actively commute to school have higher levels of physical activity and improved cardiovascular fitness than those who do not. Another systematic review found positive associations between increased active school travel and healthier body compositions (Lubans et al., 2011). Recent studies have found that people in cities in Aotearoa with higher levels of cycling and walking had reduced risk factors for diabetes or hypertension and were less likely to be overweight (Jeon et al., 2007; Shaw & Russell, 2017). Furthermore, Bassett et al. (2020) found that the health benefits of active travel were twice as high for Māori as they were for non-Māori. Though the study was conducted with data relating to participants aged 15 years onwards, it aids in understanding the benefits of active travel for whānau Māori as a whole.

Enabling access to active travel options may reduce the disproportionate transport-related injuries experienced by whānau Māori (Rose et al., 2009). Māori experience higher levels of both road-related injuries and mortality than Pākehā, Asian and Pacific peoples in Aotearoa (Bassett et al., 2020). These inequities are particularly high in tamariki and rangatahi Māori (Connor et al., 2006; Waka Kotahi NZ Transport Agency, 2021). Between 2007 and 2016, tamariki Māori represented 52% of all traffic-related deaths and made up 43% of hospitalisations (Environmental Health Intelligence, 2021), despite Māori comprising only 17.1% of the total population. In Auckland, the risk of road traffic injury for tamariki Māori was 65% higher than it was for European children (Hosking et al., 2013).

Māori are also more likely than non-Māori to face the burdens of social exclusion (inability to partake in everyday activities because of a lack of viable travel options) associated with transport poverty (Raerino et al., 2013; Rose et al., 2009). One in five Māori children live in low-income households, increasing the likelihood of their experiencing transport poverty (Stats NZ, 2021a). Owning a vehicle and the continual maintenance and fuel costs can further increase financial stress within low-income whānau (Curl et al., 2018; Raerino et al., 2013). Recent research has concluded that the financial costs associated with obtaining a licence and using a vehicle are crucial barriers to accessing workplaces and other services (Raerino et al., 2013; Thorne et al., 2020).

Developing solutions to transportation barriers and addressing the inequity in road traffic harm requires solutions that are inclusive of Māori lived realities (Raerino et al., 2013). However, little is specifically known about tamariki Māori and the systemic barriers they face in the active travel space. The positioning of tamariki as tangata whenua—the future of Indigenous whakapapa in

Aotearoa—requires a nuanced understanding of their realities.

Such inequities also illustrate ongoing breaches of foundational documents in Aotearoa. These include the Universal Declaration of Human Rights (1948) and the United Nations Declaration on the Rights of Indigenous Peoples (2007), which guarantees equity for Indigenous people. Moreover, the inequities breach the rights set out in Te Tiriti o Waitangi, the document legitimising settler presence in Aotearoa and that within its articles places obligations on the government and local authorities to commit to transforming outcomes where inequity arises for Māori. These documents reaffirm rights for tamariki Māori. Because tamariki Māori are subject to these inequities, their perspectives are necessary to develop appropriate and effective solutions. Thus, a te Tiriti based approach must lie at the heart of ethical solution-making in this country. Principles of tino rangatiratanga, ōritetanga and kāwanatanga influence the development of solutions to these inequities (Ministry of Health, 2020; Waitangi Tribunal, 2019).

In a child's life, school is the "second place" accessed regularly—the first being home (Carroll et al., 2015). Unlocking Māori realities when they are travelling to school is essential in fulfilling the aspirations of Māori to improve physical health and increase active transport options for their tamariki. Additionally, active school travel allows Māori to express katiakitanga by caring for planetary health. Moreover, as councils work to better incorporate te Tiriti (Auckland Council, 2021), it will be imperative to understand the wants and needs of tamariki Māori and their whānau.

Methods: Indigenous-centred approach

Theoretical positionality

A Kaupapa Māori theory underpins the methods of this narrative review (Curtis, 2016; Mahuika, 2008). The overarching aim of this review was to aid in outcomes that are beneficial for Māori. Accordingly, we explicitly prioritised decolonial research methods, centring concerns and worldviews of Māori. We focused on rejecting deficit framing analyses and privileging Indigenous values, realities and ways of knowing (Curtis, 2016).

Shannon (Rangitāne o Tamaki nui-ā-rua, Ngāti Porou, Ngai Tai ki Tāmaki, Waikato-Tainui) is a wahine Māori who is passionate about te taiao and Indigenous experiences of the world. She seeks to pursue research tasks that contribute to improving the wellbeing of Māori as tangata whenua in Aotearoa. Associate Professor Rhys Jones (Ngāti Kahungunu) is a public health physician and associate professor in Te Kupenga Hauora Māori at Waipapa Taumata Rau/University of Auckland. His research broadly addresses Indigenous health and health equity. He has a particular interest in environmental influences on Māori health and wellbeing, with a focus on climate justice and Indigenous rights. Professor Melody Smith (Tangata Tiriti) is a professor in Environments and Child Health at Te Kura Neehi/School of Nursing, Waipapa Taumata Rau. Her research focuses on understanding how environments can support wellbeing across the lifespan through facilitating active travel modes, mobility, physical activity, connections with nature and social connectivity. She is particularly interested in ecological and systems approaches to understanding the complexity of environment–health relationships for children, using mixed and person-centred methods. All of the authors are passionate about making modality shifts accessible in the context of a just response to climate change and that this should include our tamariki.

Search strategy

Information sources: We undertook a search of Google Scholar, the University of Auckland Library Catalogue (delimited to Journal Article Output only), Scopus, and key national and international organisations and research groups working in the areas of transport for Māori, children's active travel and transport policy. Backwards searching was undertaken, involving searching the bibliographies of key research papers to identify further relevant papers. In addition to peer-reviewed academic sources, a targeted search was carried out of websites of key organisations—the Office of the Children's Commissioner and the New Zealand Transport Agency—for relevant reports.

Consultation with key researchers and Māori leaders within the fields of education and school travel was used to ensure a comprehensive, localised, historical and population-specific understanding and to help identify any additional important literature. Because of pandemic-related restrictions and the rapid nature of this review, this consultation was undertaken via email.

Eligibility criteria and selection of sources of evidence: The eligibility criteria for this review were broad. Literature published between 2000 and 2021 was considered eligible. Language was limited to English and te reo Māori. The study population must have included Māori participants in the research. At first, inclusion was restricted to the majority of participants being of primary/

elementary school age (approximately 5–13 years). However, because of limited research focusing on tamariki Māori, the upper age limit was removed to include Māori older than 13. The inclusion of articles containing other ethnic groupings was allowed as long as Māori were also included as participants. Both quantitative and qualitative studies that met these criteria were eligible for inclusion, and grey literature, government reports and peer-reviewed articles were all eligible.

Search terms: Search terms were "Māori" OR "Tangata Whenua" OR "Indigenous", AND "walk*" OR "transport*" OR "bike*" AND "Activ*" OR "School Travel".

Data collation and synthesis of evidence

Data extraction was conducted using a study-specific data extraction coding sheet including author, ages of participants, key findings and sample size. Data from all included literature were synthesised using narrative analysis to generate key discussion topics. From this analysis, we developed a graphic interpretation of priorities and desires that influence tamariki Māori school travel patterns. Key ideas that were identified throughout the literature were access to kura, keeping tamariki safe in the community and racism across the transport system.

We aimed to seek out Māori lived realities, through employing these review methods with the intention of improving Māori health outcomes. Each step was carried out using a decolonial research methodology, which denies deficit framing and centres Māoritanga.

Results

Taonga tuku iho—Continuation of Māoritanga

The education system has an important influence on active travel to school for tamariki Māori. The whakataukī "He taonga tuku iho" means the treasures passed down to us from the tīpuna. Many Māori have the desire for their tamariki to appreciate and understand te ao Māori customs, values and beliefs (Hunia et al., 2018; Mandic et al., 2018; McKinley, 2000; Mead, 2016). While most Māori remain in the mainstream education system, there is a strong demand for Māori language education. This growth has been stimulated by the revitalisation movement of te reo Māori. Despite this, in Aotearoa, access to Māori-medium education is not universal. Accessing Māori schooling options, whether they be in kura kaupapa, a bilingual unit or English-medium schooling with te reo Māori enrichment can be difficult. Participants in Hunia et al.'s (2018) study agreed that living far away from Māori-medium schools led to reliance on car use to make this aspiration a reality. Additionally, the Waitangi Tribunal attributed this trip length to failing to invest in the expansion of Māori-medium education (Waitangi Tribunal, 2011). The following sections discuss how this might effectively exclude many tamariki from active school travel.

Although domestic legislation and international human rights instruments protect Māori people's right to access te reo Māori and te ao Māori, the education system has perpetually failed to give effect to te Tiriti through funding Māori-medium education opportunities (Education Act 1989; Orange, 2020; United Nations Conventions of the Rights of the Child, 1989). There was a decline in participation in Māori-medium education from 1999, when 18.6% of Māori students were enrolled, to July 2016, when only 8.6% of Māori were in Māori-medium settings (Hunia et al., 2018). The Waitangi Tribunal found that a key reason was perpetual underinvestment by the government in growing teacher supply and improving whānau access to Māori-medium options (Waitangi Tribunal, 2011). Furthermore, many tamariki and rangatahi wanted more te reo Māori within their schooling experience. Participants in consultation with the Children's Commissioner expressed that to know them was to understand te ao Māori (Office of the Children's Commissioner, 2018). In contrast, the report also found that students in some schooling environments who did not speak te reo Māori often felt their school left them ill-prepared or embarrassed to engage with their cultural identity (Hunia et al., 2018).

In the literature, the aspiration to pass on this tikanga to tamariki seemed hindered mainly by the lack of equal access to quality education, including te ao Māori and te reo Māori (Office of the Children's Commissioner, 2018). Hunia et al. (2018) found that whānau involvement in education was important in setting up te reo Māori schooling options for their children. Section 61(3)(a)(ii) of the Education Act 1989 supports the right to these options by stating "all schools must provide Māori language programmes to learners if parents request it". However, parents and pouako mentioned the necessity to operate outside of government funding via self-funding operations to pay staff and rent buildings even with this addition to the legislation. Furthermore, pouako based in English-medium schools were unable to find financing to celebrate Māori culture in order to normalise speaking te reo Māori. These shortcomings highlight that the government is yet

to address the low numbers of Māori-medium schools across Aotearoa, leaving the expansion of te reo Māori education to Māori.

Because of the lack of investment in education, the travel distance required to attend Māori-medium schools plays a large role in hindering active school travel for tamariki. The desire to immerse tamariki Māori in kura kaupapa, a bilingual unit or English-medium schooling with te reo Māori enrichment has been mentioned by Māori parents as playing an essential role in decisions about education (Mandic et al., 2018; McKinley, 2000; Wilcox, 2022). One report found that Māori peoples access to te reo Māori for their ākonga was difficult, and often, car use was relied upon to make their aspirations a reality (Hunia et al., 2018; Raerino et al., 2013). Whānau described driving to another town each morning to access te reo Māori schooling, with some combining resources to lower the cost and time burdens. Another case study, conducted with Te Whānau-a-Apanui, found that shared mobility by providing a van for the local kōhanga reo was beneficial to their community since tamariki journeyed upward of 32 km to attend (Haerewa et al., 2018). Ultimately, dispersed locations of te reo Māori schooling decrease the feasibility of active school travel (Hunia et al., 2018; Raerino et al., 2013).

Despite the desire and attempt to exercise autonomy over their education options, the reality of choice within the schooling environment is hindered by the socio-economic positioning of some whānau. The New Zealand Council for Educational Research found that Māori parents were more likely to have their rangatahi at a school that was not their first choice (Mandic et al., 2018). McKinley (2000) and Hunia et al. (2018) have suggested that Māori are much more likely to consider schools within their locality because of the ease of travel and proximity. These priorities seemingly dominate other aspirations such as immersion or schooling experience because of the cost and time burdens associated with car dependency (Hunia et al., 2018). While Māori are found within all socio-economic sectors of society in Aotearoa, tamariki Māori are over-represented in child poverty statistics and low-income households (Stats NZ, 2021a). Many low-income parents do not have the diverse schooling options available to them that their high-income counterparts have (McKinley, 2000). Furthermore, urban tamariki Māori are more likely than Pākehā to walk to school (Ministry of Health, 2016; Yelavich et al., 2008). Whānau Māori have affirmed the cost of driving as a hindrance to transferring their tamariki to schools outside of their suburb (Hunia et al., 2018; Jones et al., 2020; Raerino et al., 2013). Sending tamariki to schools closer to their home can be essential to save money rather than as a method of enabling active school travel. Ultimately, lack of access to schools strong in te ao Māori alongside deprivation of resources has stripped Māori of their right to access forms of education for Māori by Māori (Borell, 2005; Orange, 2015; United Nations Declaration on the Rights of Indigenous Peoples, 2007).

Tiakina ō Tātou Tamariki—Keeping our children safe

Generally, the literature highlights the importance of local environments in terms of children's neighbourhood mobility and active school travel (Smith et al., 2017; Wong et al., 2011). Carroll et al. (2015), Moore (1986) and Egli et al. (2020) have pointed out that children's freedom to interact with their neighbourhoods is positively associated with the development of their social and motor skills and their personal identity. Engwicht (1992) highlighted that engaging with people of different backgrounds in people's neighbourhoods gives rise to opportunities to develop a relationship with the "placeness" of one's physical environment.

Children's use of their local environment is subject to parental influence and control. Many parents in Aotearoa have fears (e.g., of traffic or stranger danger) regarding their children travelling in the neighbourhood alone (Smith et al., 2019). These worries can affect the perceived safety of the area for whānau and further decrease the likelihood of independent active school travel. Lin et al. (2017) found that the most common safety issue overall for parents when considering their neighbourhood independent mobility was stranger danger. Moreover, past studies have inextricably linked the perception of safety with physical activity, and found that higher perceived safety is associated with a greater likelihood of active independent travel (Bennett et al., 2007; Tucker-Seeley et al., 2009). In these studies, whānau found that the people within their community were disconnected from one another. Solutions to these barriers were seen to be sourced through building a "greater sense of community". Indeed, in Lin et al.'s (2017) study, parent perceptions of neighbourhood cohesiveness and connectivity were associated with greater independent mobility in tamariki.

Reasons for feelings of neighbourhood disconnection may include factors associated with social deprivation (Ellis-Young, 2021; Lin et al., 2017).

Loss of social connection between people in the community has been attributed to busy lives and time scarcity caused by increased economic burdens (Thorne et al., 2020; Witten et al., 2013). Additionally, cited insecurity of tenure is associated with greater residential movement (Stats NZ, 2021b). At present, Māori are more likely than Pākehā to move house because of their tenancy being ended by their landlord or unaffordability. In general, families that move often are less likely to build community connections that make parents feel comfortable about allowing their children to independently move within the neighbourhood (Houkamau & Sibley, 2015; Stats NZ, 2021b; Witten et al., 2013).

The Te Ara Mua—Future Streets project found that reducing safety hazards through infrastructure reinvigoration removed road safety fears, but children were still fearful of other hazards, such as roaming dogs and broken glass on the ground, in their neighbourhood (Macmillan et al., 2018; Thorne et al., 2020; Witten & Field, 2020). Parents agreed that personal safety remained a significant concern following the renovations of the local landscape (Macmillan et al., 2018). The project highlighted the astute nature of children in relation to their lived environments (Thorne et al., 2020; Witten & Field, 2020). The emphasis on traffic calming, prioritisation of walking and cycling infrastructure, and cultural landscaping reflecting mana whenua identity affected tamariki and rangatahi perceptions of their neighbourhood. Children noticed cars slowing down for them, less traffic and feeling seen through the inclusion of Māori tohu but acknowledged that changing the infrastructure would do little to change the antisocial behaviour of some individuals (Raerino et al., 2021; Witten & Field, 2020). Te Ara Mua highlights the creation of regenerative projects across Aotearoa as an important aspect of making cities user-friendly and inclusive of whānau and tamariki Māori perspectives (MacMillan et al., 2020; Rose et al., 2009). However, the fear of harassment from others and the presence of roaming dogs exemplifies the need for social intervention to be coupled with physical changes.

One community, Te Ora Hou, created environments where children were safe and cared for through kai sharing (Wanwimolruk, 2015). Eighteen streets within a Whanganui suburb were invited to a hākari twice monthly to have the opportunity to get to know one another and develop a greater sense of community. Te Ora Hou sought to provide space for "community kōrero" where people could talk about things they would like to see in their neighbourhood (Wanwimolruk, 2015). Outcomes included the creation of neighbourhood gardens, walking groups or buses and driver's licence programmes for local whānau. The overarching project of Tiakina ō Tātou Tamariki is grounded in te ao Māori, including whanaungatanga, manaakitanga and aroha. The vision of the project was to shape an environment that allows children and parents to "know that, if they had reason to worry, celebrate, or grieve, someone would notice, and someone would care."

Infrastructural change to create protected cycle lanes was met with some positivity in the Te Ara Mua—Future Streets project; however, the financial cost of biking was still considered a barrier for low-income households (Thorne et al., 2020). The cost of a bike and maintaining its roadworthiness can be unaffordable (Jones et al., 2020; Raerino et al., 2013). Moreover, the average whānau size (per household) is higher for Māori than for non-Māori. The cost of multiple bikes and the challenges of meeting larger family needs without motorised transport means biking is not always feasible. When low incomes are required to cover all portions of living, bikes are unlikely to top the list. Thus, in the current transport environment, in which car dependency is entrenched, biking as a form of active school travel is inherently inaccessible for some Māori whānau.

He kaikiri Māori, he whakaputanga o te tāone—Racism in transport infrastructure and allocation

Generally, transport systems in industrialised countries have privileged Western cultural norms, values and knowledge (Schwanen, 2018; Schwanen & Nixon, 2019; Spray et al., 2020). Transport infrastructure, such as the placement of motorways (Ameratunga, 2019), footpaths (Meher et al., 2021), transport links and bike paths (Jones et al., 2020), has prioritised how Pākehā, able-bodied people interact with the world. Transport systems have the potential not only to connect people to one another but also to isolate communities and, in turn, residentially segregate cities into separate neighbourhoods for different groups of people: Indigenous, settler and diaspora communities (Bécares et al., 2013; Salesa, 2017). The centring of Western priorities in the allocation and provision of transport infrastructure can be referred to as "infrastructural violence" (Ameratunga, 2019; Kumar et al., 2021; Rodgers & O'Neill, 2012). The notion of infrastructural violence occurs when residents are excluded from essential infrastructures, such as a lack of adequate footpaths

and bicycle paths leading to places of importance (Ameratunga, 2019; Rodgers & O'Neill, 2012). For example, in Auckland, a motorway severed the adjoining road and isolated kaumātua papakainga residents and the marae from the Māngere township, making the housing only accessible by vehicle. The motorway was largely celebrated for making the commute faster to the thriving central business district (NZ Transport Agency, 2008). However, in the process, it cut a community off from one another. In doing so, this infrastructure prioritised a Western connection to the world rather than accounting for how urban Māori in Māngere interact with their surroundings and each other.

The creation of transport infrastructure may have intergenerational impacts for urban marae (Spray et al., 2020). One kaumātua discussed the intergenerational effects that are likely to stem from the severance of the community from the marae by the motorway. The severance of community and inability of people on one side of the motorway to get to the marae without walking along a road known for being a high crash zone or driving stops whānau from going (Meher et al., 2021). A consequence of this impedance may be the progressive diminishment of tikanga because marae are there for whānau and the community. Consequently, connection to one another and ahurea Māori can be hindered by creating urban cultural landscapes that prioritise car infrastructure and do not consider the aspirations of Indigenous people (Spray et al., 2020; Stats NZ, 2021a).

The government has specific obligations under Te Tiriti o Waitangi to address Māori transport needs and rights, including equitable access and outcomes. This includes the capacity for Māori to determine their own transport priorities and solutions—tino rangatiratanga—and to have any specific transport requirements in relation to social interaction—such as access to urupā or marae—and social and educational services accounted for. A relatively new set of Māori-developed urban design principles is seeking to aid in the dismantling of these hegemonic Western paradigms to help achieve better quality urban environments. The Te Aranga principles seek to make mana whenua present, visible and active participants in the design process (Raerino et al., 2021). A mana whenua respondent involved in Te Ara Mua—Future Streets Project found the inclusion of tohu and te reo Māori imperative for protecting Māori wellbeing and identity. Furthermore, promoting Māori in place helped educate people in the neighbourhoods while affirming the whakapapa of the area.

Māori within the urban design sector have noted their role in creating inclusive infrastructure as kaitiakitanga in practice (Raerino et al., 2021). Respondents agreed that good design should enhance social and cultural connections to improve the wellbeing of all residents. Mana whenua respondents placed emphasis on the responsibility of Māori as kaitiaki to focus on the health and safety of community members—in particular, their tamariki. Māori designers discussed ideas relating to creating walkable communities that are conducive to increased physical activity and being out in nature. Thus, Māori-centred approaches create links between healthier communities and urban design.

One example is a case study from Palmerston North, Te Aroha Noa, focused—among other things—on the regeneration of a local park. Residents—in collaboration with the Palmerston North City Council and Housing NZ—planned, built and planted the site (Knight, 2015; Wanwimolruk, 2015). Through the process, whānau began to see themselves as experts or knowledge holders rather than "recipients of services". Residents knew what they needed within their community and were able to execute changes, which shaped positive neighbourhood identity (Munford et al., 2007).

Coupled with the structural barriers noted, whānau face historical and ever-present experiences of stereotyping and racism while out in the community (Cormack et al., 2020). Discrimination of whānau Māori has been reported in almost every facet of life, including education, housing, public settings, policy and legislation. Tamariki Māori have reported experiences of racism at primary school (Office of the Children's Commissioner, 2018). To our knowledge, in the academic literature, there is no documentation of racism towards tamariki Māori on the journey to school. However, generally, Indigenous children facing racism are likely to face emotional and confidence issues that permeate into all areas of life (Macedo et al., 2019).

Discussion and recommendations

In this review, we have examined the available literature and undertaken consultation with people on factors of importance for active school travel in tamariki Māori. A range of barriers were identified; most research has highlighted social deprivation within Aotearoa as a large driver of these transport barriers. However, transport research is yet to fully explore the aspirations Māori have within the transport space. Raerino

et al. (2021) specifically stated that transport systems are extremely important for enabling access to activities and sites relevant to the lived experience of being Māori. Barriers imposed by decades of prioritising transport infrastructure for Pākehā desires have restricted the ability of tamariki to fully participate in active school travel. Emphasis on transitioning to low emissions transport within recent government policy seems to lack understanding of this historic domination of investment in road infrastructure. The worry faced by some parents in Aotearoa ultimately comes to the forefront in this setting; if we are to move away from private vehicles, how will the cost of the transition to bikes and scooters be covered? Whether that be through biking, scootering or walking, without the inclusion of Māori aspirations, tamariki are likely to be left behind if not included in the solution.

Aspirations to increase active transport participation by tamariki Māori has led to the necessity of understanding the influences on their movement. Our findings demonstrate that their travel patterns are largely shaped by the perceptions of their whānau and are often affected by differential exposure to the social determinants of health (economic deprivation, colonisation and racism). Findings from this literature review are consistent with previous findings demonstrating the importance of distance to school, safety from traffic, personal safety and community togetherness in supporting active school travel. This review covers a variety of these influences for tamariki Māori, highlighting that they are experienced in ways that differ from other children. To the best of our knowledge, this is the first review of literature relating to active school travel among tamariki Māori in Aotearoa. This review aims to act as a springboard for more research directly addressing the aspirations of tamariki Māori.

In our narrative literature review, we identified three key areas relevant to understanding how the school travel patterns of tamariki Māori are affected, as visually depicted in Figure 1. These three areas are He Taonga Tuku Iho (whānau aspirations to continue Māoritanga), which is affected through the failure of the education system to protect the right to access te ao Māori schooling (e.g., via increased distance to kura kaupapa Māori); Kotahitanga (feeling a sense of belonging and unity within the community), negatively affected through infrastructure that is not inclusive and through racism in transport infrastructure and allocation; and Tiakina ō Tātou Tamariki (keeping children safe in the community), which is diminished through concerns for personal safety and safety from traffic (e.g., speeding cars). Overall, interventions to overcome barriers across these three areas should be grounded in whanaungatanga and inclusive of all whānau members. These findings, as well as the mentioned kaupapa Māori

FIGURE 1 Three key areas relevant to understanding how the school travel patterns of tamariki Māori are affected

interventions, point to areas where change can occur, including through increasing the funding for schooling options by Māori for Māori, addressing the social and economic determinants of health that result in whānau Māori feeling less connected to their neighbourhood, and the importance of Māori-led infrastructure planning, implementation and evaluation.

The desire for communities to be more connected is a common aspiration among many parents (Egli et al., 2018; Witten et al., 2013). This includes having neighbours that look out for one another and social environments that support children playing together. Thus, a Māori-based approach to community building could be an effective method of improving neighbourhood safety for tamariki from many backgrounds (Wanwimolruk, 2015; Witten et al., 2013). Programmes such as Te Ara Mua—Future Streets, Te Aroha Noa and Tiakina ō Tātou Tamariki, all involving whanaungatanga, provide a model for how Māori values can be embedded in initiatives. These programmes provide good opportunities for reconnecting communities in ways that are valued by Māori. However, it is important to note that these programmes should not simply be replicated in other communities—communities should lead the design of their own initiatives. Nevertheless, the ideas discussed here represent important factors influencing active travel, so are valuable in guiding policy and future research.

There is a paucity of literature relating to tamariki transport that ultimately highlights a need for further research examining the topic. Currently, there is a lack of quantitative research about how much wheeling and walking tamariki do, and how this varies across settlement types (e.g., rural, suburban, urban). Furthermore, there are gaps in qualitative research relating directly to what Māori see as enablers or barriers to active school travel. Many of the research articles examined within this review had only a small sample size of tamariki Māori, and they were included as part of the total population rather than examined through disaggregation by ethnicity and thus reflecting the lived reality of Māori in mostly urban and mainstream schooling environments. The review can be seen as an exploratory first look into what matters to whānau Māori. It has helped to identify broad ideas and concepts that require development and further refinement through comprehensive kaupapa Māori research. Further research on tamariki Māori and active transport may include mixed methods explorations of the lived experience of active transport among tamariki Māori; and kaupapa Māori analysis of active transport among tamariki Māori and its interaction with other factors such as whānau income, age structure, gender and neighbourhood characteristics. Further, evaluation of interventions such as Te Aroha Noa and Te Ora Hou in terms of their effectiveness would give public services a stronger mandate to create or expand these initiatives to wider suburbs.

The review has a number of strengths and limitations. We collated a variety of sources to provide insight into tamariki Māori travel patterns, both influences and barriers. A key weakness of this review is the fact that many of the sources were not designed with Māori as central to the research question. Nor were data analysed and interpreted in a method that might highlight Māori perspectives on transport within said communities.

Conclusion

A path forward

This review examined factors that may affect tamariki Māori travel patterns. We found that tamariki Māori face similar challenges in accessing active school travel to other communities through lack of infrastructure for walking and biking. However, other barriers are experienced differently by Māori by virtue of the ongoing impacts of colonisation, such as lack of access to places of cultural importance, a lack of kaupapa Māori schooling options and concerns about neighbourhood cohesion. The findings reflect systemic failings by the government to uphold Te Tiriti o Waitangi, resulting in social and economic inequities woven into the fabric of Aotearoa. Interventions require a reframing of the solutions, led and designed by the communities themselves (Wanwimolruk, 2015). Fixing the conditions Māori are often subjected to by colonisation through understanding their aspirations is imperative so as not to put the responsibility on the individual. These findings highlight the need for tino rangatiratanga for Māori, leading to whakamana in all transport planning and other community policy.

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Glossary

ahurea Māori	knowledge, and connection, to things to do with Māori culture

ākonga	students
Aotearoa	New Zealand
aroha	love
hākari	feast
kai	food
kaitiaki	caretakers
katiakitanga	caretaking
kaumātua	elder, elderly man, elderly woman
Kaupapa Māori	Māori approach, Māori customary practice
kāwanatanga	governance
kōhanga reo	Māori language pre-school
kōrero	talk, discussion
kotahitanga	feeling a sense of belonging and unity within the community
kura	school
kura kaupapa	primary schools operating under Māori custom and using te reo Māori as the medium of instruction
manaakitanga	kindness, generosity, support
mana whenua	tribal groupings with local authority
Māoritanga	Māori traditions, realities, and experiences
marae	meeting house
motu	land
ōritetanga	equity
Pākehā	European
papakainga	communal housing
pouako	teachers
rangatahi	young people
tamariki Māori	Māori children
tangata whenua	Indigenous people
te ao Māori	the Māori world
te reo Māori	the Māori language
te taiao	the environment
Te Tiriti o Waitangi	The Treaty of Waitangi
tikanga	right way of doing something
tino rangatiratanga	self-determination
tīpuna	ancestors
tohu	symbols
urupā	burial grounds, cemeteries
whakamana	empowerment
whakapapa	genealogy
whakataukī	proverb
whānau	family; extended family
whanaungatanga	shared experiences, relationships

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REINVIGORATING HOMEPLACES

The impact of house repairs on Māori wellbeing

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Abstract

For many Māori, it is the presence of their kin that transforms a dwelling into a home. However, when that dwelling needs repairs, it can compromise health and wellbeing and be a barrier to homemaking. Two Kaupapa Māori qualitative studies in Hawke's Bay interviewed 24 whānau members living in 18 whānau-owned houses about the impact of government-funded critical house repairs. Thematic analysis highlighted that critical repairs were primarily needed as a result of financial hardship. Most participants were positive about the repair work done by Māori tradespeople. Dissatisfaction of a few participants demonstrated the need for increased communication between all those involved in the house repairs. When the repair work was completed, homeowners were grateful for drier and warmer houses. Overall, repairing Māori owner-occupied homes improved occupants' health and wellbeing, revitalised homemaking, inspired renovation plans, and comforted older whānau members about the longevity of their home for future generations.

Keywords

health, homemaking, housing, maintenance, Māori, repairs, wellbeing

Introduction

> We need to do everything we can to at least provide people with safe shelter.
> —Mārama Fox (Māori Party, 2016)

Whānau-owned homes are a precious taonga that can provide shelter and support for those who reside there and those who visit. As many Māori will attest, it is whānau that make a house a home (Boulton et al., 2022; Cram, 2020), and these

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homes are spaces and places where traditional and contemporary relationships are developed and sustained, and where people past, present, and future are woven together (Superu, 2018). Thus, a home is a safe haven where Māori can construct their identities, perform their day-to-day lives, and feel at ease and free to be themselves (Dupuis & Thorns, 1998; Saville-Smith & James, 2018). This is not to dismiss or downplay the family violence experiences of some whānau, whose house is a site of hurt and terror rather than a place of safety (Cram, 2020).

Although whānau do not have to own a house to feel they have a home, the inability of many whānau to find good-quality, affordable, and secure rental accommodation contrasts sharply with the housing stability that owner occupation can provide (Cutts et al., 2011). Even so, the cost of living can see Māori owner-occupiers having to make choices between mortgage payments and home maintenance and repairs (Waldegrave et al., 2006). This is not solely a Māori "problem". House maintenance is not strongly pursued by any ethnic group in Aotearoa New Zealand, except perhaps immediately prior to the sale of a house. This is problematic as a house in need of maintenance and repairs can be a risk to residents' health and wellbeing (Thomson et al., 2013).

The findings from two small qualitative studies are reported here to explore Māori homeowners' experiences of critical house repairs, that is, repairs that are essential to ensuring the functionality, safety, and structural integrity of a dwelling (Te Puni Kōkiri, 2023). Twenty-four whānau members who resided in one of 18 whānau owner-occupied houses that were part of a house repairs programme were asked about the impact of critical repairs on whānau wellbeing. To provide a context for these studies, this introduction looks at the state of Māori housing and the challenges to homemaking experienced by Māori owner-occupiers.

Māori housing and Māori homeowners

The colonisation of Aotearoa has disrupted Māori homemaking. The loss of Māori ancestral lands has been dramatic over the time period of British colonisation, from 1840 to the present day. As the Pākehā population increased, their demand for land increased, and Māori land was consequently alienated by many means, including purchase, confiscation, and legislative imperatives (e.g., Public Works Act 1981; see also Waitangi Tribunal, 2010). Māori freehold land now makes up only 5.5% of the land mass of this country, or just over 1.4 million hectares (Livesey, 2010). Māori aspirations to build on their remaining whenua have been stymied by legislation, regional council planning and bylaws, and title problems and whānau disputes, to name just a few of the barriers (Arbury & Cram, 2023; Toomey et al., 2017). It is only relatively recently that the Crown's strategic planning for Māori housing has been accompanied by the injection of the funding needed to start supporting people to build and live on their own land (Te Tūāpapa Kura Kāinga | Ministry of Housing and Urban Development, 2021). However, this is not an option for all Māori as there simply is not enough Māori land remaining. Māori homemaking has also suffered from the imposition of Western house designs and build technologies and their constraints on the ways whānau live their lives and the ontological security (i.e., a person's sense of identity that is connected to the stability of their lived environment) whānau gain from their homes (Arbury & Cram, 2023; Cram, 2020).

Surveillance of and research about the state of Māori housing has a decades-long history in New Zealand (Arbury & Cram, 2023). Over much of the 20th century and into the 21st, research has raised alarm bells about the quality of Māori rural housing and the overcrowding of Māori homes more generally (Douglas, 1986; Ferguson, 1995; Māori Women's Housing Research Project, 1991). Recent surveys, including the New Zealand General Social Survey (Stats NZ, 2018), Te Kupenga (Statistics New Zealand, 2014; Stats NZ, 2020), and the Census, continue to document the poor condition of Māori homes. Housing habitability includes housing quality (indicated by the presence of dampness, mould, and cold) as well as home ventilation and heating and other aspects such as whether residents have suffered from flu or cold-like symptoms, or asthma in the previous 12 months. In the 2018 Census, two out of five Māori reported they lived in homes affected by dampness or mould (compared to one in five New Zealand Europeans) (Stats NZ, 2021b). It is now well known that poor housing quality can impact negatively on people's lives across many domains, including health and safety, employment, education, social connectedness, and identity (Statistics New Zealand, 2016; Stats NZ, 2021a, 2021b).

In 2012, the New Zealand Productivity Commission reported on issues related to affordable housing for Māori. While understanding that a house for Māori is often more about connection to people, place, and culture than it is about a financial investment, the Commission observed that low incomes and low financial literacy were two stumbling blocks to Māori realising their

housing aspirations. Māori confined to the rental housing market are then at risk of being overexposed to the financial and wellness burdens of poor dwelling performance (Johnson et al., 2018).

This overexposure can also occur for Māori homeowners. Māori who live close to their ancestral marae, for example, are more likely to own their own homes and experience more positive cultural outcomes (e.g., Māori language proficiency, kaitiakitanga) than Māori who live further away. As Broughton explains, "The role of housing in enabling people to connect to their tūrangawaewae is important to Māori wellbeing" (Stats NZ, 2021a, p. 1). However, Māori living close to their ancestral marae are also more likely to experience financial hardship, and their homes are more likely to be crowded (Stats NZ, 2021b). As the Social Policy and Evaluation Unit (Superu, 2017) noted, "The experience of housing quality varies greatly by household living arrangements" for whānau Māori (p. 125).

While Māori homeowners may downplay and potentially deprioritise their home's need for repair because of affordability issues, access to a warm, dry, safe, secure, and watertight house remains a basic right for all whānau and tamariki (Superu, 2018; Te Puni Kōkiri, 2016) and an important foundation for their health and wellness (Howden-Chapman et al., 2015). When the United Nations Special Rapporteur on the right to adequate housing Leilani Farha reported on her 2020 visit to Aotearoa, she was very clear that the right to adequate housing must be framed within the rights and responsibilities set out in te Tiriti o Waitangi (Farha, 2021). She also found that this right was being eroded by housing being seen as a speculative asset, and that the consequent burden of homelessness, unaffordable rents, and poor-quality housing was being shouldered by Māori, in clear breach of te Tiriti. Her description of Māori separation from their ancestral lands as "a dark shadow that hangs over the country" gave impetus to her recommendation that the New Zealand Government must address historic injustices and ongoing discrimination against Māori (Farha, 2021, p. 5).

Efforts to support Māori homeowners to effect repairs to their homes have a long history, beginning with lending schemes run by the Department of Māori Affairs in the 1980s (Arbury & Cram, 2023). In the 2000s, for example, the government's Rural Housing Programme enabled critical repairs to be carried out when homeowners could not afford the repairs themselves (Saville-Smith & Wehipeihana, 2007). In 2014, the Māori Housing Strategy He Whare Āhuru, He Oranga Tāngata led to improvements in the quality of housing for Māori communities, through the work of the Māori Housing Network. When the research reported here was conducted in 2021–2022, funding for critical home repairs was available through Work and Income | Te Hiranga Tangata (2023). In the Hawke's Bay, a critical repairs programme was implemented as a collaboration between Hawke's Bay District Health Board, through its Child Healthy Housing Programme, Te Puni Kōkiri, and Whahariki Trust (Hastings District Council, 2020). The homeowners interviewed in the two studies described below received their critical housing repairs through this programme (referred to herein as the "house repairs programme").

The present studies

A Kaupapa Māori inquiry paradigm guided both studies reported here (Cram, 2017). "Kaupapa Māori" literally means "a Māori way" (Taki, 1996), and Kaupapa Māori research has a dual purpose of revealing Māori lived realities, knowledge, and ways of knowing and being, and providing a structural analysis of the societal facilitators of and barriers to Māori being Māori (G. H. Smith, 2012). Kaupapa Māori research sets out to make a positive difference for Māori through societal transformation that upholds Māori development aspirations and sovereignty (L. T. Smith, 2021).

Kaupapa Māori practices helped ensure that participants were cared for and hosted well by researchers, who were also related to them or members of their communities (Cram, 2017; L. T. Smith, 2021). The interviews conducted with participants were conversational, with questions asked in a comfortable and relaxed way to gain insight into people's everyday lives (Keil & Elizabeth, 2017). Participant information sheets and consent forms were prepared for the two studies and approved by Hawke's Bay District Health Board staff and Whahariki Trust, and participants gave either written or verbal consent. Participants received summaries of their interview(s) and three homeowners received their written narratives.

Study 1 interviews were conducted by authors FC and ST in 2021, in conjunction with an evaluation of outcomes for whānau of an accessory dwelling unit. Whānau from the seven houses in Study 1 were part of the house repairs programme, and three houses also had a cabin installed on the property. Study 2 interviews were conducted in 2022 by MM as part of an evaluation of the house repairs programme. Three houses had been repaired, and the whānau in eight houses were tracked through their repair journey. Whānau

in both studies were asked what their house was like before the repairs, what getting house repairs had been like for them, and what difference the repairs had made. Given the similarity in this line of questioning in both these small studies, the data collected were combined to provide insights into the house repair journeys of whānau.

Method

Participants

Twenty-four whānau members (18 wāhine, 6 tāne) residing in one of the 18 houses that were repaired participated in the studies. Eleven whānau members (8 wāhine, 3 tāne, across 7 households) participated in Study 1, and 13 (10 wāhine, 3 tāne, across 11 households) participated in Study 2. Participants ranged in age from their mid-30s to their early 80s.

Households

Ten participants (8 wāhine, 2 tāne) resided in two-generation households ($n = 7$), while 14 participants (10 wāhine, 4 tāne) resided in three-generation households ($n = 11$). The two-generation households had an average of 6.4 resident whānau members, while the three-generation households had an average of 8.3 resident whānau members.

Interviews

The majority of interviews ($n = 13$ households) were with one whānau member, four were with two whānau members, and one was with three whānau members. The interviews covered four main topics (with follow-up questions asked for clarification): (a) the history of the house, including when it was built and how long the whānau had lived there; (b) the state of the house before the repairs were done, including physical state as well as how warm it was and any negative impacts on whānau members; (c) their pathway into the house repairs programme and how the repairs process had been for the whānau; and (d) the state of the house following repairs being completed, and if whānau had done any further work.

Participants ($n = 15$) whose homes had already been repaired participated in one interview covering all four topics. Those whose houses were being repaired ($n = 9$) during Study 2 were interviewed during the repair process (topics 1–3) as well as after the repairs were completed (topic 4). Often interviewers were guided to parts of the house so that participants could point out the things they were describing. Interviews took 35–55 minutes. Interview notes were taken, and the interviews were also audio-recorded, with participants' permission.

Analysis

Transcripts of the interviews and interview notes were treated as one dataset for the purposes of analysis. A contextualist method of thematic analysis was adopted that sought to "acknowledge the way individuals make meaning of their experiences, and . . . the ways the broader social context impinges on these meanings, while retaining a focus on the material and other limits of 'reality'" (Braun & Clarke, 2006, p. 81). This is compatible with Kaupapa Māori inquiry, which interrogates what it means to be Māori as well as the structural impediments to Māori identity (G. H. Smith, 2012). The reading and re-reading of the transcripts and the resulting analysis was therefore more deductive than inductive, while still reflecting the issues discussed in the interviews.

Findings

The three themes canvassed below are related to the interview topics described above; namely, the need for repairs, the repair process (including positive and negative feedback), and the outcomes whānau experienced when the repairs were completed. The three boxed sections below each contain the narrative of one household. Participants are identified by pseudonyms, with a second identifier indicating whether they just had their tamariki (māmā, pāpā) and/or their mokopuna (kuia, koroua) living with them.

The need for critical house repairs

Many of the homeowners needed critical repairs to their homes as a result of their financial struggles and their inability to keep up with repairs when they were first needed. As a result, their houses were very cold, damp and/or leaking/draughty and consequently hard to keep warm. Mere (kuia) explained her sadness about the state of disrepair of her whānau house and its impact on the health of her tamariki:

> When the health worker came . . . she could see the water pouring down the walls in the kitchen and in the mokos' bedrooms. But the main thing was the cold; it was freezing. The cold was alright for me and Dad, we just put more clothes on, but our kids, they really felt the cold, made me so sad. I also have two of my tamariki that suffer badly from asthma and also now three of my mokos.

The health worker spoken of by Mere was often

in touch with participants. She informed them about health and other support services they could access, and she had connected them with the house repairs programme. Tui (māmā) described her reaction to the health worker speaking with her about house repairs programme: "I was so encouraged, she made us feel worthy, that people cared."

One of the first steps in the house repairs programme was a hui to let people know about the programme, introduce them to the people involved, and give them an overview of what they could expect. Some of those attending the hui said they were comforted to find out that other whānau were also experiencing tough times. Māhina (māmā) explained:

> It was great to hear all the other people's stories at that meeting. Most of them were in the homes of their whānau, with desires to get them fixed up for their children. I was also amazed that so many of us have at least three generations living under the same roof. Times are tough, no rentals, no jobs, food is so expensive; not like when we grew up. I feel so sorry for my family living in these times, it's so hard.

Attending this hui often left people excited about getting their homes repaired. As Tui (māmā) said, "After leaving the hui I couldn't wait to get home and talk to hubby" about the house repairs programme.

Whānau were offered house repairs because whānau members were in poor health or tangata whaikaha. For example, a whānau was referred to the programme to have their papakāinga home repaired because their youngest child suffered from severe asthma and rheumatic fever. Adults and older people who had chronic health conditions were seen as benefiting from critical repairs, along with others who lived in the house who were also impacted by the illness of others. Mārama (kuia), for example, described how her husband was at times overwhelmed by the impacts of living with his mother and mokopuna when they were ill:

> My mother-in-law was always sick and in pain, moko too, sore bones, coughing, crying all the time, complaining about the cold. It was terrible, really hard times for us all. [My husband] would get so depressed he would just hop in the car and head back to [where we used to live], leaving me to sort the mess out.

The death of the person in their whānau who did repairs also impacted at least two whānau, with repair work on their home stalling because of this loss and the grief associated with it. Subsequently, even if a whānau wanted to restart house repairs, they did not have the finances to employ someone.

In the house repairs programme, repairs were done following the head of the building company doing a housing condition assessment that identified and prioritised critical repairs. The repairs whānau houses needed were wide-ranging and included new roofs, refurbished bathrooms, replacement of rotten floorboards, plumbing repairs, replacement of hot water cylinders, new vents above stoves, guttering and spouting, fireplace replacement, fitting of windows and filling gaps in window surrounds to windproof them, painting walls, and electrical fixes (e.g., switches) that could include extensive electrical rewiring. Aria (kuia) described her reaction to hearing back what house repairs they would be getting after their house assessment was done:

> It was really funny when [the builder] came. I was telling him about where I thought the holes in the roof were, hoping that at least we would get some new sheets of roofing and maybe they would put some new nails in. And then he tells me, "No, we will replace the roof and the guttering." I burst into tears.

Two houses had non-compliant additions (e.g., a washroom area) that had to be rebuilt. Aroha (māmā) described her reaction to the somewhat unsurprising news that her laundry addition was non-compliant:

> When [the builder] came back and told us about the problem with the laundry, I just cracked up, not surprised at all. I can just imagine my pāpā and all his whānau whacking it up from timber they collected because that's what they did; I remember them building all the time; the outside toilet, the outside shed, the woodshed . . . they built them all.

Repair process

This section touches upon both the delights and the frustrations participants expressed about the repair process. The house repairs were mostly carried out by a Māori-owned building business that employed Māori tradespeople who often had whakapapa links to the whānau whose homes they were repairing. Most participants spoke highly of the respectful way the repairs were undertaken. They described the head of the building company as "humble" and as "always going the extra mile".

Whānau Tuatahi

Those living in the home of Whānau Tuatahi included grandparents who had two daughters, a son-in-law, and three mokopuna. Being happy and having their mokopuna and children in their whare was what made a house a home for them, but they were missing having their own individual spaces and being able to fully use their lounge to be together.

Their house had not undergone any maintenance or repairs in 20 years. Their 12-year-old disabled mokopuna disliked the old lino in the hallway and had to be carried down it. He was also sleeping in the lounge with his mother because it was warm. What the whānau wanted was to free up a bedroom for this mokopuna. The house repairs programme replaced the lino in the hallway with carpet, which gave their disabled mokopuna freedom to be able to do things on his own and made him more independent.

Experiencing the warmth and comfort of their home as a result of all the repairs was an incentive for the whānau to work harder, and this enabled them to save an extra bit of money. With this money they converted half of their shed into a sleepout, put in a new hot water cylinder outside (which made extra cupboard space inside), and installed solar panels to save additional money. This additional sleeping space freed up a room inside their house and their mokopuna got his own bedroom. Overall, the grandparents were happy they could leave a house they were proud of to their mokopuna when it is their time to pass.

Aria (kuia) also explained the importance of their knowledge of te reo Māori:

> It's important for us to speak Māori whenever and wherever we can to normalise it for our kids. I would be speaking away in Māori [and] next thing you know [the head builder] would respond in Māori; so would some of his workers.

Maia (māmā) said she was grateful for how hard the builders were working on her home, and she and her whānau felt safe in their hands. She compared them with people they had had in their house previously to fix problems, who "would leave their shoes on and their mess behind":

> But no matter how busy [the builder] was he would always stop to have a chat; explain to me where they were at. He made me feel comfortable, the tikanga he displayed. What an amazing guy, we love him so much . . . Every day he would lay tarpaulins down so they could move around the house in their boots. Every day they would pack everything away, sweep the area and sometimes even vacuum.

The builders also made themselves available for other work whānau chose to fund themselves, and about two-thirds of the whānau had gone on to do more work on their homes. For example, Hōhepa (pāpā) said the critical repair work rewiring their house had enabled his whānau to save for other home modifications they needed:

> We are so grateful for all the work that has been done; there would have been no way we could save enough money to re-wire our home. We have managed to save enough money to purchase a compliant fire and a heat pump unit to send the warmth throughout the house.

The frustrations raised by some participants about the repair process were often regarding things out of the control of the building company. When the houses were in rural locations, the contractors often had to come from outside the region and were at times hampered by accommodation issues (which had, no doubt, been exacerbated by the COVID-19 pandemic). In addition, "most . . . were young family men, keen to get back home to their whānau" (Māhina, māmā). This meant they were travelling long hours to get in and out of localities in a day. These trips were sometimes stalled when the weather caused slippages that made the road impassable.

Whānau Tuarua

For Whānau Tuarua, a home was them all being together. They had three dwellings on their property. The main house was the homestead that Tania (kuia, the interview participant) had been raised in since she was six months old, the second was a shed converted into a home for her daughter and whānau, and the back house was the house she built for her whānau to grow up in; it was now the homestead where she was raising her three mokopuna. The whānau felt like they had no way of getting their whare fixed until they had a meeting with their health worker, who then referred them on to the house repairs programme.

The whare had not been touched in quite some time. They had been running all their power off one multiplug in the hallway to the bedrooms, but now with the renovations they have sockets throughout the house. They also had a new front door put in as they had had no lock for 20 years on the door and a glass panel had been covered with cardboard for the last 15 years. They received a new bathroom that they were over the moon about. They felt like they had the "flashiest" bathroom ever. They also received guttering around the whole house as the house has never had guttering and would always flood.

After the repairs they felt like they were living in a safer home, and they were all a lot happier and felt like their Dad, who had passed away, would be so proud of what they had done to the house. They were very grateful for the work and were thinking more about their plans for building a papakāinga for extended whānau.

Delays caused by the COVID-19 pandemic and supply chain issues (including increasing costs) also meant work was often delayed, and COVID-19 and the flu also affected contractors. Delays left a few whānau feeling frustrated, especially when they felt there was a lack of communication. For example, two participants said that subcontractors arrived unannounced at their doorstep or would not arrive at pre-arranged times. A few participants expressed their dissatisfaction with the length of time the repair work took and the inconvenience it caused them. And one participant was not happy with their bathroom renovation, although the building company disputed their description of the faults with the repairs that had been undertaken.

All but one of the participants who raised issues about the repairs process were positive about the outcomes, as Tui (māmā) explained:

> Don't get me wrong, any repairs to our home are so much appreciated. Any little improvement makes a huge impact on the quality of our lives . . . I really do appreciate the work that has been done.

Improved health and wellbeing following critical repairs

The majority of participants said that the critical repairs to their houses had a huge impact on whānau stress levels and the atmosphere in their home. Participants reported that their relationships with one another had improved, that they did not argue as much and that they laughed more. Although life was still difficult for many, they said that not having to worry about the state of their house, and their house now being warm, meant they were able to look at the world more positively. Some commented that their tamariki and mokopuna still complained, but that at least now it was not about the house. Others said that adults and children, especially those with respiratory conditions, were now healthier and less likely to be hospitalised. As Kiri (māmā) explained, "Our whare is now a healthy one for our tamariki and it would not have been possible without this support."

Homes were made warmer by the addition of insulation and sometimes heating (e.g., wood burner, heat pump). Underfloor insulation made a huge difference for one whānau, with Eru (koro) commenting, "The grand-mokos come in in their dressing gowns and go, 'Oh man, it's hot in here.'" Hine (māmā), who suffered from an autoimmune disease that affected her lungs, said that the renovations to her house had changed the lives of her whānau: "My house is now a home. It is warm.

It is welcoming, it's homely. I'm unashamed. I can host people again . . . It's changed our lives. And it has made our family whole again" (see also the Whānau Tuatoru box below). Other participants said they would not have made it through the winter if it had not been for the repairs. Manaia (māmā) explained:

> Last winter was brutal; we would not have made it through with our old fireplace. We were warm, which made us happy. It took a while to get used to not hearing the whistling wind through the windows because we couldn't close them properly. We can laugh about it now.

Bathroom repairs led to exclamations of delight from whānau as they sang the praises of revived water pressure. Anahera (kuia) explained that she had been without a bathroom for the nine years since her husband died. After the repairs to her house she said, "The only original part of my bathroom is this [towel rail]." Another participant, Ero (koro), said of their new bathroom: "It's a pleasure to have a shower now. The pressure is brilliant; it's almost like having a massage." Maia (māmā) and her whānau also celebrated their new shower as it was "like a water blaster now", and their home was now so warm in winter that they sometimes had to open the windows to cool down a bit. For Hariata (māmā), her joy was her new kitchen as her whānau had not been able to afford to renovate it themselves:

> It's been an absolute stinker of a year; my whānau have suffered, as have others. But when I look at my beautiful kitchen I just think wow and burst into tears. I used to love to bake, even in my old kitchen, and now I can't stop baking. My kids are complaining that they are getting too fat and so is my husband, complaining I mean.

When the repairs had been done, participants talked about them with pride and satisfaction. They said their bathroom "feels safer", their home "feels warmer", and their whānau is happier. Participants described their repaired houses in ways that reflected the warmth and safety their homes now provided for whānau members who lived there, and as the pride and joy of the whānau. Rāwiri (pāpā), for example, explained the joy his koro was taking in their new roof, saying he would often bring his chair out onto the back lawn and just stare up at the roof, smiling. Hana said, "Our house is now a home, a papakāinga . . . whakaruruhau, a place for our whānau to come

Whānau Tuatoru

Those living in the home of Whānau Tuatoru included Mum, Dad, their five children and Mum's mother. Mum had been diagnosed with an incurable autoimmune disorder that affected her lungs. She had her mother move in to be her carer, and this made the house crowded. Mum had also recently had to leave her whānau and home as the condition of the mould in the house had started to threaten her life.

The house repairs programme replaced walls, installed a new bathroom, and removed the mould in the house. This made the air in the home dry, warm, and clean. As a result, Mum was able to return home. The repairs also made the home more homely, and the parents reported a huge difference in the children, who were able to run freely without worrying about their health. The kids have asthma, and Mum has not had to take any of them to the hospital since the repairs were completed.

The whānau have continued to improve their home with good, second-hand carpet throughout. They plan to continue to improve their home when they can and hope to be able to make it more energy-efficient by adding solar panels, having their hot water run on gas and, if possible, installing an HRV system to provide clean air and heat in their home.

to," while Manaia (māmā) expressed her surprise at the feeling of pride her whānau now felt in their repaired home: "I can't believe what a difference the repairs have made to us as a family, to how we feel about our house, the pride we have in our home."

Some participants, like Hine (māmā) above, talked about how the house repairs had made them more willing to have visitors, with Pania (māmā) adding that people who came to visit her renovated house "do not want to leave". Their ability to host also meant that tamariki and rangatahi could now have friends over to their home, when prior to the repairs "my kids didn't want to stay in the house".

Relationships that enabled whānau to accept the offer of help with house repairs continued once repairs had been carried out, and participants were grateful for what they often saw as the extraordinary lengths their health worker went to:

> I just can't find the words to express my happiness for all the work that has been done on our home. [She] is still in contact with me now. It was her, all her work; that's why our home is warm, because of [her]. She never gave up, always thought of us; drop pyjamas off, food off, stop in for a yak. Who does that? (Maia, māmā)

Many of the participants, like those featured in the Whānau Tuatahi box above, thought of their home as a whānau home that would be passed down through the generations. The repairs had helped ensure that this would be possible. Aroha (māmā), whose whānau had inherited their house from their grandmother, explained the importance of this for them:

> Our whānau are everything to us; life is tough, but we have a home for our tamariki, mokopuna. It is warm and loving, just how our tīpuna left it, and just how we will leave it for our future whānau.

Discussion

These two small qualitative studies have provided some insight into the impact of critical house repair work on whānau health, wellbeing, and feelings of being at home. When a whānau-owned home is in a state of disrepair, whānau may not know where to start fixing things up or not have the finances to even contemplate changes for the better. The disrepair may also come from many years of whānau having to make trade-offs, spending money on priorities other than repairs. The resulting need for critical repairs can immobilise whānau. Walking alongside whānau and strengthening relationships as well as repairing their homes shifted them out of this state. It also increased their confidence for undertaking further repairs and renovations that then increased the production and retention of warmth in their homes. The fulfilment of the critical repair commitments made to whānau potentially increased their trust in social and health support agencies, as experienced by Māori renters involved in the Ministry of Health's Healthy Homes Initiative (Carter et al., 2018).

The homes that whānau owned were often inhabited by many whānau members, spanning two or three generations. Being able to house whānau "is an important step to supporting their wellbeing and enabling them to have a sense of home" (Cram, 2020, p. 19). When their houses were repaired, the whānau in these studies unsurprisingly reported improvements in the physical and mental health of all whānau members, leading to the affirmation that illness or disability impacts the collective and not just those who are ill or tangata whaikaha (Golics et al., 2013).

The critical repairs also increased whānau confidence that their home would have longevity and be able to house future generations of their whānau. The importance of homesteads has recently been showcased in a series on Whakaata Māori entitled *Homesteads*. The producer and director of this series, Kimiora Kaire-Melbourne is quoted as saying, "Our marae are the tūrangawaewae of hapū, but homesteads are the tūrangawaewae of whānau" (Whakaata Māori, 2022). Shoring up the survival of these homesteads is therefore shoring up the continuing vitality of whanaungatanga, whereby whānau are what makes a home and having a house to return to, live in, host visitors in, and gather together in is the foundation—the mauri— of whānau homemaking.

The affection that whānau had for the Māori tradespeople who repaired their homes was an important characteristic of the house repairs programme. Applying the term Kaupapa Māori to the repairs and renovation work they undertook is appropriate given that in many ways whānau described their work as being by, for, and with Māori, and giving effect to Kaupapa Māori principles (Walker et al., 2006). For example, the tradespeople were non-judgemental about the repairs a house needed and respected the right of Māori to be able to access funded repairs. These are part of the Kaupapa Māori principles of *tino rangatiratanga* and *kia piki ake i ngā raruraru o te kāinga*.

The tradespeople recognised the validity and legitimacy of Māori cultural heritage, giving effect

to the Kaupapa Māori principle of *taonga tuku iho*. The head of the building company spoke te reo Māori, and he and the other tradespeople were often related to whānau. Their initial meetings with whānau therefore occurred within the context of Māori terms of engagement, where making tribal and other connections through whakawhanaungatanga set the context for them being together. Much like groups coming together on a marae, or people meeting in a café for a research interview, these rituals of encounter both introduce people to one another and make them akin to whānau for the kaupapa they have come together for (Irwin, 1994). From these initial introductions, whānau described the builders as courteous and tidy in their work, and the builders themselves reported how often they were fed or offered food by whānau. In this way, both the tradespeople and the whānau gave effect to the *whānau* principle of Kaupapa Māori.

Even in the context of builders and other tradespeople striving to maintain good relationships and undertake important critical repairs for whānau, not everything worked well for all the whānau involved. In response to communication issues, the dispute that arose between one whānau and the building company, the complexity of whānau situations, and the long travelling times for tradespeople, the building company has made changes in their processes. They were also considering having a project manager on-site when the building work was in a location at a distance from their offices. These changes have been about strengthening in-time communication and ensuring good relationships.

Limitations

While the findings from these two small studies may not be generalisable, they may resonate with whānau that feel hesitant about engaging with a house repairs programme. Whānau may be encouraged to engage when they learn about the experiences of other whānau. This approach has been used widely by Te Puni Kōkiri (2023), for example, in its videos with whānau about critical house repairs. Small participant numbers, especially the small number of Māori men interviewed, precluded a gender analysis. While an age analysis was not conducted for the same reasons, many participants spoke about post-repair health improvements among young whānau members. A fuller exploration of how the positive impacts of house repairs differ for whānau members of different ages and genders is a topic for future research.

Conclusion

The Māori owner-occupied homes in these studies required critical repairs because they had not been regularly maintained or repaired. Many whānau were spending their money on living costs, while the loss of the handyperson in some whānau meant that maintenance and repairs had come to a halt. The investment in repairing their homes provided a return for whānau in terms of their health and wellbeing. Savings also accrued to government agencies, particularly health agencies, as the need for whānau to access services declined with their increasing wellness (Grimes et al., 2012; Keall et al., 2016). In addition, repairing a whānau home is an intergenerational intervention that can secure the relational ties of a whānau to those who have passed and to those yet to come, that is, those past and future inhabitants and visitors for whom the house is a home and a place they are welcome in.

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Glossary

Aotearoa	Māori name for New Zealand
hapū	subtribe
hui	meeting
kaitiakitanga	guardianship
kaupapa	agenda
Kaupapa Māori	Māori agenda; lit. "a Māori way"
kia piki ake i ngā raruraru o te kāinga	intervening for the wellbeing of whānau

koro/koroua	grandfather
kuia	grandmother
māmā	mother
Māori	Indigenous peoples of Aotearoa New Zealand
marae	often used to describe the complex of buildings around a wharenui or meeting house
mauri	life principle, vital essence
moko/mokopuna	grandchild/ren
Pākehā	New Zealander of European descent
pāpā	father
papakāinga	village
rangatahi	youth
tamariki	children
tāne	men
tangata whaikaha	disabled
taonga	treasure
taonga tuku iho	heirloom, something handed down
te reo Māori	the Māori language
te Tiriti o Waitangi	the Treaty of Waitangi, New Zealand's founding document
tikanga	custom
tino rangatiratanga	self-determination
tīpuna	ancestors
tūrangawaewae	place where one has whakapapa rights of residence
wāhine	women
Whakaata Māori	Māori Television
whakapapa	genealogy
whakaruruhau	safe shelter
whakawhanaungatanga	process of establishing relationships
whānau	Māori kinship collective
Whānau Tuarua	Second Whānau
Whānau Tuatahi	First Whānau
Whānau Tuatoru	Third Whānau
whanaungatanga	kinship relationships
whare	house
whenua	ancestral land

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BALANCING ANGA FAKA-TONGA (THE TONGAN WAY OF LIFE) WITH FINANCIAL WELL-BEING

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Abstract

This article explores how Tongans honour anga faka-Tonga, balancing cultural obligations to their fāmili, kolo, siasi and fonua with their own financial well-being. Utilising the Kakala framework and drawing on narratives gathered from talanoa with 13 Aotearoa New Zealand-based Tongans between 20 and 60 years of age, three key themes were identified: (1) financial decisions were driven by Tongan values and Christian beliefs, (2) cultural and religious expectations and practices both promote and demote well-being, and (3) an overall sense of well-being can be achieved by balancing personal finances with religious and cultural obligations. Excerpts from talanoa elucidate how culturally embedded value systems and faith-based beliefs have crucial implications for financial decision-making among participants. Recommendations for culturally relevant financial capability education are offered, taking into account the unique nature of Tongan culture and communities in Aotearoa.

Keywords

Debt, Indigenous, financial capability, financial literacy, financial well-being, Tongan culture

Introduction

The term Pasifika/Pasefika refers to the diverse peoples of the Pacific Islands (including Sāmoa, Tonga, the Cook Islands, Niue, Tokelau, Tuvalu and other smaller Pacific nations) now living in Aotearoa New Zealand. However, the use of this term as a collective description for Pacific peoples in Aotearoa is not universally accepted. In this article, we have used the terms Pasifika and Pacific interchangeably, reflecting the varied terminology employed by the authors we have cited. We recognise that preferences for these terms can differ among individuals and communities. The 2018 Census recorded 381,642 people from over 30 distinct Pasifika groups in Aotearoa (Stats NZ, 2018a). While migration laid the foundation for Pacific settlement in the 1960s, now the majority (over 60%) of Pasifika are New Zealand-born

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(Ministry for Pacific Peoples, 2020; Ministry of Foreign Affairs and Trade, 2022).

According to the latest Census data, the Tongan diaspora of over 82,400 people is the third-largest Pasifika group in Aotearoa (following Samoans and Cook Islanders), with 75% (N = 60,000) residing in Auckland (Stats NZ, 2018b).Tongans have been the fastest-growing Pasifika ethnic group in New Zealand in recent years (Stats NZ, 2018b), with their numbers increasing more than threefold between 1986 and 2006 (Statistics New Zealand & Ministry of Pacific Island Affairs, 2010).

Financial hardship influences all ethnic communities in New Zealand; however, Pasifika people in particular experience economic inequalities, including low levels of income, high representation in casual work, a poor standard of housing, overcrowding and poorer health outcomes, including high rates of long-term health conditions (Pasifika Futures, 2020). To date, no New Zealand-based research has focused specifically on understanding the complex relationship between Tongan culture and financial well-being. This study aims to explore this relationship in order to address the following research question: How do Tongans in Aotearoa balance social and financial well-being?

Anga faka-Tonga

Tonga is divided into three main island groups: Tongatapu, Haʻapai and Vavaʻu. Partly because it was never formally colonised by a foreign power, Tonga has preserved unique forms of Indigenous governance and culture among Polynesian societies (Betz & van Meijl, 2016). From at least the 10th century CE, Tonga has been ruled by a line of culturally sacred kings and queens, and the Tongan monarchy still remains an influential entity in contemporary politics. It was only in 2010 that Tonga voted in its first elected Parliament, thereby ending 165 years of feudal rule (Tupou, 2019). Religion also plays a significant part in the social and cultural life of most Tongans, with over 85% of the Tongan population practising some form of Christianity (Tonga Statistics Department, 2021). The 2018 Census found the vast majority of Tongans (78%) also affiliated as Christian (Stats NZ, 2018b).

Anga faka-Tonga, simply defined as "the Tongan way of life", is traditionally collectivist, with paramount importance placed on social obligations, particularly to kin. The Tongan economy has traditionally been redistributive, based on the kāinga system that dictates the distribution of resources and maintains peaceful relations (Guttenbeil-Poʻuhila & Tuʻitahi, 2007). The kāinga system is contingent on all fulfilling social responsibilities and obligations that cohere around the core Tongan values of fakaʻapaʻapa, ʻofa, fatongia, talangofua and mateakiʻi meʻa (Vaioleti, 2011).

Ketuʻu (2014) refers to the Tongan saying "Ko ʻetau nofo ni ko e makafetoliʻaki" ("The way we live is based on reciprocity"), noting this resonates with the reality of how Tongans live on a daily basis (p. 18). Reciprocity and resource sharing (including foods and goods) is a basic aspect of day-to-day life in Tonga, giving rise to fua kavenga, or responsibility for shouldering social and financial burdens. Kavenga also obligates Tongans to provide gifts (e.g., koloa faka-Tonga and cash to other family members at special events, such as the wedding of a noble, royal celebrations, the annual church conference or life-stage events). Kavenga extends to church activities and gifting, not just within individual fāmili but also to others in their kāinga (Kaʻili, 2005).

Tongan society is traditionally hierarchical, with three main social classes: Haʻa Tuʻi, Haʻa Houʻeiki Nopele and Haʻa Tuʻa. Other forms of Tongan social status are determined by birth, marriage and leadership positions in the government, church or community. Generally speaking, those of lower status are expected to demonstrate fakaʻapaʻapa towards those of higher status by showing humility and submissiveness. The fāmili in Tonga is also hierarchical, with the tamai as the ʻulu ʻo e fāmili. At the same time, women have traditionally held high social status within Tongan society and within families. The eldest sister (or another chosen sister) plays an important fahu in family decision-making (Ministry of Internal Affairs, Women's Affairs Division, 2019).

Fua fatongiá and feingá play a crucial role in Tongan society, with different expectations that are attached to social status (Tofuaipangai & Camilleri, 2016). Fatongia is often viewed as reciprocity, meaning that individuals with higher status also bear obligations towards those of lower status (Fehoko et al., 2023). Fatongia is a mixture of obligation, respect and love (van der Grijp, 2004). Ketuʻu (2014) explains:

> *Fua fatongia* is the responsibility to fulfil an obligation to members of the *fāmili*, *kolo*, *siasi* and *fonua*. Every Tongan has a *fatongia* to fulfil within their *ʻapi*, *fāmili* and *kāinga* throughout the year and throughout their lifetime. These *fatongia* protocols are taught to or moulded into the individual Tongans by their families, churches, communities or just by observation. (pp. 81–82)

When fatongia is fulfilled and harmoniously performed, it is said to give rise to excellence, a well-balanced fala, and a space where everyone is cautiously mindful of the welfare of their collective (ʻOlikoni, 2015). Tofuaipangai and Camilleri (2016) observe that Tongans do not normally feel fiefia, fiemālie and nonga if a given fatongia is not carried out successfully (p. 62). Tofuaipangai and Camilleri (2013, 2016) further note that failing to maintain financial obligations can create unhappiness, anxiety and shame.

In understanding the Tongan attitude towards money, wealth sharing and gifting (fua fatongia), Morton (1978) observed social sanctions—that is, ostracism and open disapproval for failing to honour fatongia—are "levelling mechanisms" that minimise the accumulation of individual wealth (p. 52). At the same time, the value of the kāinga system and close social networks have ensured the maintenance of the system for generations (Ketuʻu, 2014).

More Tongans live overseas than in their homeland, with large populations in New Zealand, the United States and Australia. Although aspects of traditional culture have changed due to immigration and exposure to Western culture, many Tongans living in New Zealand maintain strong connections to Tongan-based kin. Most homeland households receive remittances from abroad; this provides a significant source of income for over 80% of Tongan households (Edwards et al., 2022). Tongans living outside of Tonga have called for a re-examination of Tongan customs around fua kavenga, with some seeing remittances as feeding an increasingly materialistic society in Tonga (e.g., Gregory, 2004; Swan, 2007). However, Lee (2006) observed that it is simplistic to assume that remittances are altruistic gifts to kin and country. Remittances are also sent to maintain land rights, to help support businesses and small enterprises in Tonga, and to prepare for retirement for those who plan to return to their homeland.

Several studies have recorded the impact of remittances on Pasifika in New Zealand and Australia. Vete's (1995) study on remittances among Tongans in Auckland was conducted first, revealing that Tongans felt duty-bound to send remittances to families in Tonga, often at the expense of their own needs and household amenities. Tumama Cowley et al. (2004) conducted research in South Auckland, where they found that about two-thirds of approximately 1,400 Pasifika mothers interviewed expressed that gift-giving made their family's financial situation more challenging. Pyke et al. (2012) later surveyed 254 Tongans living in Australia, with around 48% of respondents stating that they regularly sent money throughout the year to fulfil kinship obligations, even when they could not afford to do so.

Financial capability

Te Ara Ahunga Ora Retirement Commission (TAAORC) leads the government's strategy for improving New Zealanders' financial capability. According to TAAORC, financial capability includes financial skills as well as cultural elements, defined as "a complex set of behaviours, knowledge and attitudes, as wide-ranging as budgeting, understanding financial products, having a long-term perspective, regular saving, doing research, and confidence in one's ability to make good financial decisions" (Galicki, 2021, p. 3). Financial well-being, according to TAAORC, is determined by financial capability, which can be defined as "the extent to which someone can meet all their current commitments and needs comfortably, and has the financial resilience to maintain this in the future" (Galicki, 2021, p. 3).

Previous research has found that Pasifika in New Zealand report susceptibility to problem debt (unmanageable debt leading to financial strain). Several factors contribute to this, including lower levels of income and understanding of financial products (Kempson & Evans, 2021; TAAORC, 2021b). A 2012 New Zealand Families Commission report, *Pacific Families and Problem Debt*, examines Pasifika financial challenges in detail, including interview data from 25 Auckland-based budgeting and social service organisations working with Pasifika families. Interviews revealed various cultural factors underpinning financial issues for Pacific peoples, including financial expectations, particularly by elders, for cultural events, funerals (held either in New Zealand or the Pacific Islands), weddings and birthdays (Families Commission, 2012). Participants noted that Pasifika found it very hard to refuse when asked to contribute financially to others in their social network, and that church organisations and ministers could exacerbate the debt problem (Families Commission, 2012).

TAAORC (2021a) recognises that raising Pacific people's financial capability skills is an important determinant of personal and cultural prosperity for Pasifika. Yet despite the range of available financial capability programmes, Pacific people's uptake has been low. A lack of scholarly attention to the potential impact of social obligations on Tongan financial capability inspired the research reported in this article, which explores

how Tongans balance competing demands to achieve financial well-being while honouring a complex range of social relationships.

Studying financial literacy from a Tongan perspective is crucial as it ensures cultural relevance and addresses the specific financial needs of the Tongan community, empowering individuals to make informed decisions. Tailored financial education programmes promote inclusion and preserve traditional financial practices, fostering community resilience and enhancing financial well-being. Financial literacy efforts can better serve Tongan individuals by understanding the unique cultural context and promoting financial inclusion and equal access to resources.

Methodology

The data collection for this study was conducted by the first author, who was raised in Tonga and now lives in Auckland. In keeping with the desire to accurately capture the voices of Tongan participants in a culturally appropriate way, the Kakala framework, originally conceptualised by Konai Helu Thaman (2007), was adopted. The Kakala framework is modelled on a kahoa made of flowers and leaves (Thaman, 1988, 2007) which is worn on special occasions or presented to a special guest as a sign of ʻofa and fakaʻapaʻapa (Johansson-Fua, 2014). Three phases of the Kakala framework—Toli, Tui and Luva—are described in the following subsections and related to the research steps undertaken. At each phase, care was taken to ensure culturally appropriate decisions were made and that participants were located, engaged and interviewed using practices aligned with Tongan protocols and practices. The University of Auckland Human Participants Ethics Committee granted approval in September 2021 for three years (Reference Number UAHPEC2241).

Toli

In the Kakala framework, the Toli phase is associated with data collection. It refers to the "doing" of research (Chu, 2009). Toli represents the selecting and picking of appropriate native Indigenous fragrant flowers, historically from Kolo Kakala, the village where kahoa were traditionally made. These flowers are selected and carefully picked depending on the design and purpose the garland will serve (Johansson-Fua, 2014). In this study, Tongans living in New Zealand were selected and the only criteria were that they were aged over 16 and interested in discussing their finances and culture. Practical restrictions determined the final sample, as the data were gathered as part of the requirements for a master's thesis, which was necessarily of limited scope.

Participants were unknown to the authors before the study and were located primarily via social services and not-for-profit organisations based in Auckland. The organisations that agreed to support the study advertised the research to their clients, and interested clients contacted the author directly. This research began in 2020, and during this time, in response to the COVID-19 pandemic, the New Zealand Government imposed lockdown restrictions to manage the outbreak. During the three-year study period, the Auckland region entered lockdown twice, from 12 August to 23 September 2020 and from 14 February to 7 March 2021. This made it especially difficult to find participants, and the culturally appropriate protocol of face-to-face talanoa sessions could not be honoured in some cases due to participant concerns about social contact. Despite these challenges, 11 talanoa were conducted face-to-face, another by phone and another via Zoom between 22 November 2021 and 10 June 2022.

According to Vaioleti (2006, 2011), talanoa is an exchange of ideas or thinking or a conversation or personal encounter where participants are invited to freely express their experiences, perceptions and beliefs in their own terms. In the context of research, talanoa is not an interview but rather an unstructured discussion whereby the researcher approaches the participant with the idea of asking them to reflect upon, critique, confirm and express their views according to their own beliefs and experiences (Johansson-Fua, 2014).

Talanoa emphasises the importance of relationships and tauhi vā, prioritising the participant's voice to ensure it is heard and respected. For the two talanoa not conducted face-to-face, special attention was given to creating a comfortable environment. The researcher allowed extra time for an introductory conversation to help participants feel at ease. Additionally, affirming language was used to validate their experiences. Participants were not rushed and were given ample time to think and respond, with intentional pauses incorporated throughout the talanoa to create a more thoughtful and respectful dialogue (see Faʻavae et al., 2022, for a comment on extending vā relations across spaces).

Each talanoa was between 1 and 2 hours in length. Participants spoke entirely in Tongan for some parts, and also in English. The Tongan language has been translated where necessary for the purposes of this article. Once all the talanoa were completed, participants were invited to review

their recorded transcripts and were offered the opportunity to make changes prior to the analyses. No changes were requested.

Tui

In the Kakala framework, Tui refers to the analysis phase of the research process itself and requires a researcher to "thread each flower together in a culturally appropriate manner" (Malungahu et al., 2017, p. 50).

To analyse the talanoa sessions, a thematic analysis approach was applied, adopting an inductive or data-driven approach based on grounded theory (Glaser & Strauss, 1967; Strauss & Corbin, 1994). Grounded theory reflects an intention to examine meanings constructed through the interaction of the researcher and participant(s). Thus, the resulting theory is rooted or "grounded" in the data collected, and so was deemed appropriate for the study as this approach validates the primacy of the participants' voices (see also Malungahu et al., 2017, for further discussion). This approach was considered ontologically relativist and epistemologically appropriate for use in this study, which was subjectivist in nature, and also appropriate in terms of exploring views from the participants' perspective rather than testing a pre-existing theory or explanation.

Tui refers to the process by which the recorded talanoa were thematically analysed. First, the talanoa were transcribed verbatim and read through. The researchers then followed the six-phase data analytical processes required for thematic analysis as outlined by Braun and Clarke (2013), which involved constantly moving back and forward between the entire data set and discussing the data with the thesis supervisor (second author). The two researchers coded the transcripts together and then independently to compare. The process involved familiarisation with the data (reading and rereading the transcripts and making brief notes on relevant information); identifying common points, concepts and ideas shared across participants to extract meaningful and recurring aspects relevant to the study (to develop initial codes); and comparing codes to ascertain similarities after several iterations and discussions between the researchers. This approach enabled the researchers to identify clear patterns of meaning across the transcripts, and together they refined, defined and named the themes to produce the final analyses.

Luva

Luva refers to giving away the kahoa kakala to the intended recipient, which the recipient can then keep or pass on to someone else. This gesture symbolises the value of sharing and the importance of relationships for Pacific people. In terms of research, the Luva phase is the reporting stage (Johansson-Fua, 2014), which involves giving back to the people (stakeholders and communities) who are the source of knowledge, as well as referring to the study's findings in various modes or presentation approaches. In the case of this study, an unpublished master's thesis has been deposited with the University of Auckland library, and excerpts of the anonymised data gathered are shared below with the intention of informing culturally appropriate financial capability interventions in the New Zealand Tongan community.

The original Kakala framework was developed by Professor Konai Helu Thaman and included Toli, Tui and Luva (Thaman, 1997). The most recent Kakala framework was articulated as a collaboration among Tongan scholars: Professor Konai Helu Thaman, Dr ʻAna Taufeʻulungaki, Dr Seuʻula Johanson-Fua and Dr Linita Manuʻatu. These researchers added the Teu, Malie and Mafana phases to the framework. The current study used Toli, Tui and Luva only, as Teu, Malie and Mafana were not directly relevant to the project. However, Malie (lit., an expression meaning "well done" or "bravo") and Mafana (lit., warmth and heartfelt emotions) (Johansson-Fua, 2014) may follow the research as the results are disseminated to the Tongan community and implementation occurs.

Data presentation and excerpts

The 13 respondents who participated in this study were of various ages, held different positions in their family and community, worked (or had worked) in different jobs, had different educational backgrounds and had been in New Zealand for various lengths of time. This heterogeneity affects the respondents' experiences and perceptions of their personal relationship with the concept of financial capability. In the analyses, these personal interpretations impacted on the extent to which they personally felt bound by Tongan cultural obligations. Age also proved to be important because participants who were younger described financial goals and savings plans that were not discussed by older participants. All but nine were born in Tonga and most had lived in New Zealand for several years; they had travelled to New Zealand to study, work or visit family and had decided to

stay. Protecting participants' privacy is a priority; therefore, pseudonyms have also been used. These were not adopted at random—participants were assigned the names of fragrant flowers, fruits and leaves (kakala) that are used to make the kahoa.

Three main themes were found:

1. Financial decisions were driven by Tongan values and Christian beliefs.
2. Interpretation of cultural and religious expectations can promote or demote financial well-being.
3. Participants achieved an overall sense of peace and social acceptance when they balanced personal finances and cultural obligations.

The described analytical process has influenced the way in which data is presented below. First, the identified relationship between Tongan values (Christian and cultural) is presented, followed by personal interpretations of cultural and religious expectations that promoted or demoted financial well-being. Translations are provided in English from the original Tongan language; however, the participants' Tongan language is also presented to maintain authenticity with the original transcripts.

Financial decisions were driven by Tongan values and Christian beliefs

Participants involved in the study embraced the Faa'i Kave'i Koula (Four Golden Pillars) of Tongan society. These were introduced in 1964 by the late Queen Salote Tupou III as fefaka'apa'apa'aki, tauhi vā/vaha'a, lototō and mateaki'i/mamahi'i me'a (Tongan Working Group, 2012). These values are founded on 'ofa and feveitoka'i'aki (caring and tending to the vā relations) as the foundation that drives their actions to share, be generous and be selfless. This also exemplifies their faith in God as Christians.

The four pillars were referred to frequently by participants to explain their general attitude towards relationships/their kāinga and the role of money in their lives.

> As Tongans, we value love, respect, and community more than money. (Pua Tonga)

> Koe fetokoni'aki óku kau 'ia he me'a tu'u ki mu'a I he 'ulungaanga faka-Tonga [Reciprocity/giving and helping each other is one of the most important values in the Tonga way of living or culture]. For example, if more people show up to your occasion, you are rich as a Tongan because people show up; if no one shows up, koe faka'ofaa ee ka ko Koe [you are poor or have no one]. (Kalonikakala)

> Wealth is not a priority for me . . . Love is more important to me . . . Wealth is good, but it is not important if you are thriving yourself and others around you are suffering. (Mohokoi)

> As a Tongan, the more I have the more I will give and share . . . To be honest, us Tongans we hardly budget our money because we share and give our money to families. For example, I send money to my parents and sister in Tonga. Yet I am not employed. (Maile)

> Love is more important to me. Money is not important—blood is more important: mother, father, brother, and sisters are more important. (Faa)

As noted by 'Olikoni (2015), honouring social relationships is seen as leading to harmony and collective welfare.

Throughout the talanoa sessions, it was clear that Christian beliefs were an integral part of how the participants made sense of their financial decision-making, which, in nearly all cases, meant that participants' own personal financial needs came second to the needs of others. Christian beliefs were interwoven with and seen as synonymous with being Tongan. Some participants recited quotes from the Bible to expand on their explanations for Tongan cultural beliefs, thereby demonstrating that culture and Christianity were the fundamental ways in which they made sense of their lives and personal well-being. As one participant commented, "The Tongan culture shapes my whole well-being, not just my financial; it includes spiritual, mental, and my family. Culture and religion are connected as one" (Huni).

Some participants referred to the belief that money and wealth are provided by God and therefore should not be withheld by individuals for personal benefit—that is, it is meant to be shared. In this respect, transferring money overseas and giving away their money was considered socially beneficial and crucial to their sense of place within their cultural group. Moreover, for some it was clear they believed that giving away money was a source of wealth creation, in that it would return to them in the future, either by the work of God or by others who will reciprocate in time.

> The Tongan mindset and my personal feelings and belief is that wealth comes from God and through love we should give . . . If you believe in God, you

> should know that everything is from God. If you have wealth, share because if you share you will receive more. (Faa)

> I rely on God; I pray about it, and I know that God will provide. I trust in God to give me peace and make things work out. God gives and all things are balanced when God is in it. (ʻOketi)

Interpretation of cultural and religious expectations can promote or demote well-being

The second key theme to emerge from the analysis was the positive and negative implications of reciprocity. On the one hand, when fatongia was fulfilled and harmoniously performed, this created a sense of harmony and well-being. On the other hand, failing to maintain financial obligations created unhappiness, anxiety and shame. Participants described a range of negative emotional and psychological implications from failing to honour social and cultural expectations by not sharing their money within their social networks.

> I will feel guilty and unhappy if I do not share what I have. (Pipi)

> If I do not share, I feel greedy. I do not want to keep the money to myself. I will regret it for the rest of my life if I do not give. (Kalonikakala)

> I cannot sleep if I cannot fulfil my obligation. I do not have peace; it is my responsibility to fulfil. (Mohokoi)

At the same time, the positive aspects of living within a close nofo-ʻa-kāinga were also shared, and participants emphasised the value and mutual benefit of interdependence and reciprocity for their own personal security. In this respect, pooling financial resources for collective family life, sharing and gifting was seen as a long-term investment in familial relations that secured social well-being as a result of the numerous positive relationships that could be relied on.

> Ko ʻete foaki, ʻe tokaʻi kita ʻehe kakai. ʻE ʻiloʻI kita, pea tete taaʻimuʻa he meʻa kotoa [Because you gave, people will honour you. They will know you and you will prosper in all that you do]. (Kalosipani)

> Everyone is connected, and we are obligated to contribute whenever there is something that is required or needed from us to donate and contribute. (Pua Tonga)

> Nofo-ʻa-kāinga—fetokoniʻaki [Live in a community—help each other]. It's like a chain—where we are connected. This makes the weight lighter. (Faa)

Participants spoke positively about Tongan cultural values, which they saw as including Christian values and practices. However, there was also a sense of frustration around how values were sometimes interpreted by others in their community. For example, while participants spoke highly of the benefits of nofo-ʻa-kāinga, some also expressed their frustrations with the sometimes excessive financial demands of their church and family, which inhibited their ability to get ahead financially. Such demands were seen as particularly difficult by some participants, who noted that living in New Zealand is not the same as living in Tonga, and expenses of daily life need to be considered and managed.

> In New Zealand, it is a Western society where we are more concerned for our nuclear family. That comes in conflict with the way we are raised as Tongans . . . As the first generation in New Zealand, I feel like I cannot live freely as I am tied up in the culture. I was getting into debt, and it was financially draining. These debts were to chip into family obligations and contribute towards family events and kavenga, including a car loan and gym memberships, and I was financially struggling and depressed. Being in debt is depressing and you just work to pay off debts. (Pua Tonga)

> I am not against the church but against the ways. How culture and religion are connected as one and [that] makes it so hard. I wish there were a better way of doing it. The church plays a huge role in terms of financial obligation. Dad is a faifekau. Church took most of the money and we were left with little. (Huni)

> It's expensive to do it the Tongan way; it can be over-dramatic. (Siale Tonga)

Most participants observed that belonging to and fully participating in churches was important to their identity as Tongans, and this included making financial contributions to the church. While this was not seen as inherently problematic, some noted that some churches publicly announce the amounts donated by family groups. This places pressure on families who do not want to lose

face in front of other church members. Some also commented on what they perceived as the wrong motives behind the fua kavenga. For example, they observed members of their community who gave large amounts of money to churches for the social prestige that followed as opposed to genuinely giving as a form of ʻofa.

> Church donation is now like a campaign for lakanga [position and status]. The misinale [donation] is then announced, and people talk about it amongst themselves. Peer pressure is involved. It is the existence of competition amongst the church members. Sometimes giving is about obtaining a position in the church . . . A lot of things in the church are all about power. The more money you have, the higher you get in terms of lakanga in the church. (Maile)

> Kapau pe te tau ʻai pe ki he feʻunga, ʻe kovi nai? [Is it bad, if we only give enough?]. Sometimes it is about status and pride. (Faa)

Some noted it was challenging to feel good about giving to others when they were struggling financially themselves, and/or their giving was not being reciprocated.

> It is good for the short term but affects me in the long run. The Tongan culture puts me in debt. (Faʻonelua)

> I was in debt. The social kavenga were there but I cannot fulfil them. My income was not enough. (Faa)

> They pushed me to work rather than study because they need money. I have my dreams and goals, but I cannot fulfil them because I must fill in the gap as the oldest at home. I have a family to provide for. (Huni)

Achieving an overall balance between social and financial well-being

Most participants reported sacrificing their financial well-being to honour cultural and social expectations, and this was only seen as a problem if they gave more than they could afford or did not experience the reciprocity anticipated from their previous giving. This suggested that balance and reciprocity are key to achieving overall well-being.

> Financial well-being and social relationships must go together. I cannot let one go and hold on to the other; they both must be balanced. (Huni)

> Just give what you have; don't give what you don't have. (Pipi)

Some participants balanced both social and financial well-being carefully, prioritising, managing and choosing their relationships and selecting particular events and people to give to. Others discussed budgeting prudently, ensuring that a reasonable amount of money was regularly put aside for giving, donating only what is manageable, and avoiding getting into debt to give to others. One of the participants recognised how important it was to be connected but chose not to overly commit to some relationships, to avoid the demands and costs of relationships overwhelming her personal financial situation:

> It is important to be connected, but I choose not to be connected. It all comes down to prioritising. I also do a side hustle. I hustle my sister. I work and ask her to pay me. I buy stuff and resell it. I sell stuff I have that I do not need. I must pick and choose; I cannot do all. Fakasiʻisiʻi e fakamoʻua [Avoid indebtedness]. I do not send money and items to Tonga very often; it is every once in a while . . . Learn to say no, do not worry about your status in the community. If you cannot afford it, do not say yes; learn to say no. (Faʻonelua)

Younger participants, and those born in New Zealand, discussed saving and meeting other financial goals, and expressed different perspectives from participants who were Tongan-born and socialised into Tongan culture. One of the participants was an accounting student in her 20s who was acutely aware of the need to avoid debt, to live within one's means and to place needs over wants:

> ʻE lava katoanga kae ʻikai lava totongi noo [The celebration may succeed but the debt repayment may not] . . . My emergency savings is used when I need it and sometimes to help other families and friends that need it. (Kalonikalala)

Several causes of financial hardship were identified by participants, which included a lack of knowledge and skills in financial management, the high cost of living, debt accrual, and prioritisation of fulfilling fatongia to families, church, and the wider communities over their own bills and needs. Other causes of financial hardship included

unemployment and families in Tonga being oblivious to the financial difficulties faced by families in New Zealand when requesting monetary support. Participants also referred to the vulnerability of Pacific communities targeted by third-tier lenders, who take advantage of those not equipped to deal with the financial pressures experienced within their families:

> Lots of borrowing and loans are involved in the Tongan community. It is advertised even on Tongan radio, and the Tongan finance companies use our Tongan koloa as collateral: No Maluʻi Koloa Faka-Tonga. (Maile)

Discussion

The data gathered in this study show that relationships and interdependence based on Christian and collective values are the essence of Tongan culture. As a corollary, the relationship between social well-being and financial well-being for the Tongan community is complex and reflects a continual balancing of commitments to their culture, church communities and families. The participants' narratives contribute to an understanding of Tongan conceptions of financial well-being and how this is balanced, or not balanced, with social obligations, and therefore add to the small literature base on Tongan financial well-being.

Similarly to previous research conducted by Ketuʻu (2014), this study confirmed Tongan financial decisions are significantly influenced by the cultural practices of reciprocity, sharing and maintaining good relationships with others. These cultural practices have been reinforced by Christianity and the customs of the church. The impact of cultural and church practices on participants' financial well-being was both negative and positive, with some participants recognising the value of fatongia in terms of reciprocity, but others pointing to the harm it can create, which includes stress, indebtedness and shame. Similar to the data collected by Pyke et al. (2012), the obligations to remit and gift to others, including churches, were not questioned per se; however, some participants did express frustration about not being able to get ahead financially due to debt and what were perceived as incessant familial obligations.

Younger participants expressed different perspectives from those who were Tongan-born and socialised into Tongan culture. They reported selecting their relationships strategically to ensure they did not get into debt or risk not meeting their own financial goals (see also Taumoefolau, 2015). These findings suggest that younger, New Zealand-born, and second-generation Tongans are less likely to see their financial status as being inevitably determined by Tongan cultural expectations.

These data show that finding the balance between social well-being and financial well-being for the Tongan community is complex and requires financial capability skills as well as navigating tensions between their culture, church communities and families. Prioritising financial well-being is not easy for many Tongan people, or even perceived as desirable given the potential for undermining social well-being. Therefore, financial capability education may not make a meaningful impact if it is not framed in a way that honours and acknowledges anga faka-Tonga.

Recommendations

The obligations inherent in Tongan culture and kin-based financial relationships suggest that attempts to improve financial capability need to accommodate a range of deeply held cultural practices that honour anga faka-Tonga. Belonging to and fully participating in churches is important to the majority of Tongans, so it stands to reason that churches are well positioned to lead financial capability initiatives. With the help of faifekau, workshops on financial literacy, financial capability and financial well-being could be developed and introduced to the New Zealand Tongan community, including access to education about debt avoidance, savings and long-term asset building for families. This type of intervention would not be unprecedented as many religious organisations already lead financial capability efforts internationally (e.g., Gitau, 2014) and in New Zealand (e.g., Christians Against Poverty, 2022; Liberty Trust, 2022), and these could be drawn on to support Tongan-focused initiatives.

Interventions must be aligned with Tongan culture and use Tongan language, practices and protocols. Community and kāinga are particular cultural strengths as they point to the possibility for groups to move together towards goals and support each other to achieve them. It is important that the learning context is family-centred, encouraging family members to learn together and support each other inside and outside the learning environment. Importantly, education should be relevant to Tongan people's life experiences and priorities, and options for collective savings and shared family goals should be considered. Ketuʻu (2014) points to Tongan cultural values that the churches should take a more proactive role in teaching when it comes to financial capability.

For example, fakapotopoto, which Tu'itahi (2009) defines as being wise, knowledgeable, skilful and prudent, is familiar to Tongans but under-utilised as a motivational value. Ketu'u (2014) notes that fakapotopoto could be used to encourage Tongans to give prudently to others, being conscious and selective in order to avoid debt.

The need to talk openly about financial challenges is an important insight to come out of this study. Talking about money can be awkward, but it should not be a source of shame, particularly when families in both New Zealand and Tonga may not be aware of the financial difficulties community members face when meeting requests for monetary support. Congregations can bring together those who want to find ways to address financial challenges openly and set goals, pairing them with (ideally Tongan) mentors who can support them to address immediate financial distress and also work towards longer-term financial goals.

The findings of this study do not indicate that participants were against tithings or gifting to churches per se. However, they did emphasise the need to keep donations manageable. In 2018, Manukau (South Auckland) Councillor Efeso Collins argued publicly that tithing should be banned at churches located in low-income communities, noting that tithing from those on low incomes and beneficiaries was not acceptable, and that it can lead to abuse, particularly if it is unaffordable ("Churches Need to Rethink Tithing", 2018). The practice of churches publicly announcing family names and their contributions has been called out as particularly problematic (Jollif, 2018) as it makes some families feel obligated to tithe amounts of money they cannot realistically afford. This suggests that in addition to encouraging responsible giving (i.e., families donating to the church what they can afford), it is important for churches to emphasise that giving should be not competitive, and the extent of giving should not be publicly displayed.

Limitations and further research

This small sample of participants used in this research and their demographics do not reflect the whole Tongan population in New Zealand. Participants self-selected and while not all were in serious financial difficulty, none were particularly financially successful. It may be possible for Tongans to manage finances and still achieve social well-being in ways that this study did not reveal. Therefore, further research is needed with a larger sample to explore a wide variety of practical strategies that Tongans employ to achieve financial capability while staying true to Tongan cultural values. Notably, the data collection took place during the COVID-19 lockdowns in New Zealand, which meant that in some cases it was necessary to conduct interviews via Zoom rather than face-to-face due to the government's requirements for social distancing.

There are still many gaps in knowledge around how to best support Tongan financial capability. Further research could also explore, for example, the stories of family leaders who have taken a proactive approach to support their members to achieve financial goals, perhaps working alongside or within church communities. Research to develop structured workshops and activities to help Tongan families collectively achieve their financial goals would also be useful. Therefore, future researchers are also recommended to test and evaluate culturally appropriate interventions over the longer term.

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Glossary

Māori

Aotearoa	Māori name for New Zealand

Tongan

anga faka-Tonga	the Tongan way of life
fahu	role
faifekau	spiritual leaders
faka'ap'apa	respect
fakapotopoto	being wise, knowledgeable, skilful and prudent
fala	mat
fāmili	family
fatongia	obligation
fefaka'apa'apa'aki	mutual respect
feingá	trying one's very best
feveitoka'i'aki	caring and tending to the vā relations
fiefia	happy
fiemālie	satisfied
fonua	nation
fua fatongiá	carrying out one's rightful duties

fua kavenga	responsibility for shouldering social and financial burdens
Ha‘a Hou‘eiki Nopele	the noble class in Tonga
Ha‘a Tu‘a	the commoner class in Tonga
Ha‘a Tu‘i	the royal class in Tonga
kahoa	garland
kahoa kakala	garland or necklace made from kakala
kāinga	extended or communal family
Kakala framework	research framework based on traditional Tongan knowledge of stringing a garland and dance performance
kavenga	lit., burden; social obligations
kolo	community/village
koloa faka-Tonga	prestige goods
lototō	humility, submissiveness
Luva	the reporting stage of the Kakala framework
mateaki‘i/mamahi‘i me‘a	loyalty, devotion, passion
nofo-‘a-kāinga	community network
No Malu‘i Koloa Faka-Tonga	Tongan loan shops where individuals borrow money based on the value of the collateral they leave as security. The collateral consists of valuable Tongan goods known as “koloa faka-Tonga”, including ngatu (tapa cloth) and fala.
nonga	calm
‘ofa	love
Pasifika/Pasefika	diverse peoples of the Pacific Islands now living in New Zealand
siasi	church
talangofua	obedience
talanoa	shared conversations
tamai	father
tauhi vā/vaha‘a	maintaining good relationships with others
Toli	the data collection phase of the Kakala framework
Tui	the analysis phase of the Kakala framework
‘ulu ‘o e fāmili	head/decision-maker
vā	the distance between; the attitude and feeling people hold for one another; sacred relational space or the relationship that people create between themselves

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MIRUMIRU PAPĀ—HOUHIA TE WHANOKĒ | BURSTING BUBBLES— THE UNUSUAL NEW NORMAL

Ngā pūrākau o ētahi kaiako whare wānanga i te wā o te mate urutā KOWHEORI-19 | Narratives of kaiako at one initial teaching education provider during the COVID-19 pandemic

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Tuhinga whakarāpopoto | Abstract

This research explores the experiences of some kaiako at an Aotearoa tertiary provider during the COVID-19 pandemic. Each kaiako drew inspiration from the pūrākau of Ranginui and Papatūānuku to write a personal narrative with a particular focus on the national rāhui. The objective was to better understand kaiako well-being and bicultural practice to prepare for future events with uncertain and shifting circumstances. The lived experiences of these kaiako were analysed through two lenses across two phases of analysis. The first lens used was kōrero pūrākau, using the pūrākau and context of the separation of Ranginui and Papatūānuku by their tamariki. The second lens employed the three tikanga principles: whanaungatanga, manaakitanga and kotahitanga. A list of recommendations based on the findings are presented in this article to support people who are coming to terms with their new normal.

Keywords

COVID-19, tikanga, Kaupapa Māori, kaiako, rāhui

He kupu whakataki | Introduction

The research presented in this paper was based on the individual and collective experiences of some kaiako from three takiwā ako (Rotorua, Heretaunga, Tūranganui-ā-Kiwa) of Te Rito Maioha Early Childhood New Zealand, during the COVID-19 pandemic and national rāhui (hereafter called rāhui) from the start of the Level 4 (25 March 2020) to the end of the Level 3 rāhui (14 May 2020). The research set out to explore the experiences of kaiako through a Kaupapa Māori lens with a view to capturing the complexity and diversity of the lived experiences throughout the rāhui and periods of alert level restrictions. Each kaiako drew inspiration from the pūrākau of Ranginui and Papatūānuku (hereafter called I te Tīmatanga) to write a personal narrative with a particular focus on the rāhui:

> The pūrākau (story) of the separation of the sky father, Ranginui, and the earth mother, Papatuanuku, describes the earliest narrative of suffering, separation, loss and hope . . . Frustration grew amongst the children as they felt restricted by the lack of space. "Tapu", derived from this purakau, describes a state of restriction. (Rangihuna & Kopua, 2016, p. 3)

The purpose of this research was to better understand what it meant personally and professionally for kaiako well-being and bicultural practice to transition between physical and virtual workplaces—bursting bubbles into, across and out of these bubble spaces. In 2020, the uncertainty surrounding new and unprecedented COVID-19 times meant kaiako were not prepared for what was to become their new normal. This research focus was therefore important to ensure kaiako were better prepared to cope with future unexpected events in the face of unsettling and shifting circumstances.

Te whakatewhatewha i ngā tuhinga | Examining the literature

On 25 March 2020, a state of national emergency in Aotearoa New Zealand was declared because of COVID-19; therefore, at 11.59pm, the whole country moved into Alert Level 4. This meant the whole country went into rāhui. Households had to isolate themselves and "bubbles" were formed to stop the spread of COVID-19 (Cram, 2020). The transition to working from home meant that kaiako needed to find "optimal solutions to deliver equal and equitable learning opportunities for all students" (Godber & Atkins, 2021, p. 1). Some students, kaiako and whānau experienced social isolation from being confined to restricted spaces (Reimers et al., 2020). The challenge for initial teaching education providers during this time was the ability to succeed in the changing learning environment while supporting students and lecturers to build their own resilience (Godber & Atkins, 2021). The importance of "well-being" and the need to work together was paramount to being able to adapt to the new norm.

Some studies researching the impact that COVID-19 has had on people focused on early childhood education (see, e.g., Dawes et al., 2021; Henderson et al., 2022) and others focused on tikanga principles (see, e.g., McMeeking & Savage, 2020; Pihama & Lipsham, 2020). Research corroborates the view that there were ways to combine tikanga principles during COVID-19 to ensure the safety of whānau, kaiako and hapori. McMeeking and Savage's (2020) study discusses cultural adaptation, when iwi can change tikanga to suit the current health climate. An example of this is "Cultural adaptation began in early March, exemplified by a Ngāti Kahungunu meme

to replace hongi with the 'Kahungunu wave' ... 'tikanga demands that we do what's tika or what's right for any occasion' (Ngāti Kahungunu Iwi Inc, 2020)" (McMeeking & Savage, 2020, p. 37).

Adapting tikanga to stop the transmission of COVID-19 required Māori to review how they could make changes while upholding their intrinsic values and beliefs. Innovative practices were employed, such as using live-streaming and other digital platforms to allow people to retain traditional practices (Pihama & Lipsham, 2020). Te One and Clifford (2021) echo the view of Pihama and Lipsham (2020), who promote the use of tikanga Māori to "develop successful responses to the global pandemic" (p. 1). Although Simati-Kumar and Rangiwai (2020) examined the effects of COVID-19 on tertiary education in relation to moving from teaching kanohi ki te kanohi to online learning, they did not explore this from a tikanga perspective. These authors caution the tertiary education sector to be prepared to respond to the "shifting circumstances" (Simati-Kumar & Rangiwai, 2020, p. 11) surrounding COVID-19 and its impact on tauira achievement. In alignment with this view, Bussey et al. (2022) emphasise the "lack of preparedness" for events such as COVID-19 on a global scale and that "there is an urgent need for more studies which shine a light on how the lives of each of us have been affected and changed" (p. xviii).

This study addressed the lack of research surrounding the impact of COVID-19 on kaiako experiences from an interchanging tikanga perspective. In doing so, it sought to better understand how different kaiako personal and professional bubble worldviews shaped lived experiences and hauora. The research question asked was: Drawing from the pūrākau of Ranginui and Papatūānuku, how have the tikanga principles of manaakitanga, whanaungatanga and kotahitanga navigated us through the uncertainty of rāhui to prepare us for shifting circumstances? For the purposes of this article, kaiako are referred to in the first person plural.

Te whakapapa o tō mātou rangahau | The background of our study

As an organisation whose policies, philosophies and practices draw strongly from bicultural values, we turned to te ao Māori to guide us moving forward. The te ao Māori creation story I te Tīmatanga was chosen for this study because of the alignment to the Aotearoa rāhui. The period of this pūrākau is particularly relevant because it is when tamariki of Ranginui and Papatūānuku were born and held between their parents. This period is referred to as noho tatapū and is described by tohunga Mark Kōpua (Rangihuna & Kopua, 2016) in the phrase "i noho tatapū ngā atua" as a time of increased unrest when the many tamariki of Ranginui and Papatūānuku were collectively restricted in the tight embrace of their parents (p. 3). This phrase, i noho tatapū ngā atua, often shortened to noho tatapū, is the origin of the kupu *tapu*. The other period of relevance is the separation of Ranginui and Papatūānuku by their tamariki.

Ngā tikanga Māori, te whanaungatanga, te manaakitanga, me te Kotahitanga | Tikanga Māori principles of manaakitanga, whanaungatanga and kotahitanga

Tikanga are not easily defined; therefore, each of these tikanga principles would need to be defined relevant to our inquiry. Using the backdrop of our chosen pūrākau, a definition for each tikanga principle was created. It was agreed that whanaungatanga would be the first tikanga principle considered. The rationale for this was that the pūrākau of I te Tīmatanga is predicated on the relationships between the various atua in the story. Without these relationships, or the whanaungatanga between the atua, there would have been no pūrākau for us to base our inquiry on. Additionally, Mead (2016) suggests that there is an interconnectedness between all tikanga principles, such as the way manaakitanga, or hospitality, is used to develop whanaungatanga, further progressing to kotahitanga. The following three sections outline our interpretation of the tikanga principles for the purposes of this study.

Whanaungatanga

Originally, the concept of whānau was defined as a family group (Williams & Broadley, 2012). This is a very specific reference to familial blood ties, through which there are genetic, physical, immutable relationships between family members. This is precisely the type of bond that was shared between the atua in our chosen pūrākau. However, in a more modern context, the definition has expanded to include those who have a shared commitment to a common cause (Mead, 2016). According to Williams and Broadley (2012), "whanaungatanga is about knowing you are not alone, and that you have a wider set of acquaintances that provide support, assistance, nurturing, guidance and direction when needed" (p. 8). However, for a whānau of colleagues working toward a common cause, the act of being a family requires continual, regular

and active input. This active, deliberate input is what we refer to as *whanaungatanga* for the purposes of this inquiry. Therefore, any deliberate act of communication, collaboration or co-operation can be seen in this light.

Manaakitanga

Manaakitanga is a Māori tikanga concept that values the relationships between people and how they are treated (Mead, 2016). Manaakitanga represents the Māori word mana, meaning authority, prestige or power, as well as whakamanawa, meaning to encourage or uplift (Williams & Broadley, 2012). Caring for others is a universal human quality and to connect with a heart is the essence of manaakitanga and linked to the values of integrity and the constant building of warm, trusting relationships (Guzman et al., 2008). The concepts of manaakitanga and whanaungatanga are often interwoven. In enacting manaaki as a tikanga with others, one is essentially practising and enhancing one's own mana (Forsyth & Kung, 2007).

Kotahitanga

Kotahitanga is the combination of kotahi (one) and tanga, which indicates "the act of". Kotahitanga, then, can be thought of as "the act of being as one". Moorfield (2011) defines kotahitanga as "unity, togetherness, solidarity". This solidarity also encompasses putting aside one's personal aims for the betterment of the collective. Kotahitanga or unity of purpose and collective commitment to a common goal or outcome is maintained through intentional enactment of whanaungatanga and manaakitanga. Regular connection with the whānau sustains individual motivation and allows time and space for each to share and seek support and reaffirm purpose and direction (Williams & Broadley, 2012).

Ngā tikanga Kaupapa Māori | A kaupapa Māori methodological approach

As a collective, the researchers drew from a mātauranga Māori perspective in line with Kaupapa Māori methodology. Kaupapa Māori theory empowers a Kaupapa Māori research approach that accepts Māori cultural beliefs, values, knowledge and worldviews as both effective and genuine, thus allowing research presented under such esteem to stand on its own virtues (Smith, 1986).

Smith (1997) informs us that the term Kaupapa Māori is "used by Māori to describe the practice and philosophy of living a Māori culturally informed life" (p. 453). Hotere-Barnes (2019) recommends that we acknowledge the importance of recognising the competing and practical theoretical considerations of carrying out research from a Kaupapa Māori perspective that includes both Māori and Pākehā researchers. This provocation posed by Hotere-Barnes (2019) was responded to at wānanga hui by ensuring that this research was guided by those within this study who identify as Māori. In drawing from Kaupapa Māori methodology linking to kōrero pūrākau and tikanga Māori principles, it was possible to explore the relevance to kaiako everyday lived experiences.

He kōrero mō ngā kaiako me te horopaki | An introduction to the kaiako who participated and the context

The researchers were the participants in this study at Te Rito Maioha Early Childhood New Zealand Ngā takiwā ako toru. For this study, we regard all participants as kaiako. Initially, our research team was made up of eight kaiako. However, because of people leaving and commencing employment, the present research team comprises 11 kaiako, eight of whom identify as Māori and three as tauiwi. Alongside our professional roles, we value our personal roles as parents, grandparents, son and daughters.

Because these unprecedented COVID-19 pandemic times presented circumstances that were difficult to predict, this research study took longer than we anticipated to complete. This research inquiry journey commenced in 2020, but it was not until 2022 that it was finalised. This opened up new possibilities for it to be seen with fresh eyes as new members joined the research team. Therefore, this inquiry was strengthened because it drew upon the valued insights of those who were part of this important mahi at different points along the way.

Ngā tikanga | Procedures

Kaiako each wrote a narrative based on their lived experiences from the announcement that a rāhui was about to be imposed through to our return to Alert Level 2 and beyond until the end of May 2021 as we adjusted to the "new normal". There were eight narratives in total because three kaiako participated only in wānanga analysis. Data collected did not include narratives written by colleagues who had left the organisation.

Te kohikohi raraunga | Data collection

This research study used two methods of data collection: pūrākau and wānanga.

Te tikanga o te pūrākau: From an iwi Māori

lens, pūrākau are stories that can include the beginning of time and the divine beings. Wirihana's (2012) understandings of pūrākau derived from a wānanga with a kaumātua who shared his interpretation of pūrākau and broke the word down into "pū (source), rā (light, day, sun), ka (past, present and future) and ū (from within)" (p. 212). Far from being considered mere tales or myths and legends, pūrākau have preserved ancestral knowledge, reflect Māori worldviews and portray the lives of tūpuna in creative, engaging ways—whakapapa narratives. Telling pūrākau can also include storying from a contemporary worldview (Lee, 2005). Drawing from Lee (2005), "pūrākau as a valid research method is part of a wider movement by Indigenous people to advance 'decolonising methodologies' in which cultural regeneration forms a central part of our education goals" (p. 2). Wirihana (2012) believes that the use of pūrākau aligns with the expectations of Kaupapa Māori research in three ways. First, the use of an oratory method of story collection honours traditional Māori oratory methods of sharing knowledge. Second, the stories of kaiako are honoured by using their voices as much as possible. Each kaiako drew inspiration from the pūrākau (I te Tīmatanga) of Ranginui and Papatūānuku as a whāriki from which their respective and very different personal narratives were woven. Third, the use of pūrākau values the subjective interpretations of experience.

Te tikanga o te wānanga: The term wānanga is said to have emerged from the pūrākau of Papatūānuku and Ranginui that frames this research. In the darkness, ngā atua, the tamariki of Ranginui and Papatūānuku, came together to discuss the matter at hand. The conversations were robust, and the tamariki were not always in agreement about how to proceed. Nonetheless, they reached a course of action and attained their goal. In this way, our discussions become a pūrākau within the pūrākau.

Wānanga is the place to kōrero every time we hui together. We recorded our wānanga through Zoom recordings, minutes and notes. Relevant excerpts from wānanga recordings were transcribed for the purpose of providing data evidence for the report. Wānanga as a method of data collection provided a way to share views, have voices heard, make collective decisions through coming together, supporting one another and challenging and inspiring each other's thinking.

Ngā matatika | Ethics

Ethical approval was sought from Te Rito Maioha ECNZ to undertake this research. Each participant read and understood the organisation's Ethical Standards of Practice for Research, and the proposed research was undertaken in accordance with the standards. For ethical purposes, all participant data used in this research are identified as kaiako and numbered 1 to 8.

Te wewete i ngā raraunga | Data analysis

An analytical framework was developed and employed to analyse each kaiako narrative. Analyses were undertaken in two phases: through self-analysis and collective analysis. Lived experiences of kaiako as depicted in their narratives were analysed by employing the following tikanga principles:

- Whanaungatanga: *What* we do.
- Manaakitanga: *How* we do it.
- Kotahitanga: *The reason why and the outcome of what we do, and how we do it.*

Subsequently, experiences were analysed through the perspectives of ngā atua depicted in the pūrākau of Ranginui and Papatūānuku, by linking to tatapū or tapu experiences in COVID-19 rāhui and subsequent alert levels.

Ngā kitenga me ngā whakawhitinga kōrero | Findings and discussion

The insights gained from bursting bubbles have prepared us to embrace the uncertainty of our future ways of knowing, doing, being and becoming. This section highlights how the different personal and professional bubble discourses shaped our lived experiences and hauora. The findings presented in the section that follows discuss the interwoven tikanga principle links of whanaungatanga, manaakitanga and kotahitanga, and address the research question: Drawing from the pūrākau of Ranginui and Papatūānuku, how have the tikanga principles of manaakitanga, whanaungatanga and kotahitanga navigated us through the uncertainty of rāhui to prepare us for shifting circumstances?

There is a sense of whanaungatanga throughout the chosen pūrākau with a clear depiction of the challenges faced by those seeking connection and collaboration. The story of Ranginui and Papatūānuku illustrates not only the relationship between people, but also between time and space—the progression from night into day, and the physical closeness, and challenges, between Ranginui, Papatūānuku and their children.

Similarities between the narratives and the pūrākau are evident in the following whanaungatanga experiences faced by kaiako:

> By the time the first week of March had ended, further confirmed COVID-19 cases were reported within the borders of Aotearoa—all of a sudden home did not feel as safe as it once was. (Kaiako 8)

> As weeks turned into a month, we really missed the regular contact with our family who lived nearby. (Kaiako 6)

> As I left the building, I knew my colleague would be the last person I would encounter, outside of my whare for quite some time. I would miss my colleagues—these two courageous wāhine—but knew that missing them was better than losing them. For me rāhui had begun! Thank Goodness! (Kaiako 8)

> Some days were tough, and I really struggled not having a support network at hand to help with my tamariki. I come from a big whānau and not being able to connect with them physically was hard getting used to; it felt very unnatural. (Kaiako 4)

When viewed through a whanaungatanga lens, findings revealed the importance of providing opportunities for whānau, and colleagues to connect physically, mentally and spiritually. Each of the narratives reflected this:

> Evenings were the time to connect as a family and we watched lots of movies together, played board games and spent a few nights sleeping in a tent in the backyard or a mattress in the living room. It was an opportunity to truly reconnect with each other and explore time together that was slow and meaningful. (Kaiako 7)

> Visiting our son was restricted; however, medical staff requested that it would be a good idea if someone stayed with him while he was undergoing treatment. With the manaaki given by the organisation I was able to be with our son while he went through some of the worst parts of his treatment. (Kaiako 2)

> For my whānau, we engaged in wānanga around what each day could possibly look like for our whānau . . . We decided we would implement the Te Whare Tapa Whā model to ensure each of the pou of our whare were being nurtured. (Kaiako 5)

We connected in different ways with whānau, tauira and our stakeholders. Affording time to be with others was vitally important because of the social responsibility each of us upheld and uplifted for one another's hauora:

> I was torn between the deep sense of social responsibility I felt for my whānau, friends, colleagues. (Kaiako 8)

Our findings expand on the mahi of Guzman et al. (2008), who discussed how relationships can remain connected even when people are not in the same physical space. However, what stood out for us was that we were all aware of the amount of time we needed to invest in others. We discovered the importance of offering multiple opportunities to be able to come together to build relationships and enjoy a sense of whānau connection. One way we did this with colleagues was through daily karakia, which provided an opportunity to connect. We discovered that daily karakia was vital to our lived experience during rāhui because it was more than just reciting a karakia; it was about centring ourselves spiritually:

> This became the glue that held our team together and fused our relationship on a whole different level. (Kaiako 1)

> Karakia mornings and nights to cleanse the wairua, body, hinengaro and whānau. Ngā Atua had karakia when they separated their parents. In fact, they had karakia for any job whether new or standard. (Kaiako 2)

Tikanga Māori traditionally values kanohi ki te kanohi kōrero to form whanaungatanga. Although we are an online provider, rāhui restricted all physical contact, and therefore, it was particularly important to create routine in an online space to connect everyone. With students, we transitioned from a focus on study support to prioritising pastoral care in hui manaaki to ensure tauira well-being was maintained because we noticed an increase in COVID-19 related issues, such as a decline in mental health and extra mahi responsibilities. The employment of video conferencing software in the form of Zoom became part of everyday life—very quickly, kaiako learned how to navigate their way around this space using the tools at hand to engage with tauira in innovative ways, such as virtual backgrounds, whiteboards and breakout rooms. "Teaching both with a heart and from the heart" (Guzman et al., 2008, p.487) was infused in kaiako

practice. We realised that we had to become more sensitive to the different social responsibilities that tauira now had because of this new normal. Being innovative meant thinking creatively and embracing new spaces such as social media forums:

> Ensuring that each team member was OK was paramount because staff well-being and our relationships are what govern my whole being in my job. I know that each and every one of my team were reacting to the rāhui in different ways, so the daily Zoom hui became our new normal. (Kaiako 1)

> I put systems in place to ensure the manaaki of tauira into the programme and to create a virtual place where whanaungatanga could be fostered; in doing so providing opportunities for tauira to establish and maintain relationships with one another and with me as well as the other kaiako in the programme. (Kaiako 8)

> Technology had its challenges at mahi, but we managed to maneuver around the screen and keyboard satisfactorily. Zoom was new to me, but I got through the how to. A new tikanga of tapu, we needed to be careful with new updates, noa happened when we got the hang of the new updates. Facebook media was a blessing for the whānau. Our son could post pānui up to inform his whānau, hapu, iwi and friends about his progress. (Kaiako 2)

> What was important for me was that our stakeholders trusted us and trusted that this new way of maintaining relationships was presented with no ulterior motives attached. The cool thing with our combined team was if one base was delivering a hui, each base had a representative and in the eyes of our stakeholders we presented as a united front. (Kaiako 1)

> Maintaining contact with our students and stakeholders was paramount, and that was when I had to think outside the square and Zoom became the new normal as a meeting place. (Kaiako 1)

Our research study highlights the importance of safe spaces that are non-judgemental and are open to each other's whakaaro and the different perspectives we each brought to our lived experiences. This finding concurs with Williams and Broadley (2012) and Guzman et al. (2008), who inform how kotahitanga becomes evident when diverse perspectives are celebrated and woven together as people work alongside each other, sharing their thoughts and growing their own perspectives that develop through an online learning medium. Different perspectives made us mindful not to lose sight of the significance of human touch:

> People may say that technology replaces contact because you can see them daily via various social media platforms, but I disagree; nothing can ever supersede human touch and that smell of babies. (Kaiako 1)

Decisions during the rāhui were not made without robust discussion and debate; individuals had their own thoughts, feelings and alternative solutions to offer up. We liken this to the pūrākau of Ranginui and Papatūānuku, in which through wānanga the decision was made by the majority of their tamariki to separate their parents. During these wānanga, different ones offered the unique skills and supports they possessed to contribute to a successful outcome (Kameta, 2009). The unified commitment and purpose for us as kaiako during the COVID-19 rāhui period was a shared commitment to our own and each other's well-being, the retention of our tauira, and an as seamless as possible transition into continued study while they were locked down at home with their own families and situations. Wānanga about how we would meet this commitment was required, focused on how we would continue to offer and enact these three core tikanga and ensure the members within this whānau were supported with manaaki, felt the connection of whanaungatanga with us, and remained committed to our shared goal of continued support within our online platform. Accordingly, any action taken that supported this overarching goal was seen as an enactment of kotahitanga. For example:

> Karakia served to embrace us all in the same way Tama-rereti (Tane's younger brother) hung up Uru's children in the sky to give light and hope to all by providing a pathway for all to follow and overcome the darkness enshrouding us all. (Kaiako 6)

> I grew closer to the students over lockdown. The broadcasts of the COVID unity message strengthened kotahitanga across the country, and my outlet became the communication with students. Being physically isolated from friends and whānau forced me to suppress certain ways of doing and being, which did not last and ended up manifesting itself through the way that I was interacting with students. In the end this strengthened the relationships I had established with them pre-lockdown

> and I felt as if the students were with me right throughout this ordeal. (Kaiako 6)

When viewed through a kotahitanga lens, whānau maintaining emotional connections and upholding intrinsic whakapapa values and beliefs are key. Supporting one another by having virtual spaces to come together in dialogue to discuss emotions, fears, anxieties, how we were coping, happy moments and lived experiences were vitally important. An example of this was in the way our team provided hui manaaki for centre managers and that became a space for them to connect and kōrero about COVID-19 work-related challenges and what had become their new normal:

> These hui manaaki ... fast became valuable times to connect, to discuss ... a COVID-19 world and to deeply listen to what their lived experiences at this time involved. What I was very aware of was that ECEC [early childhood education and care] services were mostly closed except for the children of essential workers. (Kaiako 8)

> Meeting virtually throughout the day was not convenient and so hui manaaki took place predominantly at night via Zoom hui ... Pastoral care was lifted to another level ... evenings were a time to prepare or connect with others in their centre environments. (Kaiako 8)

Hui manaaki was a time to emotionally connect because life in a COVID-19 world was fast paced and changing rapidly for us all:

> This emphasis on emotionally connecting with each other was vitally important because ... we found ourselves . . . not able to physically touch in virtual worlds, but COVID-19 had enforced no touching in our physical worlds too. (Kaiako 8)

With reference to the chosen pūrākau, manaakitanga is demonstrated through the desire to uphold the mana of the whānau. This notion drew out a range of perspectives, because each child (of Ranginui and Papatūānuku) had a different idea about how to best achieve manaakitanga—that to achieve this would cause another's mana to become off-balance. Some believed that separating the land and sky would allow for the growth of mana among the children, albeit at the expense of the parents' desires, while others viewed the separation and change as a form of disrespect, regardless of the state in which they were living. The narratives discuss the sacrifices made by each kaiako while trying to uphold, not only the mana of their whānau, but also their communities, their students, their colleagues and the organisation, as evidenced in the following narrative examples:

> Living in a multigenerational whare, the Prime Minister's message to take care of our elderly and work from home resonated with me—the well-being of my parents and tamariki was my first priority—was I going to be faced with a decision—whānau or work? My wairua felt like she was being pulled down. (Kaiako 8)

> There were days when I had some silly thoughts running through my mind and a constant thought was that my mokopuna would not remember me; absence and separation can do that. I just wanted to see and hold them. (Kaiako 1)

> Although we missed our whānau dearly, talking to them at times from the driveway was tough. However, keeping our circle tight and ensuring each member of our whānau was safe was paramount. (Kaiako 5)

> I appreciated that some people in Aotearoa viewed the rāhui as restricting their freedom but for me it was protecting our freedom—keeping us safe. COVID-19 was amongst us and if we were ever to move freely again, this time of rāhui was essential to our survival. (Kaiako 8)

> It goes without saying that providing these hui was time consuming but I am a firm believer that we must look after the people that keep us in a job, and they liken to a planted seed in order for it to grow you must water and care for it; for me it is a no-brainer. (Kaiako 1)

It became apparent that during these unprecedented times it was important to be thoughtful about the struggles and challenges that each of us faced, depending on our bubble environments. It was evident that manaaki was received and given in both tangible and intangible ways. One kaiako discussed how in the current climate, manaakitanga was best achieved by adhering to the everchanging tikanga:

> We remained physically close to our own by putting on hold our duties on the marae and in the community. (Kaiako 3)

> As we moved deeper into lockdown, our sense of community shifted virtually to the online

> community that had become more apparent in our whare. Our kura was online, mahi, kōhanga, whānau—all online. Other than the odd trip to the local supermarket, whanaungatanga for us was happening virtually, and as that grew, so too did the need to practise other tikanga. I could never have imagined the transition of tikanga from a physical space to an online space, but it happened. (Kaiako 3)

> As the days rolled by, I thought more about my mokopuna, and found that I went through periods of total sadness; the feelings were like tidal waves that swept over me and I soon realised that it was the lack of physical contact that I missed. No one knew that I went through many teary periods, especially after my mokopuna catch-ups; I guess my coping mechanism was to put on a brave face and get on with work. (Kaiako 1)

> Although I didn't realise it, being locked down was a blessing in disguise as it allowed me to evaluate areas of my life and self that I wanted to change. I was given time to manaaki myself through grief I was experiencing in order to ensure my own mental and emotional well-being was uplifted. At the forefront of my mind was my tamariki; in order to keep them well, I had to be well within myself. (Kaiako 4)

Another kaiako demonstrated manaakitanga in another way:

> A group was formed to manaaki the elderly. Deliveries of grocery packs were dispersed too as many Ngāti Pikiao descendants were living in the vicinity of Rotorua. (Kaiako 2)

> I was excited to talk to the children about how this would be a historical moment in time for them. How people would talk about the year 2020. How it would become their own pūrākau for future generations. How we would notice communities coming together, families helping other families and what we did to get by and get through it keeping each other safe. How our actions were going to affect those around us and that all we could control at this time was how we treated others. (Kaiako 7)

The separation of Ranginui and Papatūānuku caused some resistance and tested relationships within their whānau unit. Similarly, some of us were happy to exit our home bubbles and return to work and others resisted:

> I found myself resisting returning to the physical workplace when others were excited about this thought. The "long tail" of COVID-19 concerned me; again the social responsibility I felt toward others loomed large. When others were bursting bubbles and traversing the world of Level 2, I was still in my Level 3 bubble space. The transition from a safe and secure home bubble space to physical places and spaces took time. Eventually, I made this transition—kindness, trust in others, manaaki, aroha and understanding were key. (Kaiako 8)

> Returning to mahi was a blessing for some ... It meant no more distractions. (Kaiako 2)

> I welcomed the return to the office. Lockdown was a beautiful but exhausting experience of survival—physically, mentally and emotionally. We survived the ultimate battle against COVID, but in achieving this, we fought a battle against our own conditioning, and we redefined new ways of doing and being. (Kaiako 3)

Furthermore, some of us had to contend with whānau and others who did not take the rāhui seriously or had differing perspectives on experiences that should be shared, and that tested relationships:

> We did not want manuhiri—and some of our whānau even became aggressive about it. The hostility made it feel like we were entering World War III. We changed tikanga, and went against our own beliefs, but we knew these were the measures we had to take to protect our whānau. (Kaiako 3)

> Tensions were evident in hui on the 24th of March; unknowingly my pūrākau, about what was occurring in my community, triggered an emotional response in another—anxieties were high. I could see that talking about the rawness of this reality could potentially be a "tipping point" for work whānau whose relationships I cherished. It became even more apparent to me that not only physical and social but also people's emotional well-being was a priority at this time. From the rāhui outset, it was as if we were called as a tīma to manaaki one another through these COVID-19 times. (Kaiako 8)

Admittedly, the impact of COVID presented resistance, differing perspectives and tensions; however, we were able to adapt to shifting circumstances by keeping the tikanga principles close. Expanding on the work of Ungar (2008, as cited in Boulton & Gifford, 2014), we discovered that

being resilient became important for people as they navigated cultural experiences in relevant and meaningful ways. This expands on the work of Te One and Clifford (2021), whose research illuminates the "adaptability of tikanga to maintain whanaungatanga". For this reason, as a team we were able to uphold the organisations' Tō Tātou Oati Pūmanawa Tangata—Our Values and Behaviours and the bicultural principles underpinning all that we do.

Ngā hua me te whakakapi | Results and conclusion

This research allowed us to explore the experiences of Te Rito Maioha Early Childhood New Zealand takiwā ako kaiako and staff during the rāhui and alert level restrictions. In doing so, in-depth insights were gained concerning the potential of pūrākau and tikanga principles as a way of critically exploring and analysing lived experiences to better understand how we could prepare for future events with uncertain and shifting circumstances. Moving forward with our eyes firmly fixed on the past, lessons learned from this research study to prepare us for the future are:

- Be open to reassessing the three principles of manaakitanga, whanaungatanga and kotahitanga so that people's professional and personal lives align in "new normal" times.
- Commit to wānanga to ensure tikanga can continue to be offered and enacted in relevant and authentic ways.
- Prioritise safe spaces that are non-judgemental and open to people's different whakaaro and perspectives.
- Have awareness that manaaki is received and given in both tangible and intangible ways.
- Embrace differing perspectives because they provide an opportunity to critically engage with and better understand others' ways of being, doing and knowing.
- Respect the responsibilities others may have because of their different cultural ways of being, doing and knowing to ensure connectiveness is preserved for them as individuals and us as a collective.
- Provide opportunities to connect with others physically, mentally and spiritually. Ways to do this are through karakia and hui manaaki.
- Ensure time is prioritised to recognise and acknowledge one another's social responsibilities by upholding and uplifting their hauora.
- Be sensitive to the different social responsibilities of tauira, colleagues and stakeholders.
- Be open to new and innovative ways to engage with others in online spaces.
- Understand that keeping a group unified, committed and emotionally invested in the hauora of others is hard work and takes effort.

Although COVID-19 presented challenges and struggles, it also provided us with the opportunity to be better prepared to engage with circumstances that shift or unsettle our thinking and feeling. We now better understand how our personal and professional bubble worldviews shaped our lived experiences and hauora as we were coming to terms with our new normal. The lessons we have learned pave a way forward and can be used as a future guide as we encounter changes in tikanga and navigate our way through struggles and challenges in the face of uncertainty.

Kuputaka | Glossary

aroha	kindness, affection, love, compassion
atua	god, deity, supernatural being
hapori	society, community
hauora	health, to be in good spirits
hinengaro	mind
horopaki	context
hua	finding, result, outcome
hui	meeting; to gather, assemble, meet
hui manaaki	meetings to support the holistic well-being of others
I te Tīmatanga	known as the beginning of time, the conception of the world
iwi	tribe or extended group pf people who descend from a common ancestor
kaiako	lecturer or teacher
kanohi ki te kanohi	face to face
karakia	spiritual incantations
kaumātua	elderly person
Kaupapa Māori	Māori approach, Māori agenda, Māori principles, Māori ideology
kitenga	finding, observation, perception, view
kōhanga	preschool
kohikohi	collect or gather

kōrero	to speak, narrate or discuss
kotahitanga	the act of coming together for a specific purpose, also encompasses unity and solidarity
kura	school
mahi	work
mana	prestige, power, influence, control or status of people, places and objects
manaaki	to support, take care of, give hospitality to, look out for; show respect, generosity and care for others
manaakitanga	an expression of care and support for others, ensuring the well-being of others is nurtured; also extends to the whenua to ensure it is sustained for future generations
manuhiri	visitor
Māori	the Indigenous people of Aotearoa
mātauranga Māori	Māori knowledge handed down by ancestors
moana	sea or ocean
mokopuna	grandchild
ngā tuhinga	literature
noho tatapū	a period of time when the children of Ranginui and Papatūānuku were born and held between their parents
Pākehā	New Zealander of European descent
pānui	announcements
Papatūānuku	Earth Mother or deity of planet earth
pou	pillars
pouako	teacher, lecturer
pūrākau	traditional stories and whakapapa narratives
rāhui	lockdown, temporary restriction
rangahau	study
Ranginui	deity of the sky
rārangi	list or catalogue
raraunga	data
takiwā ako	regional education centre
tamariki	children, to be young or youthful
tapu	sacred, holy, not to be tampered with
tauira	student, pupil; can also stand for an example or way of modelling
te ao Māori	the Māori world or Māori worldview
te tikanga o te pūrākau	pūrākau as a methodology
te tikanga o te wānanga	wānanga as a methodology
Te Whare Tapa Whā	the four cornerstones of Māori health
tikanga	customs, rules, procedures, methods, protocols
tīma	team
tino rangatiratanga	self-determination, sovereignty, autonomy
tirohanga	view, see, sight, look
tohunga	Māori expert
tūpuna	ancestors, grandparents
wāhine	women
wairua	spirit, soul
wānanga	to meet, discuss, deliberate
wānanga hui	a collective meeting, to share knowledge collectively
wewete	analyse or unravel
whakaaro	perspective and ideas
whakakapi	to conclude, complete, close
whakamanawa	to encourage, uplift
whakapapa	genealogy, to descend from, lineage, background
whakatewhatewha	investigate, examine, study, enquire
whakawhitinga kōrero	discussion
whānau	extended family, family group
whanaungatanga	kinship, to feel a sense of connection through shared experiences; familial ties, relationships
whare	house
whāriki	foundation, woven mat
whenua	land

The use and translation of te reo Māori has been informed by *Te Aka: Māori Dictionary* (Moorfield, 2011) and the literature used to inform the development of this research project.

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TE PŪNGĀWEREWERE PUKUMAHI

A research paradigm for within Te Ao Māori

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Abstract

Te Pūngāwerewere Pukumahi has been designed as a unified approach for research in Te Ao Māori that is applicable to all disciplines. It has been developed to guide researchers in creating a culturally safe space within which to undertake research collaboratively. While there are many excellent Māori research frameworks, we felt there was something missing: an all-encompassing research paradigm that embraces the underpinning values of Te Ao Māori. The identified values, our pou, consist of mātauranga, mana, manaakitanga, whanaungatanga, whakawhanaungatanga, kaitiakitanga, kotahitanga and rangatiratanga, with mauri at their heart and foundation. Our pūngāwerewere pukumahi, our industrious spider (the researcher), strategically weaves its research web, interacting, connecting and maintaining all pou through whakapapa. Our hope is that using Te Pūngāwerewere Pukumahi framework will help to broaden and strengthen the elements of research in Te Ao Māori.

Keywords

pūngāwerewere, Te Ao Māori research, mauri, whakapapa

Introduction

Research within Te Ao Māori can be fraught with tensions and dilemmas, especially for off-campus doctoral students. In addition to the support from our supervisors, as students, we formulated a group we named our tautoko rōpū. This enabled us to use a tuakana–teina approach, which allowed for free-flowing ideas and peer support (Guba & Lincoln, 1982; Shenton, 2004), in a relationship in which we could all share our expertise in a safe space. Although we had different focus areas for our research investigations, we had mutual supervisors who encouraged our tautoko relationship, we embarked on our research journeys at the same time, and we had the major topic of kāinga sustainability underpinning our research.

The central focus for Rochelle was a case study of Te Rimu Ahuwhenua Trust (Te Araroa) and the challenges and opportunities of climate change adaptation. Rochelle has genealogical ties

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to Te Araroa. She is also a beneficiary of the Te Rimu Ahuwhenua Trust (Te Araroa, East Coast of Aotearoa New Zealand). Tepora's research project examined kāinga, kura and kai (based in Te Taitokerau, Northland Aotearoa) and the interrelationships between them on the journey towards food sustainability. Tepora's whānau comes from Waima, Kaikohe and the greater Hokianga region. Both projects also integrated the perspectives of climate change and Covid-19 as challenges within their kāinga.

We greatly appreciated the ability to access information from a wealth of scholars and their resources, such as Te Whare Tapa Whā (Durie, 2004), *Te Ara Tika Guidelines for Māori Research Ethics* (Hudson et al., 2010), Kaupapa Māori concepts (Panelli & Tipa, 2007; Smith, 2012), whakapapa methodology (Graham, 2005, 2009; Paki & Peters, 2015; Royal, 1998), Māori-centred approaches (Herbert, 2001; Moyle, 2014) and Whānau Tuatahi—Māori community partnerships (B. Jones et al., 2010), to name but a few. However, during the progression of our doctoral journey, it soon became apparent to both of us that, among all the resources we had access to or researched, something was missing: a unified approach for research in Te Ao Māori that is applicable to all disciplines and can be used by all researchers.

In this research paradigm, we refer to Māori communities as kāinga (also known as tribal marae, pā, pā-kāinga, papa-kāinga) (Tapsell, 2021). Kāinga in this context, as stated by Paul Tapsell (2021), "represents the fundamental genealogically ordered relationship of belonging—anchoring tāngata to whenua—in a universe organised by a system of ambilineal kinship and descent (whakapapa)" (p. 7). Tapsell (2021) also used an algorithm to define the term kāinga as follows: kāinga = tāngata + whenua + taonga (p. 51). To briefly explain these concepts, kāinga refers to villages, tāngata refers to Māori, whenua refers to the landscapes and waterways, and taonga refers to the treasured ancestral belongings and resources (Tapsell, 2021, p. 7). However, more importantly, Tapsell (2021) reminded us that kāinga are not just villages occupied by tāngata but are symbolic statements of mana (ancestral authority) over the surrounding whenua (p. 7).

Our reasoning for using the term kāinga is, as Merata Kawharu acknowledged, the impacts (social, environmental, cultural, economic) are found at the kāinga interface rather than at the iwi level and it is the kāinga that are the catalyst for change (Kawharu & Tapsell, 2022a).

The intent of this Pūngāwerewere Pukumahi paradigm is to guide researchers and kāinga in creating a culturally safe space to undertake research collaboratively.

Within this body of work, we discuss the following aspects of this framework:

- the whakapapa of Te Pūngāwerewere Pukumahi
- te whare pūngāwerewere (the spider's house/web)
- te pūngāwerewere (the spider)
- mauri—centre of the web
- eight key pou
- the domain of the web
- the use of Te Pūngāwerewere Pukumahi
- presentation of research findings.

The whakapapa of Te Pūngāwerewere Pukumahi

"Whakapapa is the overlocking and overlapping strands of descent lines that look like tangled webs." This comment was made by Anne Salmond at a Recloaking the Whenua Zoom presentation in 2021 (Rāngai, 2021). Salmond further explained that from her perspective, Māori view time in a spiral sense or in a circular approach rather than in a linear form. Salmond's kōrero sparked within us the concept of Te Pūngāwerewere Pukumahi (the industrious spider), from whence our research framework was born.

The strength of the spider's web is legendary. When Tawhaki (a supernatural deity) ascended to the tenth realm of the heavens to obtain the gifts of religion and knowledge, he did so by way of a spider's web. This was depicted by tohunga whakairo Pakariki Harrison on the pou te wharaua located in the whare whakairo Tāne-nui-ā-Rangi at the University of Auckland (see Figure 1) (Mutu & University of Auckland, 2008).

Te Whare Pūngāwerewere: The spider's web

Like all webs, Te Whare Pūngāwerewere can be defined as a complex system of interconnected elements. In our research paradigm, the web represents the skeletal whakapapa framework in which all entities are interconnected. Whakapapa helps to strengthen the connections between the strands. The woven layers of harakeke in Figure 2 symbolise the layers of whakapapa that are integral to all aspects of Te Ao Māori. Every tiny silk thread connects one entity to another, each playing a significant part within the web.

Without all the connecting threads, the web

Figure 1 Te Wharaua

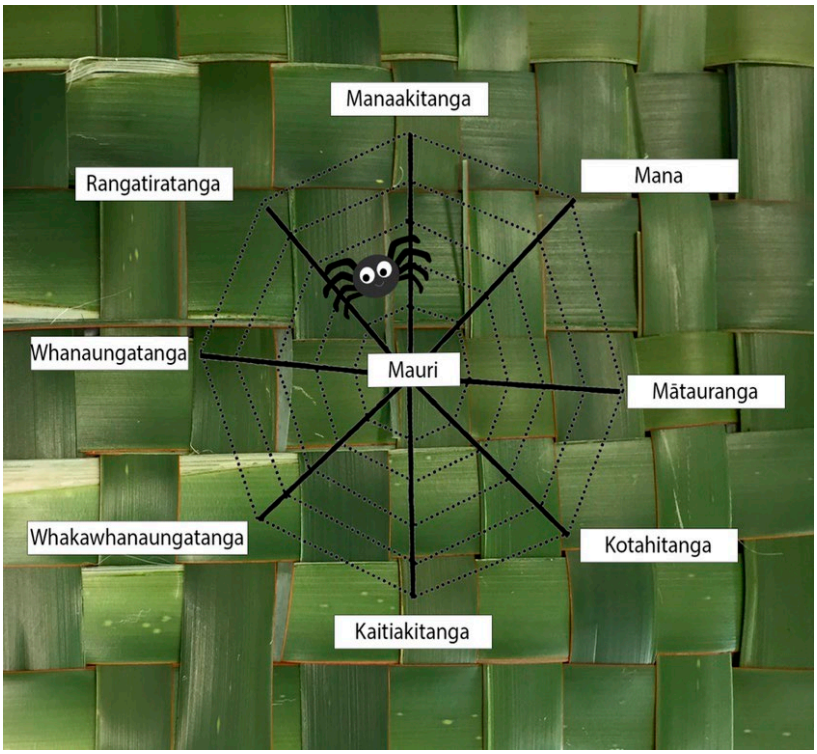

Figure 2 The web with eight focus strands

becomes somewhat compromised. Sometimes it might look as though the strands are all merging together. They do, as happens in a spider web, but sometimes it may be one strand and then another strand that merges; at another time it might be a different combination of strands. Each strand is both distinct and individual, yet at the same time merges to contribute to the entirety.

Each researcher's pathway is unique. Te ara o tukutuku pūngāwerewere is the pathway of the spider. Just like those of pūngāwerewere, our webs will all look different but the basis will still remain true; the strands and underlying mauri will always remain the same. The beauty of nature has often been the inspiration behind the creation, design and intricacy of Māori weaving and, according to Keane (2007), has been likened to "he whare pūngāwerewere". However, like our traditional tukutuku weaving, which is a symbolic representation of te whare pūngāwerewere, the patterns and designs will be unique to our rohe, kāinga, whenua and tīpuna, all of which are encompassed in our principles of whakapapa and mātauranga.

Te pūngāwerewere: The spider

Why the spider? Te Pūngāwerewere Pukumahi is the industrious spider that we refer to as the researcher. The spider-like researcher is able to "dance" across the web from strand to strand, making connections between each strand and using this ability to strengthen linkages. In contrast to this is the researcher who is unable to dance from strand to strand, operating as the fly. Although the fly's actions are often not deliberate and are usually unintentional, the fly may blunder into the web in a manner that both disrupts and can destroy sections of the strands that hold the entirety together. An example of a researcher as a fly is when the researcher undertakes research but has not collaborated with the research participants or kāinga and does their own thing without consultation.

Spiders play a critical role in keeping the natural ecosystem in balance. The researcher has the same job. At times, the spider treads cautiously across the delicate web, alert to its surroundings and keeping all pou (strands) in balance. In order for the web to remain secure, the researcher must ensure all these pou are equally upheld. If any of

these pou are neglected at any time, the structure of the web becomes weakened or unbalanced, which affects the mauri—the core of the web. The researcher needs to ensure that the key pou or strands of the web continue to be enacted by working collaboratively with the kāinga or research participants. If the researcher puts themselves first by doing their own thing, the web will break (Kawharu & Tapsell, Rotorua hui, personal communication, June 11, 2022).

There will be moments when the spider displays controlled movements, creeping forward into the past, gazing back into the future or waiting patiently in the present. The spider will sit patiently and titiro, whakarongo and then kōrero (Cram, 2001; Smith 1999). At times, the spider will disappear into the background and sit and observe, quietly taking in all that surrounds it. Another example of this patience is the recognition of the time it takes to build the relationships between the researcher and the kāinga, if not already established. We liken this to the researcher spending time showing that they know how to use the business end of a tea towel in the whare kai; it is often here that many important relationships are formed. The spider acknowledges the importance of intergenerational knowledge by moving forward into the past, reflecting on customary mātauranga while gazing back into the future, thinking about the future generations, while remaining in the present, interweaving customary knowledge with contemporary knowledge and creating new knowledge. As stated earlier and discussed by Paul Tapsell (Stirring the Pot, 2021), the spider has a role to continually regenerate and rebalance old knowledge with new observation, giving birth to new knowledge.

Mauri—Centre of the web

In the context of this research paradigm, the mauri (depicted at the heart of Te Whare Pūngāwerewere) acts as a nucleus that binds or joins the eight key pou together. In order for the mauri to be able to bind the eight pou together, the mauri must remain balanced, strong and firmly intact. The mauri is strengthened by maintaining a state of balance (mauri tau) in which key pou are equally respected and upheld throughout the entire research investigation. If any of the pou are ignored, the mauri becomes somewhat unbalanced. This will ultimately have a roll-on effect on other pou, causing the web to spiral out of control and eventually break, resulting in major implications for the research investigation. We suggest that it is always crucial to not only self-reflect but also peer review the steps being taken throughout the research process. This peer review format can be with fellow researchers, kaumātua and supervisors. This will assist in ensuring the researcher has respected and upheld the balance of the mauri.

Mauri also encompasses the health and well-being of the research participants or kāinga. The decisions and processes of the researcher should have the research participants' well-being at the heart and the research participants should always be treated with respect. Having said that, the research participants or kāinga must not exploit the researcher. Mauri demands balancing of the different layers of relationships that the researcher encounters in their research investigation, whether that be with research participants, kāinga, supervisors, colleagues, kaumātua or organisations.

Cleve Barlow (1991) described mauri as a special power to bind or join (p. 83). For instance, "when a person dies, the mauri is no longer able to bind those parts together and thereby give life—and the physical and spiritual parts of a person's being are separated" (Barlow, 1991, p. 83).

There is a reason the mauri is located at the centre, representing the heart of the web. The mauri is like the human heart breathing life as it beats, and it affects everything else. It encompasses not only the physical but also the spiritual dimensions of the pou. When the mauri is absent or unrecognised, there cannot be a harmonious balance. Hence, mauri links with all eight pou.

Eight key pou

The word pou can be understood to mean a post or supporting pillar, and within this body of work, we consider the pou to act as metaphoric symbols of support. There are eight key pou in Te Pūngāwerewere Pukumahi framework. The key pou are mātauranga, mana, manaakitanga, whanaungatanga, whakawhanaungatanga, kaitiakitanga, kotahitanga and rangatiratanga. The eight pou do not work in isolation but rather are interconnected and fluid, and complement one another. Thus, one is not more important than any other. The mauri keeps the pou connected. Without the mauri, all the pou or strands of the web would collapse. The pou should be approached in a balanced way; therefore, the researcher must pay attention to all eight pou and act accordingly. So, what does each pou mean and how does it guide the research process?

Mātauranga

Historically, the word *mātauranga* did not exist; instead, words like *kōrero tuku iho*, *pūrākau* and

wānanga were used (Matamua, 2021). However, the word *mātauranga* emerged in more recent times and is now commonly used (Mead, 2022). While various definitions exist of mātauranga, it is often referred to in its broadest sense as "Māori knowledge" or "a body of knowledge originating from ancestors" (Te Aka Māori Dictionary, n.d.). Charles Royal (2009) provided a detailed definition of mātauranga:

> Mātauranga Māori is a modern term for a body of knowledge that was brought to these islands by Polynesian ancestors of present-day Māori. Here this body of knowledge grew according to life in Aotearoa and Te Wai Pounamu. Despite an initial period of change and growth, the arrival of European populations in the 18th, 19th and 20th centuries brought major impacts to the life of this knowledge, endangering it in many and substantial ways. (p. 31)

While there are many definitions of mātauranga, there are some key commonalities. First, as noted by Tapsell (2021), mātauranga, or the Māori knowledge system, differs from one kāinga to the next. This is supported by Sir Hirini Mead (2022), who stated, "While there might be a commonly shared base among all the tribes of the nation, there were bound to be portions of knowledge that were unique to each community, be they whānau, hapū, or iwi." Researchers undertaking research in their own kāinga may tap into their own knowledge systems through pūrākau, waiata, tohu, whakatauākī/whakataukī, place names, ancestors' names and landmarks that are unique to their area. Hence, the Māori knowledge system is diverse and may include mātauranga-a-iwi, mātauranga-a-hapū and mātauranga-a-whānau.

Mātauranga acknowledges the loss of portions of customary knowledge due to Aotearoa's colonial history. Mātauranga recognises the customary knowledge of our tīpuna and holds on to those traditions. Their wisdom has much to offer us today. Another critical element of mātauranga is that it is evolving, synthesising how these traditions can be applied today. Hence, mātauranga encompasses revival, innovation and progression in the spaces in which it operates (Stirring the Pot, 2021).

Mātauranga is much more than just a knowledge system. Māori academic Rangiānehu Matamua (2021) reminded us that mātauranga is also about living that knowledge. As researchers, we may examine mātauranga, but it is essential to think of ways that we can use that knowledge practically in our everyday lives, to keep that knowledge alive and to pass it on to the next generations. That way, mātauranga does not just sit in books but is used to add value and understanding to our everyday activities. In agreement with Matamua, Hikuroa (2017) claimed that mātauranga is a tool, approach, method and framework to generate knowledge, and all of the knowledge generated according to that method (p. 6).

Mātauranga is the first stage of three levels of learning. The researcher undertaking kāinga research will develop a deeper understanding and connection to the kāinga through the research process if this is not already established. The researcher may progress through the different levels of learning. Briefly, the three stages are as follows: (1) mātauranga, (2) mōhiotanga and (3) māramatanga. Stage 1 is mātauranga, which may be defined as a body of knowledge, wisdom, understanding, ability and skills (Te Aka Māori Dictionary, n.d.). The second stage, mōhiotanga, signifies knowing, understanding, recognising, realising, comprehending and the interaction with the body of knowledge (Te Aka Māori Dictionary, n.d.). The third stage, māramatanga, refers to a level of enlightenment, insight or brainwave (Te Aka Māori Dictionary, n.d.). In the first stage, mātauranga, the researcher identifies a body of knowledge in which it may operate, such as Māori knowledge/mātauranga-a-hapū and tikanga. In Stage 2, the researcher builds upon this knowledge and develops a deeper understanding of it. In Stage 3, knowledge (māramatanga) becomes wisdom and, as described by Tapsell, the "light bulb moment" (Kawharu & Tapsell, Rotorua hui, personal communication, June 11, 2022). Tapsell further described this stage as the awakening stage, when researchers become more aware of themselves and of how they belong (Kawharu & Tapsell, Rotorua hui, personal communication, June 11, 2022). In Stage 3, the researcher may use the knowledge acquired and apply it to various situations or use it to create new knowledge for the benefit of their people.

Embedded in mātauranga is tikanga, values and ethics (Mead, 2016). Tikanga has been defined generally as a Māori concept integrating practices, behaviours and values from mātauranga (Mead, 2016).

Although there are common practices as to how a researcher should conduct themselves in a kāinga space when gathering mātauranga, the main point we would like to make is that the researcher must be in tune with their surroundings and the people within these spaces as to how

to best interact with them. This will form part of the initial research before they venture into the kāinga—in other words, they should make sure they understand the "lay of the land".

Mana

Mana is a broad concept. According to Kawharu and Tapsell (2019), "Mana literally means 'authority', 'control', 'power' but more widely it is about defining a position or argument on something, asserting status or identity, and exercising rights-based arguments" (p. 8).

Within this research context, mana is attached to all involved in the research project: the research participants, the researcher, the supervisors and the kāinga. Mana is an essential research ethic of tikanga, and one must always respect and uphold the mana of all those who are involved (R. Jones et al., 2006). The researcher must always endeavour to preserve the mana of the participants throughout the research and beyond. In doing this, the researcher also preserves the mana of the wider group to which the participants are connected, such as the whānau, hapū, iwi and kāinga. The researcher should always remain humble and must not trample on the mana of the participants. Therefore, the spider must always tread very carefully on the web.

The researcher should not promote their own mana because this should be spoken about only by others, if at all. Mana can be preserved via the reciprocal relationship between the researcher and the research participants, and respect is at the core of this relationship. As stated earlier, the researcher does not undertake the research to enhance their own mana but rather to uphold the mana of the participants or kāinga. This will strengthen the mauri of the kāinga.

The same principles respecting mana apply when attending a hui. The question of who has a say at a kāinga hui may be asked. Depending on what the hui is about, we believe that a person who is not genealogically connected to the kāinga but has lived among the kāinga for years, formed authentic relationships and is accepted by the kāinga has a say at a kāinga hui. That said, does a person who does whakapapa to the kāinga but lives away from their community have a say at a kāinga hui? Regardless of whether they live away from the kāinga, they are still considered mana whenua. It is difficult to draw boundaries around who can and cannot speak because there are many variables to consider.

This relates to our comments concerning mātauranga in that each kāinga will have their own customs and values and thus it is important for the researcher to familiarise themselves with this aspect before finding themselves in a situation in which they may unwittingly shake the foundations of the web. In other words, we encourage the researcher to kōrero with their supervisors or members of the kāinga to clarify the customs and values of the kāinga before attending. Allied to this is a need for the researcher to make sure they are familiar with the protocols involved with entering a marae for the first time.

Does your passion give you the right to trample upon tikanga? A term that has been discussed during our research journeys is "mana muncher". This terminology was first used, and then explained, by a kaumātua during a hui in Northland. Subsequent discussions revealed it has become a frequently used phrase whenever members of the kāinga feel there has been a lack of respect shown to a speaker or a transgression against tikanga. A mana muncher is someone who intentionally tries to diminish someone else's mana. This may be during hui via personal attacks, using an aggressive tone, using intimidating body language or using inappropriate behaviour to devalue a person's mana. Researchers should be aware of what a mana muncher is, whether there are mana munchers in a kāinga and how these behaviours can affect others in the kāinga. Often, it is not what is said but how it is said that can be an example of mana munching. One must think carefully about how one's message is being perceived. Mana munching occurs not only at hui but also on social media platforms like Facebook. At times, individuals give little consideration to the impact of their words on another and on the extended group to which they belong. Emotions can be heightened at hui, especially when political or sensitive issues are discussed; however, people must be respectful towards one another and put their message across in a calm and professional manner.

What also needs to be considered is whether it is the right time and location to have that kōrero in front of an audience or whether it is something that is better sorted in private. Before making a claim, people should find out as much information as possible so they are well informed on both sides of the issue before voicing their opinion.

If mana munching happens, what should the researcher do? This depends on the researcher's position within that community. If they are part of that community (living there), they may approach the matter differently from a researcher who does not. The relationship the researcher has with the community will influence what the researcher can

do or should do. Before any hui begins, appropriate tikanga (behaviour) should be reinforced and upheld regardless of the kaupapa. A respected Te Whānau-ā-Apanui kaumātua, Eruera Sterling, spoke about how we should talk on the marae: "Discuss things patiently, letting everyone speak without interruptions, moving along in a humble manner" (as quoted in Salmond, 2005, p. 224). This reinforces a guiding principle for Māori research, which is to not trample on the mana of the people: "Kaua e takahia te mana o te tāngata".

Manaakitanga

Generally, the concept of manaakitanga means hospitality, kindness, support and generosity, and it widely concerns consideration of the needs and interests of others (Kawharu & Tapsell, 2019; Te Aka Māori Dictionary, n.d.). To gain a deeper understanding of the word *manaakitanga*, it can be broken down into three parts: *mana*, *aki* and *tanga*. The first part of the word, *mana*, broadly means power, authority, force, control and status (Te Aka Māori Dictionary, n.d.). The second part of the word, *aki*, can be translated as encourage, hold, support, urge or challenge (Te Aka Māori Dictionary, n.d.). The final part, *tanga*, is a suffix turning the word into a derived noun (Te Aka Māori Dictionary, n.d.). As Paul Tapsell explained, the two concepts mana and aki dance between themselves, interlocking and interlinking. Mana places entities in high regard and aki helps to endorse the position (Kawharu & Tapsell, 2022). One's mana is upheld by hospitality, kindness and generosity (manaakitanga), while growing the mana of others by encouraging them to do the same (Kawharu & Tapsell). By uplifting others through showing them respect, we maintain the balance of our own mana.

Manaakitanga underpins all tikanga Māori (Mead, 2016). It is a customary Māori value intertwined throughout Māori society. Manaakitanga informs the way we think, behave, engage and interact with others. It is about how we develop, nurture and maintain relationships, thus is an example of how it is necessary to integrate the pou of both whanaungatanga and whakawhanaungatanga. We as researchers must remember manaakitanga is always important, no matter what the circumstance may be (Mead, 2016, p. 33).

In this paradigm, the researcher must always take good care of the research participants or kāinga and vice versa. Manaakitanga is a reciprocal process in which the researcher and the kāinga respect, support and take care of each other. This may include the researcher accommodating the participants or kāinga around the interview, bringing kai to the interview or giving a koha to show their appreciation. For researchers, manaakitanga may mean being "on call" if the kāinga or participants need assistance.

The researcher has a duty to respect the relationship of the kāinga; simultaneously, the kāinga must not exploit the researcher in any way or vice versa. It is essential that reciprocity between the researcher and kāinga is equally maintained. Reciprocity in this context is not simple because it needs to be understood within the context of the kāinga and with individuals in that context. For instance, it may be appropriate to take a koha such as kai, money, vouchers or owing your time. The researcher will need to have an awareness of the participants and an appropriate koha for that particular person. This may involve doing some homework to find out what is appropriate for that person. From our experience, koha as kai, money, vouchers and owing of your time has been appreciated by some, but one person did not accept money because monetary value could not be placed on their knowledge. Therefore, the appropriate koha depends on the individual or the kāinga.

Whanaungatanga

Whanaungatanga is about relationships, kinship, descent and a sense of family connection (Te Aka Māori Dictionary, n.d.). This concept embraces the idea that one does not need to be genealogically connected to or whakapapa to a particular group to be considered whānau. Rather, people may be perceived as whānau because of their residence, their services or contribution, friendships or shared values and experiences. Associated with whanaungatanga is respect, trust, reciprocity, accountability and obligations to a particular group. Warren et al. (2007) considered whanaungatanga to incorporate family and relationships, and stated it was an essential aspect of Kaupapa Māori research methods.

In kāinga research, whanaungatanga may be viewed as the researcher's genealogical connection to the kāinga, or their kin connection to that community. There may be instances when the researcher has no-kin connections to that kāinga or those research participants. This raises an important question: Do you have to be genealogically connected to a kāinga in order to do research in that kāinga? Our belief is that the answer is not necessarily no. The researcher does not need to be genealogically connected to a kāinga to undertake research in that community; however, when

a researcher has kin connections to the kāinga, it is easier to establish relationships because the kāinga may know who the researcher is or the whānau or hapū they are connected to. What is important to consider is whether the researcher has the necessary skills, knowledge and established trusted relationships, and has received permission (blessing) from the kāinga to undertake research in the community.

What does permission look like in a kāinga context? Permission is received from a respected authoritative leader or group within the kāinga. It does not necessarily mean everyone in the kāinga has to give permission, but letting the kāinga know about the research before it begins is recommended. If the researcher is genealogically connected to the kāinga but resides outside the kāinga area, they may be seen as an "included researcher"—a researcher who is one step removed. They are actively participating in the kāinga affairs but also have the ability to step away from the research context. If the researcher is not familiar with the kāinga or does not reside in the kāinga, they need to observe the relationships within the kāinga because the relationships can be complex and dynamic, which may have a direct or indirect impact on the research investigation. The key values that uphold whanaungatanga will guide the research processes; these include building or maintaining relationships, manaakitanga, cooperation, collaboration, networking, reciprocity, shared vision, expectations, rights and obligations with that group.

Whakawhanaungatanga

Whakawhanaungatanga is about an ongoing process of establishing and maintaining relationships (Te Aka Māori Dictionary, n.d.). This concept also embraces relating well to others, power sharing, dialogue, positioning, collaboration and cultural practices (Rata & Al-Asaad, 2019). Whanaungatanga should not be confused with whakawhanaungatanga because there is a clear difference. Whanaungatanga is based on relationships, kinship and people who we treat as our own family, whereas whakawhanaungatanga is about the process of establishing and strengthening relationships. When the researcher has established relationships within the kāinga, they must continue this relationship even after the research investigation is completed. This may include by visiting the kāinga or helping the kāinga in any way that they can. The simple power contained in picking up a tea towel or a broom cannot be underestimated! At a hui, the toilets will need scrubbing and mattresses or furniture may need moving and stacking. The simple everyday tasks are how you build relationships and become part of the kāinga … This is whakawhanaungatanga in action. In our personal experiences, we have found that some of our most productive kōrero has occurred at the kitchen sink.

Kaitiakitanga

Generally, the term kaitiakitanga refers to guardianship, stewardship, trusteeship or trustee (Te Aka Māori Dictionary, n.d.). In Te Pūngāwerewere Pukumahi framework, kaitiakitanga refers to the researcher as the kaitiaki of the research investigation. The researcher's role is to conduct the research investigation in a respectful and appropriate manner. There are a number of ways this can be done. The researcher's job is to walk alongside the kāinga or research participants to learn and understand their perspectives, aspirations and lived realities but not to tell them how to live their lives or what is best for them (Tomu'a, Zoom kōrero, personal communication, September 15, 2022).

The researcher may often be seen as the kaitiaki of the knowledge produced in the research investigation or may be viewed as belonging to the knowledge in which the researcher has kaitiaki for the whole kin group (Kawharu & Tapsell, Rotorua hui, personal communication, June 11, 2022). The kāinga has put trust into the researcher that they will look after the information or knowledge. Hence, the researcher and kāinga should have important discussions at the beginning of the research about the knowledge in the study in terms of who owns the knowledge, who will use it, who will access it, who will maintain it, the purpose for which it will be used, how it will be stored, what knowledge should be included in the study and how the knowledge will be presented.

Kaitiakitanga in practice can be exemplified in the way the researcher demonstrates transparency, robust consultation, fair processes and good decision-making throughout the entire research investigation.

Kotahitanga

Broadly, kotahitanga is defined as unity, togetherness, solidarity and collective action (Te Aka Māori Dictionary, n.d.). The word kotahitanga can be broken down into three parts, which helps us to understand its meaning. Trevor Moeke, a Māori community leader, provided an explanation (Global Oneness Project, 2007). The word *tahi* means one and *kotahi* means single or one in particular. The suffix *tanga* acts as a noun.

By deconstructing the word, we can conjecture "unity". We can gain a deeper interpretation of kotahitanga by looking back at Māori customary times. In traditional Māori society, tribal unity underpinned daily functions and activities fundamental to the survival of a tribe (Barlow, 1991). The community worked together planting food or harvesting, supporting one another giving everyone equal shares of the resources; no one was excluded (Barlow, 1991).

In the Pūngāwerewere Pukumahi framework, kotahitanga is demonstrated through unity and togetherness while working towards a common goal or collective action. The kāinga is involved from the beginning. Throughout the research investigation, the researcher and kāinga converse and consult about the different aspects of the research through hui, kōrero (transcripts), analysed data and results. There may be times when the researcher and kāinga or research participants do not concur on some aspects, but it is essential that both parties work together to achieve an agreed solution. Kotahitanga will develop naturally through the other pou.

Rangatiratanga

A broad definition of rangatiratanga, given by Sir Hirini Moko Mead (2016), is "political—sovereignty, chieftainship, leadership, self-determination, self-management; individual—qualities of leadership and chieftainship over a social group, a hapū or iwi" (p. 398). Kawharu and Tapsell (2019) noted that rangatiratanga derives from the word *rangatira*, meaning esteemed leader, and *tanga* refers to qualities and characteristics; therefore, rangatiratanga translates as qualities of an esteemed leader (p. 24). Other aspects linked to rangatiratanga are mana whenua, mana tangata and the Treaty of Waitangi. So, how does rangatiratanga relate to kāinga research?

Within a Māori research context, rangatiratanga is about Māori control, power and authority over research. The Ministry of Education (2024) has described how rangatiratanga can be seen and demonstrated through "problem-solving skills, persistence, courage, and assertiveness". An example of this is a kāinga having the courage and determination to think outside the square in order to solve problems they may be facing).

Using the layering process of whakapapa by actively incorporating aspects from all of the strands in Te Whare Pūngāwerewere allows the researcher to both recognise and contribute to rangatiratanga.

A growing number of Māori research frameworks have contributed to Māori self-determination, such as Māori-centred approach, Kaupapa Māori research and whakapapa research frameworks, to name but a few (Macfarlane & Macfarlane, 2019; Marsden, 1992; Royal, 1998; Smith, 2012). These paradigms provide a lens for understanding Māori aspirations, Māori knowledge, Māori practices and Māori realities. Each of these is covered within the pou of Te Whare Pūngāwerewere; furthermore, the underpinning mauri enables the researcher to successfully address other issues, such as robustness, reliability, trustworthiness and accountability (Bryman, 2004; Mutch, 2005; Shenton, 2004). Reflexivity, turning back on oneself, is also critical for researchers to ensure that they are consciously aware of their philosophies and actions and how these can affect the research processes. Throughout the entire research process, the researcher must evaluate their actions. This may be done using a reflective journal, supervisors or peer support. Davies (2008) pointed out that reflexivity plays an important role for both the researcher and the research results through recognition of the connection between the researcher and the research focus.

The concept of rangatiratanga in Te Pūngāwerewere is likened to the researcher who works alongside and within the kāinga seeking empowerment, enrichment and enlightenment for a common research purpose. Power sharing is an essential part of the research relationship between the researcher and the kāinga.

Each whānau, hapū, iwi or kāinga will often have rangatira (leaders) who guide the group. At the core of the rangatira's decisions is the mauri (well-being) of the people and their environment. When researchers work with kāinga, there may be rangatira who guide the kāinga. Issues can arise when kaumātua or those in a position of leadership feel their voices have not been heard or that they have had no input. They feel powerless when this happens because it undermines their mana. Including these kaumātua in the kōrero can validate their feelings of empowerment and participation in the research process.

The researcher should be aware of who the rangatira are in the kāinga and observe how they operate and guide their people because they have a massive influence on the kāinga. It is recommended that the researcher introduces themselves to these leaders so that they are aware of the research investigation and the intentions of the research that is occurring in the kāinga space.

The domain of the web

The domain of the web is a space of service to the people or the kāinga rather than for the researcher's own personal gain. Service to the people has always been an integral part of kāinga harking back to customary times, when rangatira or tohunga demonstrated service to their wider kin, and at times, at the cost of their own lives (Tapsell, 2017). For many Māori researchers, service to their people still applies today. This was reiterated by Fiona Cram (1993):

> For Māori, the purpose of knowledge is to uphold the interests and the mana of the group; it serves the community. Researchers are not building up their own status; they are fighting for the betterment of their iwi for Māori people in general. (p. 28)

The ultimate aim of research within the kāinga is about what we, the researchers, can give back or contribute to the community. What value is our research otherwise? What is the point of it? Another important aspect of the researcher's service to their people is that once the research project is completed, they do not simply walk away from the kāinga because their work is done. The researcher will carry that relationship they formed for the rest of their life (Kawharu & Tapsell, Rotorua hui, personal communication, June 11, 2022).

The web domain is also a space of negotiation between the researcher and the kāinga or research participants. The researcher should have a good understanding of how the kāinga space (community context) operates, especially if the researcher resides away from their community. In the kāinga space, there will be key negotiators (rangatira or kāinga leaders) who lead or speak on behalf of the kāinga. The researcher should be aware of the negotiators in regard to who they are, their goals, aspirations or intentions, their influence in the community and how the key negotiators operate within the kāinga space. This links to all aspects of the pou. Also operating within this space may be the push and pull of different group dynamics and relationships that may affect what the researcher can do, cannot do or should do. Participation in duties around the marae or community activities may provide some insight into the interplay of these groups and already established relationships that may help the researcher negotiate this space more effectively. We suggest that this is actually crucial if you are not living within your research kāinga because it underpins your whakawhanaungatanga—your relationship building. From our own experiences, we understand how difficult it can be when you live away, especially if you no longer have whānau in the rohe to establish and maintain those relationships. Once again, we cannot emphasise enough the importance of picking up the tea towel!

The use of Te Pūngāwerewere Pukumahi framework

In order for Te Pūngāwerewere Pukumahi to be used effectively, it must be implemented appropriately. From our perspective, it relies on the researcher's ability to operate confidently in both Māori and Pākehā cultures as someone who is able to make connections and have a good understanding of the kāinga and the environment where the research is taking place. Even then, this may not always be enough. The researcher must be prepared to immerse themselves in the Māori world that they are entering, which leads to one of the biggest factors with Te Whare Pūngāwerewere: There is deep strength within the framework when all aspects are approached with mauri at the heart. Without this, it is possible to blunder on in and damage or break a strand. This could be irreparable. This framework can be used to underpin your research planning.

Presenting of research findings to kāinga

The research findings should be presented to the research participants or kāinga in a relevant and engaging way. Sometimes research may be presented as a thesis as a requirement of a tertiary university qualification; however, this is not always an effective or relevant approach when sharing findings with kāinga. The Pūngāwerewere Pukumahi framework urges researchers to think carefully about how to best present the findings to the kāinga. Otherwise, in the words of our supervisors and mentors, we end up asking, "So what?" Handing over a written thesis often will not be an effective form of feedback within our communities. Among the multiple ways we have observed the research information and findings being presented or delivered are oral presentations at hui, pictorial presentations, and musical and dramatic presentations, to name but a few. Other forms of feedback we are aware of are websites that can be built and shared, booklets, books, posters, charts and videos.

During our PhD journey, we were involved in watching a number of presentations to kāinga from a range of speakers (scientists, kāinga leaders, government representatives). From these presentations, we noted key aspects that we consider

essential in constructing and delivering an effective presentation to kāinga.

1. *Preparation before the presentation.* A speaker does not go into a kāinga setting without having some background knowledge about the audience they are presenting to. It is important to know who the audience is, their expectations and their views about the topic you are discussing. For example, you never want the community or kāinga to feel that you are coming in as "the expert" who has not worked with or listened to the community but has grabbed the information they want and is just presenting as a "here is what is wrong" or "what needs to happen" in your community. The speaker may even meet before the presentation with interested parties to have a kōrero regarding their expectations and areas of interest.
2. *Background of the speaker*. When the speaker begins, it is important for the kāinga to know who the speaker is, where they are from, who they work for, the purpose of the research and how the investigation was undertaken. This helps to provide transparency between the speaker and the kāinga.
3. *Information is easy to understand*. If the speaker presents a PowerPoint presentation, the information must be simple and easy for the kāinga to understand, especially scientific information. Photos, images and short videos are a good way to engage with the kāinga. If statistics or graphs are used, the speaker must think about how that information is presented so that the kāinga can easily comprehend the data, especially technical data or information. Quite often the audience can become overloaded with information, so key messages are important. Additionally, the speaker must use terminology that the audience can understand even if this means explaining certain concepts.
4. *Clear and loud voice*. The speaker must have a clear, loud and confident voice so that the audience can hear what they are saying. The speaker must also have an engaging voice that fuels their message. If the speaker uses a monotone, the audience may disengage.
5. *Length of the presentation*. Presentations that are long and boring can tend to lose the interest of the kāinga. Keeping the presentation short helps to hold the kāinga's attention and prevents the speaker from overloading the kāinga with too much information.

In summary

Having gone through the process of kāinga research in our own communities, we have begun to build an understanding of the complexities that are involved. In some cases we had similar experiences while at other times they were completely different because each kāinga operates in their own way. Therefore, this framework is not an exact guide for kāinga research but consists of underpinning values that help guide research processes. Other researchers studying in their kin communities but residing away could help test the parameters of this framework.

So where do interactions such as hui, kōrero and wānanga, for example, sit in relation to the web? Every single interaction contains all aspects of the pou. The underpinning mauri is shown in many ways, for example, by employing karakia and waiata to recognise, respect and demonstrate features of mātauranga, mana, manaakitanga, whanaungatanga, whakawhanaungatanga, kaitiakitanga, kotahitanga and rangatiratanga.

We hope that sharing our experiences and knowledge through Te Pūngāwerewere Pukumahi framework, will help to broaden and better present and understand the elements of research in Te Ao Māori.

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Glossary

ara	pathway
hapū	kinship group
harakeke	flax
hui	gathering, meeting
iwi	extended kinship group, tribe
kai	food
kāinga	village, settlement
kaitiaki	custodian, guardian
kaitiakitanga	guardianship
kaumātua	elderly one, aged one
kaupapa	purpose, plan, proposal, initiative
Kaupapa Māori	Māori principles and approaches
koha	gift, offering, contribution
kōrero	talk, conversation
kōrero tuku iho	oral traditions

kotahitanga	unity, togetherness
kura	schooling
mana	prestige, power, influence, status
manaakitanga	generosity, hospitality, care
mana tangata	human rights, power of people
mana whenua	jurisdiction over the land
marae	tribal meeting grounds
māramatanga	enlightenment, understanding
mātauranga	knowledge, wisdom, understanding
mauri	life force, vital essence
mauri tau	absence of panic
mōhiotanga	knowing, comprehension, awareness
pā	home; fortified village
pou	post, supporting pillar
pou te wharaua	post supporting the ridge pole in the front wall inside a meeting house
pukumahi	industrious, hardworking, diligent
pūngāwerewere	spider
pūrākau	ancient stories
rangahau	research
rangatira	esteemed, revered, chiefly
rangatiratanga	qualities of an esteemed leader
rohe	area of land, boundary
rōpū	group of people
tāngata	people
taonga	a treasure, something of value
tautoko	support
Te Ao Māori	the Māori world
teina	junior one
Te Wai Pounamu	South Island
tikanga	values; customs, the correct procedure
tīpuna/tūpuna	ancestors, grandparents (Eastern/Western dialects)
titiro	look, observe
tohu	indications, distinguishing features
tohunga	specialists
tohunga whakairo	master carver
tuakana	elder one
tukutuku	ornamental patterns, lattice-work
waiata	song, chant
wānanga	seminar, place of learning
whakapapa	lineage, layers of being or knowing
whakarongo	to listen, hear
whakatauākī/whakataukī	proverbs, significant sayings
whakawhanaungatanga	the process of establishing relationships
whānau	family, may include friends with no kinship ties
whanaungatanga	relationships, a sense of family connection
whare	house, dwelling
whare kai	dining hall
whare whakairo	meeting house
whenua	land

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WHAKATŌ TE PŪ HARAKEKE

Embedding bicultural principles into a design process

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Abstract

Aotearoa New Zealand is changing. The relationship between the inequities iwi Māori face and centuries of colonisation is clear. The need to address these inequities and the embedded colonial thinking that reinforces them in our society is more widely accepted. Nowhere is this need for change more acute than in education. The challenge of embedding bicultural principles into all aspects of education is a significant step in decolonising education. The practice of learning design and the design of frameworks that guide education rarely have a clear process to support a bicultural approach. This case study uses participant narratives to describe the development and delivery of a workshop to establish how bicultural principles will be embedded into the design of a sustainability strategic framework within an Aotearoa higher education context. This process can provide a starting point for a range of design processes to integrate bicultural principles more readily, thus supporting the decolonisation of education in Aotearoa.

Keywords

ally, decolonisation, design, Tiriti

Introduction

The government of Aotearoa New Zealand was founded on a treaty signed between the British Crown and over 500 Māori leaders in 1840. The document had both a Māori language version (te Tiriti o Waitangi) and an English version (the

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Treaty of Waitangi). All but a few Māori signatories signed te Tiriti o Waitangi, rather than the English version. This is significant because there are fundamental differences in the meaning of the two different versions (Fletcher, 2022). The Waitangi Tribunal was established in 1975 to interpret these differences and determine whether actions of the Crown breach the promises made (Boast, 2016). While many of the claims against the Crown have centred on issues of land ownership, the third article of te Tiriti provides that the Crown agreed to give Māori the same rights and duties of citizenship as the people of England (Burns et al., 2024). This third article of te Tiriti emphasised the concept of equity or ōritetaka and is a concept core to this research.

Despite the popularist narrative of minority coalition politicians (RNZ News, 2024), there are some signals that Aotearoa is emerging into a time of greater understanding of Te Tiriti o Waitangi and the concept of Ōritetaka. There is more widespread recognition of tikaka (customs), mātauraka Māori (traditional knowledge) and te reo Māori (language). These signals come from areas of health, education, politics, language revival and legal systems ("All Law Schools", 2021; Education Gazette Editors, 2020; Local Electoral Amendment Act, 2021; Ministry of Health, 2020; New Zealand Parliament, 2017; O'Regan, 2018; Pirsoul, 2020). However, outcomes for Māori still trail behind in most social metrics (McIntosh & Workman, 2017; Reid et al., 2019; Stanley & Mihaere, 2019). Within education there is a substantial body of evidence that describes the changes in practice that can contribute to addressing these inequities (Bishop, 2003; Glynn, 2015; Hemara, 2000; Milne, 2013; Rātima et al., 2022). That evidence points to the need for a more bicultural approach in designing all aspects of the education system, from the design of individual lessons to the strategies that guide high-level decisions.

The practice of learning design and the design of education strategy has developed in a global context, where multiculturalism is often integrated through stakeholder engagement (Dalziel, 2015). However, multicultural globalisation does not reflect the bicultural context of Aotearoa as established by te Tiriti o Waitangi. Mana whenua, within the partnership principles of te Tiriti o Waitangi, are not positioned as other stakeholders, but rather as partners with tino rakatirataka (the right to self-determination) (Tuffin et al., 2004).

In the context of this research, Kāi Tahu are the iwi who are mana whenua of most of Te Waipounamu (the South Island of New Zealand). This infers a need to develop both the design and the design process in partnership with Kāi Tahu from the beginning to the end.

This research presents a case study of the redesign of a strategic framework within an Aotearoa university. The first iteration of the framework lacked almost any sense of Tiriti partnership or biculturalism (University of Otago, 2017). This case study describes the process of designing and participating in a workshop to create a shared understanding of bicultural principles to guide the redesign of the framework.

The first section of this article provides some background to the theme of decolonising design. The methodology that has been adopted is then described. Subsequent sections provide background to the framework being redesigned, the development and provision of the workshop, reflections from participants, outcomes and then a final reflection on the process.

Decolonising design

Before exploring the experience of designing and participating in a design workshop, it is useful to visit the existing research that informed the workshop. The workshop was referred to as a design workshop. One definition of design "is a process for creative problem solving" (IDEO, n.d.). Johansson-Sköldberg et al. (2013) identified two main discourses on design. One is described as *designerly thinking*, which is associated with the academic approach to the development of professional design practice and the reflection upon that practice as it relates to theory. The second is described as *design thinking*, as popularised by IDEO and Stanford d.school (Dam & Siang, 2018). Since the design process being explored in this article was informed by academic discourse and the co-creation of this article created significant reflection, this work better aligns with the designerly thinking discourse.

A significant aspect of the discourse around design relates to the extent to which the processes and approaches adopted can further embed systemic and long-term inequities:

> To date, mainstream design discourse has been dominated by a focus on Anglocentric/Eurocentric ways of seeing, knowing, and acting in the world, with little attention being paid to alternative and marginalized discourses from the non Anglo-European sphere, or the nature and consequences of design-as-politics today. (Ahmed Ansari et al., 2016, p. 1)

This is in effect a form of colonisation by design. Freire (1998) spoke to the emancipatory values of challenging the systems put in place (deliberately or not) to maintain oppression. ʻIlaiū Talei (2023) supported design praxis that is led by Indigenous values and concepts, providing specific examples in Aotearoa and the wider Pacific region. Ritchie (2017) referred to the design of research methods and the sentiment that in Aotearoa our methodologies need to be contextually responsive given the oppression and inequitable outcomes Māori face. L. T. Smith (2012) described what such a decolonising response might be: "Decolonization, once viewed as the formal process of handing over the instruments of government, is now recognized as a long-term process involving the bureaucratic, cultural, linguistic and psychological divesting of colonial power" (p. 98).

Decolonisation of design has been addressed in many contexts around the world (Schultz et al., 2018). At this point, it is appropriate to speak to the separate but braided streams of practice of the ally and of the oppressed, specifically in the bicultural context of Aotearoa, Pākehā Tiriti allies and takata whenua.

In one stream there is a recurring theme of designers as allies (Hendrick & Young, 2017; Onafuwa, 2018). Neutrality can often be seen as a positive capability in a designer in order that the design output is shaped by the needs and beliefs of the end user, rather than the designer (Huppatz, 2015; Lu & Liu, 2011). However, as Freire (1985) asserted, "washing one's hands of the conflict between the powerful and the powerless means to side with the powerful, not to be neutral" (p. 122). To become an ally is not a charitable act: it "occurs in the context of being a good change agent; this is not something one does to help someone else or to help a group" (Kendall, 2012, p. 173). It is instead based on an alliance to address an issue rather than to offer help. This is what Jones and Jenkins (2008) referred to as working the hyphen of the indigene-coloniser or Māori-Pākehā relationship (where Pākehā refers to New Zealanders of European descent). Working as allies presents designers with "opportunities to de-link (decolonize) from our unsustainable present" (Onafuwa, 2018, p. 14).

In the other stream is the emancipatory design work of the oppressed or marginalised group. Within an urban design context, Barry and Agyeman (2020) referred to the need for this work to "begin within Indigenous peoples themselves and with the exercise of Indigenous futurities and Indigenous sovereignties" (p. 33). The systems design mapping work of Schultz (2019) provides an example from an Australian Aboriginal context, where Aboriginal art is used in workshops facilitated by an Indigenous faciliator to make sense of social and economic systems. In the Aotearoa context, Kaupapa Māori design (Māori approach to design) is based on values and principles from a te ao Māori perspective and is conducted largely by and for Māori (Barnes, 2013; L. T. Smith, 2012). For example, Kake (2015) described the application of Te Aranga Māori Design Principles to urban design to create an environment that addresses the disproportionate levels of housing deprivation experienced by Māori. Te Morenga et al. (2018) provided an example of Kaupapa Māori design in a healthcare context to address inequities in healthcare outcomes. The use of te ao Māori design principles can signal a "reawakening of the Maori imagination that had been stifled and diminished by colonization processes" (G. H. Smith, 2003, p. 2).

When the braided streams of the ally's work and the Kaupapa Māori meet and flow together, there is the opportunity for co-design of solutions to shared problems or visions—a flow through which diversity of worldviews creates a productive interaction in which, as Wahl (2016) stated, "design follows worldview and worldview follows design" (p. 131); a place where epistemic justice can be pursued (Snowden et al., 2021).

This mixed flow of co-design has been explored in the Aotearoa healthcare context (Mark & Hagen, 2020). While referring to design for disability, Labattaglia (2019) suggested that in Aotearoa "there is a considerable gap in the research literature and practice concerned with accessible co-design methods and approaches". However, Hagen (2016) was able to recognise trends in co-design towards new types of design teams forming, placed-based approaches, increased cultural opportunities and focus on systems change.

The same considerations of epistemic justice and co-design was required when considering the methodology of this research as it was when considering the context of the research.

Methodology

The colonisation by design described above is also an inherent methodological consideration for the design of this research. There is a long history of colonisation through epistemologically inappropriate research design, which is characterised by research on Indigenous populations that does not adequately recognise an Indigenous worldview (Drawson et al., 2017; Ryder et al.,

2020; L. T. Smith, 2012). In contrast, Kaupapa Māori research is situated as (mostly) by and for Māori (L. T. Smith, 2012). This research is focused on developing a workshop process intended to support the decolonisation of sustainability in a tertiary education institution in Aotearoa. It is not *on*, *by* or *for* Māori. It adopted a partnership model better described by the preposition *with*, from both a Māori and a Pākehā perspective. This approach aligns with the notion of partnership that has emerged from contemporary interpretation of te Tiriti o Waitangi (Bishop, 2003; Hudson & Russell, 2009; Jennings, 2004; Morrison, 2005). In recognition that much of the knowledge brought to this research has come from Kaupapa Māori research and mataraka Māori, the metaphor of he awa whiria (braided streams) proposed by Macfarlane et al. (2015) seems an appropriate description of our approach. The streams of Western and Indigenous approaches converge, diverge, run together and run in alliance towards the same destination and bridge cultural perspectives (Arago-Kemp & Hong, 2018; Hursthouse, 2019; Trewartha, 2020).

If this alliance-based research is to contribute to practice becoming more bicultural, an approach and method relevant to education practitioners is required. As an approach, pragmatism serves practitioners well in that it accepts the uncertainty and changing nature of findings, recognises the individual interpretation of meaning, accepts that inquiry and knowledge are social, supports learning based on experience, and is flexible enough to accommodate other paradigms (Ormerod, 2006). This accommodating influence of a pragmatic approach is advantageous given the diversity of perspectives, backgrounds, professions and academic disciplines involved. Participative research is seen as well aligned with both a pragmatic approach and diverse perspectives (Cook, 2012; Harney et al., 2016; Montoya & Kent, 2011).

Participative research is an umbrella term describing a range of methods in which those who could be considered subjects become involved as partners in the process of the enquiry, and their knowledge and capabilities are valued (Participation Research Cluster, Institute of Development Studies, n.d.). Participation may vary in extent and roles. These methods have emerged from social action research and emancipatory philosophy (Macaulay, 2016). Participative research has been used in a range of practice contexts, including architecture, public health, education, mental health, health and safety, community development, and sustainability (Allchin et al., 2020; Carlson et al., 1998; Cusack et al., 2018; Katoppo & Sudradjat, 2015; Macaulay, 2016; Osterhold et al., 2007; Roberts et al., 2011; Ryan et al., 2022; Tadaki et al., 2021; Tangvald-Pedersen & Bongaardt, 2017). Therefore, participative methods are well aligned with the purpose and the practice context of this research.

Case study research methods have been applied in a similarly broad range of contexts, with the notable addition of its application to the examination of other research methods (Swanborn, 2010). Simons's (2009) definition of case studies relates well to the context of this research: "an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, program or system in a real-life context" (p. 21). Therefore, this research can be described as adopting a pragmatic professional practice approach to a participative case study method.

The combination of participatory and case study methods has been used in many contexts (Osterhold et al., 2007; Reilly, 2010; Roberts et al., 2011; Salloum et al., 2011; Vorley & Williams, 2015). There is a great deal of variation in the roles and extent to which subjects are involved in the design and process of the enquiry across these different contexts. In this research, there are three levels of participation. At the minimal level, participants were able to contribute to the generation of insights within the workshop and were invited to contribute to the analysis and production of this article. At an intermediate level, participants were able to provide feedback on the proposed design of the workshop, prepare and present sections of the workshop, and write specific sections of this article, as well as contribute to the analysis and production of this article more generally. At the highest level of involvement, the co-chairs of the group of participants led the design, delivery and writing of the article to provide scaffolding for the participation of others. This three-tiered model respects the expectation that in participative case studies "research partnerships and relationships will be characterised by equality, dialogue, mutual respect, inclusivity and collaboration" (Reilly, 2010, p. 3), while ensuring progress towards the overall objectives. The title of this article, "Whakatō te Pū Harakeke" (working together to plant out the flax), refers to this highly participative approach—a practice that had not only practical outcomes but also community and spiritual significance. The formation of the flax itself is symbolic of concepts of kinship and

working across generations (Metge, 1990; Pihama et al., 2019).

Background

The University of Otago endorsed its first sustainability strategic framework in 2017. This framework was intended to guide the university through a significant sustainability transition from 2017 to 2021. The objectives of the framework were diverse and far reaching. They included an objective to "incorporate Māori and Pasifika knowledge and perspectives into the university's approaches to its sustainability transition" (University of Otago, 2017, p. 3) and identified Kāi Tahu as one of many partners in advancing sustainability goals.

There was feedback from many staff that the 2017 framework did not adequately include or represent te ao Māori perspectives. To address this, when forming the advisory group to design a new iteration of the framework for 2022 and beyond, a takata whenua (Indigenous) co-chair was nominated (by the Office of Māori Development) as an equal lead in the design process alongside the university's head of sustainability. A rapid review of the impact of the 2017 framework was conducted by the group. At that early point, it was clear that integrating te ao Māori principles into the process of designing the new framework needed to be addressed before any further work was conducted. It was also seen that not all members of the advisory group had the same level of knowledge or comfort around tikaka and mātauraka Māori. The co-chairs (one Pākehā and one takata whenua) designed a workshop for the group so that there was more shared understanding and comfort.

Designing the workshop

The design of the workshop was a shared and equal process. One co-chair brought facilitation and learning design experience. The other brought extensive governance and teaching experience from a te ao Māori perspective. The first requirement was that the workshop should provide concrete examples of Māori principles being embedded into practice. That practice needed to be relatable to all of the members of the advisory group. The group included professional staff (including an architect, wardens from residential colleges and a property service senior manager), researchers and lecturers across a range of disciplines, staff from the university's strategic planning unit, and the staff of the Sustainability Office.

The workshop was structured as a series of short presentations in which members of the group shared examples of practice, followed by a discussion of what te ao Māori principles or values were apparent in that work. Table 1 shows the structure and time allocation for those sessions.

TABLE 1 Programme for workshop

Time allocation	Topic
30 minutes	Karakia (scene setting with incantation), welcome and recap of previous session
30 minutes	Māori design principles in urban planning. Specific Kāi Tahu (the iwi or tribe of the area) examples. Presented by professor of geography specialising in Indigenous approaches to planning.
30 minutes	Multi-iwi consultation and integration of tikaka and mātauraka Māori into the design of a student residential college. Presented by Office of Māori Development and strategic architect.
20 minutes	Kaitiaki principles in an undergraduate online course on circular economy. Presented by course designer/coordinator.
20 minutes	Principles in action in the design of a postgraduate course on sustainability through a te ao Māori perspective (Oraka Taiao—Culture and Sustainability). Presented by the course designers (one Pākehā, one Māori).
20 minutes	Principles in action in a multidisciplinary research project focused on health and urban design (Te Ara Mua—Future Streets). Presented by researcher.
40 minutes	Which principles do we carry forward as a foundation for the design of the new framework? Presented by co-chairs.
5 minutes	Closing and karakia

The presenters' workshop experiences

In this section we share personal narratives written by presenters at the workshop. These narratives are presented in the order in which the presentations took place.

Māori design principles in urban planning (Professor Michelle Thompson-Fawcett)

As someone who has worked in the sustainability space for 30 years, the release of the university's Sustainability Strategic Framework in 2017 was disappointing for me in many regards. Yes, it was good that the university was placing sustainability on its agenda. However, key elements of moving towards sustainability in an Aotearoa context were absent. In particular—and first in a cascading effect—the framework was not established in a manner that delivered on te Tiriti o Waitangi. It did not embrace partnership and the collaboration anticipated in a society in which there is meant to be co-existence of two tiriti partners. Second, it did not facilitate bicultural understandings and implementation of the notion of sustainability. And third, it presented a rather narrow conception of sustainability, highly focused on physical sustainability without due recognition of the necessity of interweaving that with, among other things, cultural, social, wellbeing, political, spiritual, metaphysical and just sustainabilities.

Therefore, when I was asked by the takata whenua co-chair of the advisory group for the 2022 and beyond iteration of the framework to join in a workshop intended to introduce te ao Māori principles into the designing of the new framework, I was pleased to contribute. This was an excellent opportunity to encourage the shift taking place in the university's sustainability work.

My first hurdle was thinking how to pitch my contribution to the mixed levels of understanding within the advisory group. When teaching on this topic of whakawhanaketanga toitū (sustainable development), I would normally spend several hours working through ngā uara (values) and case studies of Indigenous-led compared with collaborative partnership alternatives. But at the workshop I needed to condense that into half an hour. So it was a chance to whet appetites, inspire collaborative engagement with takata whenua and demonstrate the breadth of options that lay ahead, rather than anything more decisive. I cannot be sure if I achieved that, but I welcomed the start of such a conversation.

Mana whenua within the design process (Megan Potiki)

The university has been tasked with the design and building of a 450-bed residential college for students and it is to be named Te Rangihīroa, after the first Māori graduate from Otago University, who went on to have a stunning academic career. The naming of this building after a tupuna (ancestor) who hails from an iwi in the North Island (Ngāti Mutunga) is an added layer of complexity. The narrative and Māori values are twofold, with mana whenua (Kāi Tahu) and Ngāti Mutunga. Furthermore, we needed to embed the historical narrative about Ngāti Mutunga and the local iwi so it was genuinely understood by the Campus Development Division, the architects, the builders and other key groups. There were some bumps in the road as we started this challenging journey and talking past each other at times. However, we forged ahead and were able to come to a mutual understanding, comfortable that our iwi narrative was taken very seriously and reflected in the design and build. Therefore, the presentation of the Te Rangihīroa work between us (University Strategic Architect Gordon Roy and me) was straightforward as the groundwork was done in the previous years.

Tiriti allies within the design process (Gordon Roy)

I have been in the role of university strategic architect for almost four years and prior to that had practised as an architect in Edinburgh. As an architect, talking about design and process is fairly natural and I was happy to present to the group. What is perhaps less natural is a Scotsman, fairly new to the country, talking about the integration of Māori culture and values into a design process. The irony of the situation was not lost on the group. That said, the university has been trying to improve the integration of Māori culture through design over the last few years, and in some respects, the opportunity was somewhat easier for me being a newcomer with a willingness to learn and understand a new culture.

I had no preconceived idea as to how the workshop and future sessions were going to run, but felt comfortable about the presentation. What was perhaps more daunting was the analysis and dissection of the following discussions with the academic members of the group, which is not my natural territory. Overall, I was pleased to be able to contribute and advance the opportunity to better embed Māori cultural values into the university, through either process or design.

It was not immediately apparent at the workshop what the potential for this process was, and it was not until a couple of further sessions had been carried out that the concept and potential benefits became clearer. The wider benefits of the process for me still feel somewhat intangible and it will be interesting to view with hindsight how successful it has been. The process has the potential to assist with other workstreams in my sphere of influence, such as our Campus Master Plan, where it has the potential to fully embed Māori perspectives, rather than being merely a section within the plan.

Principles in action in the design of a postgraduate course (Professor Janet Stephenson)

The university's Centre for Sustainability, a research centre, had developed a proposal for a postgraduate paper, "Oranga Taiao: Culture and Sustainability". The intent of the paper was to bring mātauraka and social science perspectives to the challenges of transitioning to a sustainable future while maintaining wellbeing. The paper was intended for students in various postgraduate degrees in geography as well as certain degrees offered in other schools and divisions. The four-member core team developing the paper proposal consisted of two Māori academics, one Pākehā academic and one academic originally from Hawaii.

It was intended that the presentation at the workshop would be jointly given by one of the Māori academics and the Pākehā academic but due to clashes in schedules only the Pākehā academic was available. As the Pākehā academic, I reflected that this was a bit like "missing a limb" but did my best to describe the origins of this bicultural paper, the teamwork in developing the proposal, the engagement in developing it including with Kāi Tahu members, and how this resulted in the proposed bicultural content (bringing different knowledge systems together) and teaching methods (including being co-taught by the bicultural paper development team, out-of-classroom learning with non-academic Māori knowledge holders, and exercises in collaboration and communication). At the time of presenting at the workshop, the paper had not yet been considered by the academic committees involved in approving new papers but had wide support from a range of departments across many disciplines.

Principles in action in research (Associate Professor Alex Macmillan)

As tangata Tiriti (a non-Indigenous person in Aotearoa by virtue of te Tiriti o Waitangi) and a public health researcher interested in linking environmental sustainability with human wellbeing and health equity, I am on a continuing journey embedding te Tiriti principles in my research practice. Relationships and responsibility are both required for a non-Māori researcher to pick up and put into practice Māori advice about research ethics, and to take action to fulfil our te Tiriti obligations. In public health, advocacy for policy and organisational change is a major part of the research we do—including advocacy to put what we have learnt from research into practice in the university's own operations.

I was really relieved to see that previous collective advocacy at the university level was paying off, and the process for revising the university's sustainability framework was going to be co-led by mana whenua, and build on "bicultural principles", centralising Māori knowledge. This linked to a number of conversations with the tangata Tiriti co-lead for the work, in which I problematised the wholesale adoption of the international Sustainable Development Goals as a framework for sustainability work in Aotearoa.

But it is always daunting to be asked to speak to non-Māori experiences of putting these ideas into practice—especially when Māori partners for potential co-presentation are based elsewhere, and therefore not able to be present. Proceeding cautiously, I needed to consider carefully the purpose of my contribution to the workshop, which I felt was to demonstrate that tangata Tiriti members of the group had some practical pathways themselves for putting principles into practice in urban design research. It also allowed me to demonstrate that tangata Tiriti members of the committee (like me) were committed partners to mana whenua and mataawaka members. Luckily for me, principles and a useful framework from te ao Māori were already covered in the workshop more appropriately by Professor Michelle Thompson-Fawcett. Having acknowledged influential Māori and Pākehā colleagues and co-investigators, and invoked my own ancestry and understandings of responsibility as a sustainability and health researcher, I was then able to use a research case study to show how we are realising the values, ethical guidance and frameworks. This included building on existing relationships to develop the research question, relationship development with mana whenua iwi in the research location,

co-design of a street change intervention using Te Aranga landscape design principles and having a strong thread of Kaupapa Māori research within the larger "Māori-centred" project. By ending with a newer endeavour to build a research centre on contemporary constitutional discussions and recommendations (Matike Mai report), I hoped to show an example of how they could be put into practice for institutions like the University of Otago.

At the time, I think the first purpose of the talk was met. Whether the second purpose was met is not up to me to decide. In evaluating whether the ideas presented feed through into the revised sustainability framework, I will be looking for commitments to holistic wellbeing and equity, as well as strong commitments and clear actions to uphold the articles of te Tiriti, including tino rangatiratanga.

Next steps

The step after the workshop was for all participants to generate statements about a desired future state. This future state was set in 2030 and was to focus on observable characteristics of sustainability that were described in an active, first-person voice in the present tense. For example, in the notes one contributor suggested "our innovation systems are transdisciplinary, strongly linked to mātauraka Māori, community, industry and government". Some scaffolding was provided so that the statements would address a wide range of aspects of sustainability. This scaffolding prompted thinking in areas of rakahau (research), whakahaere (operations), ako (learning and teaching) mana whakahaere (governance) and tūtakina whānui (wider engagement). Presenting the scaffolding in a table with columns for each area created some discomfort in that it might predetermine the final structure of the framework at a premature stage in the process and that it promoted siloed rather than integrated thinking. On the basis that the scaffolding would be deconstructed later and that statements could be repeated in several columns, the group agreed to progress.

Asynchronously aggregating all of the statements on one online document for a period of approximately three weeks produced around 200 future statements. Some were duplicated, some almost identical, some at a very high conceptual level and others at very specific operational level. The co-chairs synthesised some statements, deconstructed the siloes of the initial scaffolding and made one list of statements. Some statements were set aside as not relevant to this specific task. An account was provided to the group of the changes and adaptation made. The list was then distributed by email to allow the group to provide any feedback before the next stage. Some minor edits were made based on that feedback.

The plan for the next stage was that a typical design thinking process using Post-it notes to create affinity diagrams would be used to create a new structure (Dam & Siang, 2022). However, in discussion between the co-chairs was a concern that at this convergent point in the design process, there was a risk of the prevalent Western epistemology of the group overriding the intent to fully integrate a te ao Māori perspective despite the initial workshop (Chasanidou et al., 2015). To mitigate that risk, the co-chairs considered whether there was an existing structure from a Māori perspective that could be used instead. After consultation with whānau, the takata whenua co-chair suggested that Tī Kōuka (the cabbage tree) may provide an appropriate structure on which to base the new framework and to organise the future statements.

This was very much seen as equal parts gift and challenge by the Pākehā co-chair because it both provided inspiration and identified a deep deficit in their knowledge. This challenge demanded a deep dive into mātauraka (knowledge) and pūrākau (stories) that surround tī kōuka, before being comfortable to co-present the idea to the group. The metaphors and some of the stories connecting tī kōuka to sustainability were presented by the Pākehā co-chair with support from the takata whenua co-chair. This was an important step in demonstrating the work of tangata Tiriti as allies, rather than always expecting their Māori colleagues to carry that burden (Margaret, 2013).

Based on the proposed metaphorical link to tī kōuka, the group agreed to explore how to sort the future statements around attributes and whakataukī (proverbs) of the tree and its connection to the local iwi (Kāi Tahu). Figure 1 shows the high-level overview of the draft framework that emerged from this process. Below this overview level sits a level that unpacks the link between the statements in English and those in te reo Māori. Then below that level is the synthesis of the future statements organised under each of the headings.

At this draft stage, the framework was shared with local rūnaka (tribal council), university senior leaders and governance. Positive feedback was received on the format, process and content from all parties and minor adaptations made. The framework will be shared for consultation more widely across the university community before being finalised and then ratified. Sharing

FIGURE 1 Overview of draft sustainability strategic framework (Image: Ray O'Brien, CC BY-SA 4.0, via Wikimedia Commons)

the development process will be an integral part of further consultation.

Reflections on process

Mana whenua perspective (Megan Potiki)

As mana whenua (Kāi Tahu ki Ōtākou), I have witnessed our people graciously leaning into many processes over decades that have simply tagged on a few values or translated a word to Māori here and there. Therefore, being able to sit at the same table and start with our values and narratives addresses the historically unbalanced approach to these types of processes. Importantly, the process of working in partnership allowed for valuable discussion and learning, and this resulted in a more cohesive understanding.

Tangata Tiriti perspective (Ray O'Brien)

Establishing the co-chair partnership from the very beginning, choosing participants together, being open enough to challenge each other, and having complementary skills and knowledge were all vital in creating this enabling environment. Perhaps more importantly for me, the personal and professional growth that I experienced during this process has and will continue to have an ongoing impact on all my work.

As co-chair of the group, my key reflection on this process is how enabling it has been. It has provided me with knowledge and support to avoid what is sometimes referred to as Pākehā paralysis (Tolich & North, 2002). Indeed, rather than paralysis it put me in a position where the imperative to do the mahi (work) of drawing on

mātauraka Māori was on me. Recognition and validation of this action from my mana whenua co-chair is the only reason I was able to contribute in this way.

Throughout the reflections provided by workshop presenters, a feeling of vulnerability or imposter syndrome was apparent in both Māori and tauiwi (non-Māori) presenters. For Māori, the vulnerability was because, yet again, they had been called up to represent Māori in a forum where their colleagues may not be ready to understand or act upon a different perspective. Tauiwi experienced vulnerability was because of a concern that while their intentions were sound, they might misrepresent their Tiriti partners, or the authenticity of their engagement might be brought into question. This vulnerability or risk taking needed a safe place to happen—a place where it was clear that we all had shared objectives; a place we could experience being allies working in the same stream of work and thinking.

Being in that flow together demanded that we all did our share of the mahi. Whether that involved sharing work that had been done in the past that embodied te ao Māori values or doing the research at the time, we all demonstrated tangible commitment to getting the work done to reach our shared (or allied) objective. Smith refers to this as recognising the ringa raupā—the hands that have been hardened by work (Te Kai a te Rangatira, 2022).

Conclusions

When the need for a design process that would actively decolonise an existing strategy became apparent, there was no clear model to follow. Through co-design, a process was established and adjusted responsively. A pragmatic approach to the participative case study method was adopted to capture that process from the experience of the participants.

Reflections on that process recognised the different but concurrent and interconnected flows of work and thinking that took place—the braided streams of work. Themes around the role of the Tiriti ally, the importance of establishing authentic partnership early in the process, vulnerability, the expectation of hard work on both sides of Te Tiriti, and the importance of shared goals emerged from the reflections.

The metaphor of working together to prepare the flax was central to describing this case study. That related to one framework, in one institution, in one treaty context, and therefore, it is unlikely that the process could be picked up wholesale and applied to another context. Indeed, at least some of its utility comes from its strong link to place—to a specific stand of flax. However, the process as outlined does provide a start point for co-design, and a sharing of experiences that perhaps will normalise the vulnerability and reduce the paralysis that sometimes results.

It is a start, and that is enough, if you are prepared to get your ringa raupā!

Glossary

Throughout this text the southern Kāi Tahu dialect of te reo Māori has been adopted as default. Where a concept or reference relates to another area an appropriate spelling has been adopted.

ako	learning and teaching
Aotearoa	Māori name for New Zealand
he awa whiria	braided streams
iwi	tribal kin group
kaitiaki	guardian, minder; custodian over natural resources
karakia	ritual chants, prayers
Kaupapa Māori	Māori approach, philosophical doctrine or methodology
mahi	work
mana whakahaere	governance
mana whenua	Māori who have genealogical and longstanding connection to the land they continue to occupy; the territorial rights or authority over tribal lands
mataawaka/ mātāwaka	kinship group
mātauraka Māori	traditional Māori knowledge (southern dialect)
ngā uara	values
Pākehā	New Zealander of European descent
pūrākau	story or legend
ōretetaka	equality or equity (southern dialect)
rakahau	research
ringa raupā	hands that have been hardened by work
rūnaka	tribal council (southern dialect)
takata whenua	the Indigenous people of the land (southern dialect)
tangata Tiriti	New Zealanders of non-Māori descent

tauiwi	non-Māori
te ao Māori	Māori worldview
te reo Māori	the Māori language
te Tiriti o Waitangi	the Treaty of Waitangi, New Zealand's founding document
Te Waipounamu	the South Island of New Zealand
tī kōuka	cabbage tree
tikaka	correct procedures or customs (southern dialect)
tino rakatirataka	self-determination (southern dialect)
tino rangatiratanga	self-determination
Tiriti	Referencing to te reo Māori version of the Treaty of Waitangi
tupuna	ancestor
tūtakina whānui	wider engagement
whakahaere	operations
whakataukī	proverb
Whakatō te pū harakeke	working together to plant out the flax
whakawhanaketanga toitū	sustainable development
whānau	family; nuclear/extended family

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COMMUNICATING MĀORI HEALTH AND WELLBEING

Platforms for voice and (re)connecting with whenua through māra kai practices

*Christine Ngā Hau Elers**

Abstract

This manuscript presents a communication framework embedded in whakapapa. It highlights the experiences of whānau Māori as they discuss the factors that impact their health and wellbeing. It also explores how they deal with socioeconomic challenges, which are contextualised in relation to the whenua, associated ancestral place names and kinship ties. The opening of discursive spaces provides platforms for voice, and led to the establishment of māra kai on ancestral whenua and the (re) clamation of Indigenous knowledge and place names in Feilding, Manawatū. Māra kai are positioned here as a site for decolonising health and wellbeing meanings, generating conversations in the Feilding community to disrupt colonial narratives that threaten Māori health and wellbeing. Reclaiming māra kai practices through connecting with ancestral land and nurturing whanaungatanga constitutes an intergenerational approach to Māori health and wellbeing, expressed through a whakapapa-based communication framework.

Keywords

culture-centred approach, Indigenous communication, Māori health and wellbeing, māra kai, whakapapa, whānau voice

Introduction

This study documents a māra kai initiative, co-created by 15 Māori and one Pākehā participant based in the Manawatū region of Te Ika-a-Māui and in Te Waipounamu, Aotearoa New Zealand. Drawing upon whakapapa as a base for a Māori communication framework, localised understandings of Māori health and wellbeing were articulated through the co-creation of platforms for voice. Utilising the dialogic anchors of whakapapa and the culture-centred approach (CCA) to research, we amplify Māori health and wellbeing meanings in relationship with whānau and whenua to (re) indigenise communication frameworks.

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Whakapapa framework

Whakapapa can be explained as genealogy (Mahuika, 2019) and also the "layering of knowledge, with one layer needing to be set down, before the next one is added" (Kereopa, 2003, as cited in Moon, 2003, p. 43). Whakapapa carves out spaces of existence; yet it is also a super-connector that enables and expands upon a lexicon of social relationships (Rout et al., 2020).

Whakapapa is positioned here as a research approach of connections, comprising an ontological framework (Roberts, 2013) within which knowledge is stored (Lythberg et al., 2019) and new knowledge is created and organised (Graham, 2005, 2009). Within this paradigm, Indigenous communication constitutes whānau voices, drawing on local context, social relationships with others and spiritual connections to ancestors and deity. Communication is instilled in the connections with environment, ecosystems and all living organisms.

In this manuscript, whakapapa provides a base for an Indigenous communication approach, rooted in the genesis of creation. It entails how Māori in this study communicate their health and wellbeing challenges and solutions, in relation to one another, to ancestral practices, to land and to the wider environment. Activated in this way, Māori communication practices draw upon whakapapa and manifest whakapapa, bringing forth intergenerational mātauranga, replete with ancestral wisdom that is embedded in places of significance.

Methodologies: Whakapapa and the culture-centred approach

The interplay of whakapapa and the CCA offer a dual methodological approach to the research. Whakapapa as a methodology occurred organically, and was visible among the participants' connections to one another and to the land. This whakapapa approach to communication is a Kaupapa Māori methodology and an expression of tino rangatiratanga (Phillips et al., 2016). In this study, whakapapa is positioned as a paradigm, an approach, a methodology and as the apparatus for an Indigenous communication framework. Utilising both whakapapa and the CCA, Māori navigating the "margins of the margins" (Dutta et al., 2020, p. 16) set the parameters of the discussion and the principles and tikanga that guide the discursive space in order to create entry points for the communication of sense making and knowledge generation. Since the study was to be conducted within the author's iwi, whakapapa as a grassroots, Kaupapa Māori approach was deemed a natural and authentic fit in that all but one of the participants were related to one another by whakapapa. The Pākehā participant was a partner to one of the Māori participants and also considered whānau.

This whakapapa approach and the CCA both have distinct theoretical positions and features. They also share a focus on centring culturally dynamic relationships between people and localised spaces, acknowledging the association of marginalised experiences with historical and contemporary contexts. The CCA is an activist communication methodology, which amplifies the voices of communities who have experienced socioeconomic marginalisation and are targets for policies and campaigns, yet their voices are often not heard (Elers & Dutta, 2023). The CCA looks to the connections between people, place and hegemonic formations, to open up discursive spaces for the voices of communities pushed to the "margins of the margins" in order to prompt social change communication (Dutta, 2020). The CCA has over 20 years of experience in building global communication theory and campaigns that seek to build voice infrastructures with communities. This is the first time that the CCA has been placed in dialogue with Kaupapa Māori in Aotearoa (Elers, 2022) and this manuscript is one part of the overall study. The CCA has expertise in examining the power imbalances within the discourse of communication, and this expertise was brought together with Kaupapa Māori theory to iteratively complement the research design and analysis stages.

Methods

All the participants belong to or are associated with Ngāti Kauwhata, an iwi affiliated to the Tainui waka in the Manawatū region. The participants form the Feilding advisory group, which was brought together to analyse the themes of the broader research titled *Theorising Māori Health and Wellbeing in a Whakapapa Paradigm: Voices from the Margins* (Elers, 2022) and co-design initiatives. The participants opted for one-to-one interviews with the researchers. One of the researchers, who is the author of this manuscript belongs to the same iwi.

These took place in person from August 2021 but were put on hold as a result of the COVID-19 Level 4 lockdown and resumed again by phone from November 2021 to January 2022. The interview questions were discussed and reworked at an advisory group with the participants prior to the

interviews. The advisory group meeting notes form part of the data collection as well.

The advisory group co-designed campaigns to amplify their articulations of health and wellbeing, nuanced with everyday challenges and carefully planned strategies focused on salient features of health and wellbeing. Four main themes are nestled within this whakapapa-based communication framework: (a) platforms for voice, (b) decolonising health and wellbeing, (c) intergenerational wellbeing and (d) generating conversations to disrupt colonial narratives and hegemonic domination.

Mahinga kai: Māra kai

Mahinga kai is the Māori term used for Māori customary food gathering practices. The concept has broader implications, which are associated with identity, wellbeing and a Māori worldview (Richmond et al., 2005). Payne (2020) emphasises that all elements of mahinga kai and the environment are connected through the paradigm of whakapapa. Māra kai is one food production and gathering practice. Roskruge (2020) defines māra kai as "land under cultivation for the production of food" (p. 22). Archaeological evidence of kūmara gardens in Waikato estimated an established garden area of 6–7 hectares (Higham & Gumbley, 2001) and an overall total garden area of over 3,000 hectares, highlighting the enormity and importance of māra kai in Māori society (Gumbley & Hutchinson, 2013).

Māra kai were indicative of continuous hapū and iwi land settlements in Aotearoa, also known as ahi kā and representative of mana whenua in that area (Taiapa et al., 2021). Māra kai can be defined as communal spaces that are discursive and multifunctional, facilitating spiritual and physical nourishment for knowledge transmission, physical activity, and food growth and security (Hond et al., 2019; Raerino, 2017). This concept is echoed by King et al. (2015), who noted that "Māori gardens provide spaces to connect and re-connect with the very essence of what it means to be Māori" (p. 17).

Land confiscation and dispossession through ongoing colonisation processes had a drastic effect on the foundation of Indigenous health and wellbeing (Griffiths et al., 2016). Extensive land confiscations by the Crown, coupled with land alienation through the conversion of communally owned land to individualised titles, has had an enduring impact on Māori health outcomes. In the absence of land or access to fertile land, and amid the urbanisation drive that resettled Māori away from ancestral homelands to urban areas, communal māra kai practices and knowledge began to wane (Viriaere & Miller, 2018).

Reflective of a neoliberal economy, the increase in the cost of living in Aotearoa (Eaqub & Eaqub, 2015) coincided with growing interest and movement towards revitalising māra kai in Māori communities (McKerchar et al., 2015). The increase in living costs, particularly food costs, motivated some tamariki in the eastern Bay of Plenty to start their own māra kai to help their whānau and parents pay household expenses. A māra kai programme was initiated by Ngāti Awa for primary schools to help the next generation to alleviate the financial pressures on whānau (Waikato, 2023). At the same time, mātauranga Māori contextually localised to this area about mahinga kai was taught and passed on to the tamariki participating in the programme. Hana-Rāwhiti Maipi-Clarke also utilised māra kai in Rāhui Pōkeka to help whānau connect to the taiao and mātauranga Māori aligned to the maramataka (Te Kuru o te Marama Dewes, 2022). These movements have aided in the provision of kai for whānau, promoted overall wellbeing and reinforced Māori identity (Panelli & Tipa, 2009).

Taiapa et al. (2021) utilise the pūrākau methodology (Lee, 2015) to foreground the hapū participants' narratives concerning the journey of Ngāti Tāwhirikura in their hapū-led māra kai initiative to build kinship connections with one another and with the whenua. In so doing, the exploration of māra kai as a visible expression of land reoccupation and culturally centred food practices affirmed their enduring ties to the land, despite a history of colonial processes that caused large-scale land confiscation, conflict and assimilation.

Kai-Iwi māra kai and Ngāti Kauwhata

There is scant written literature documenting māra kai practices in the Manawatū region. However, māra kai ancestral narratives are held within the oral histories of whānau and hapū of Ngāti Kauwhata in Manawatū. These histories tell us that prolific māra kai grew in the area known as Kai-Iwi pā. The stories of our ancestors' māra kai cultivations include many acres of gardens that were collectively cultivated and kai shared.

Sharing stories with one another in the advisory group regularly occurred throughout the whole kaupapa from the planning to the selling of some of the produce at the Feilding farmers' market. When planning for the māra kai establishment, the advisory group decided to give one third of

the produce to the whānau that own the whenua, to kaumātua and to other whānau needing kai. One third would be set aside for seed and the remaining third would be sold at the market to raise money to purchase more seed to grow kai on Ngāti Kauwhata ancestral land.

Ngāti Kauwhata is a relatively small iwi and many have experienced iwi invisibility in the Feilding community, seeing only neighbouring iwi names fixed to buildings in schools, in community and the surrounding area. In addition, the supplanting of ancestral place names by the Manawatū District Council, who favoured colonist names over ancestral names, effectively invisibilised hapū and iwi history within the area.

The town of Feilding was named after Colonel William Feilding, who purchased the area (43,000 hectares) in 1871 from the Crown (Kilmister, 2018). This area was a part of a bigger Rangitīkei-Manawatū land block of approximately 240,000 acres. The sale and purchase of Feilding is remembered by Ngāti Kauwhata as the most fraudulent and dishonest purchase by the Crown in New Zealand's history (Durie, 2020, as cited in Hurihanganui, 2020). Notwithstanding that Colonel Feilding spent a minimal amount of time in the area, the town was named after him, with no recognition of Ngāti Kauwhata who held papa kāinga and marae in the area. Kawakawa-ki-te-tonga was one of the ancestral names of the area due to the abundance of kawakawa trees, used as a staple rongoā by the iwi.

The advisory group asserted the name Kai-Iwi for the māra kai and stall name at the market. Kai-Iwi is the name of the papa kāinga area encircling Kauwhata Marae. However, the name of Kai-Iwi was not associated locally by customers at the market, who thought the advisory group participants were from a different Kai-Iwi settlement, situated on the banks of the Whanganui river. The erasure of Ngāti Kauwhata place names equates with the invisibility of iwi and has had a significant negative impact upon generations of Ngāti Kauwhata.

Taiapa et al. (2021) report on similar experiences of Ngāti Tāwhirikura hapū when their ancestral place names were also supplanted, disrupting tikanga practices associated with naming places and affecting the collective remembrance of significant tūpuna and events. In establishing māra kai and a market stall with the name Kai-Iwi, the advisory group were able to utilise the marketplace not only as an alternative economy to the rising food prices in the supermarket but also to reclaim a significant mana whenua name, and generate conversations to disrupt colonial narratives that had long sought to erase Ngāti Kauwhata history from the whenua.

The advisory group

This current study arose from the advisory group meetings following the first nationwide Level 4 COVID-19 lockdown in 2020. The advisory group became aware of food (in)security and noted the scarcity of basic food supplies such as fresh vegetables, flour and pasta: "The supermarket shelves were bare of food that we could afford, we had no choice but to ask for help to buy food" (personal communication, Feilding advisory group meeting notes, June 29, 2020). This comment highlighted the challenges for local people around access to affordable food. This issue was also recognised by the government as they released funding for community and iwi organisations to assist families with food access, resulting in bulk food purchases that probably contributed to the shortage of basic food supplies.

The advisory group participants with underlying health conditions noted:

> We were grateful for the food parcels but we couldn't eat a lot of the food because it was processed food with high sugar and fat content, or it was repackaged into smaller bags with no food labels, so we had to give it away. (personal communication, Feilding advisory group meeting notes, June 29, 2020)

Some participants received food vouchers and were able to make their own decisions about the food they purchased, but since basic, cheaper food was scarce, the food vouchers had to be spent on more expensive food items that were impractical and unable to sustain large families for more than a few days. Others commented about the bulk quantities of carrots and onions, which resulted in families consuming the same produce for days on end and trying to come up with new and creative ways of cooking carrots and onions for their whānau (personal communication, Feilding advisory group meeting notes, June 29, 2020).

The conclusion drawn by the advisory group was that while they were extremely grateful for the food parcels they received, they lamented the lack of opportunity afforded to them and, in particular, those with underlying health conditions, to make decisions regarding access to food. As one participant stated:

> It felt like the grocery list was written by people in Wellington for us in Feilding, rather than us being a

> part of the discussions. If they knew us well, they'd know that whānau has 15 people in their whare and they've got nannies and koros (grandfathers) with diabetes so we won't give them cans and cans of processed high salt and sugar food. Actually why don't we ask them what they need? It ain't rocket science!" (personal communication, Feilding advisory group meeting notes, June 29, 2020)

In a bid to reclaim decision-making about food security in the Feilding community, the participants discussed their desire to (re)connect with ancestral land and establish a māra kai in order to enhance food security by being active decision-makers and participants in the cultivation, harvesting and distribution of organically grown kai. With the resource support of CARE at Massey University, Palmerston North, the advisory group began preparing ancestral land on two property blocks for māra kai in August 2020.

Findings

The advisory group participants' names have been changed to reflect Ngāti Kauwhata ancestral names. The findings have been grouped into the following four themes: (a) platforms for voice, (b) decolonising health and wellbeing, (c) intergenerational wellbeing and (d) generating conversations and disrupting colonial narratives.

Platforms for voice

The whakapapa-based framework of Māori communication and the CCA share a focus on co-creating platforms for voices at the "margins of the margins", in order to foreground their articulations into mainstream, discursive spaces. Tamihana's comments below highlight that regardless of education or lifestyle, people are fully capable of contributing to decisions that affect their lives. In fact, the kōrero of Tamihana shows that regardless of education and lifestyle, Māori who occupy the "margins of the margins" or the "grassroots", if given the opportunity and resourcing, are able to come together to co-design strategies for wellbeing, cloaked in tikanga of "respect", "care" and "love":

> Yeah, I just think the advisory group is a platform for those … that are afraid to say their bit, those that think they aren't educated enough, but they have still got common sense and foresight, and hindsight but because we live in a certain way we're overlooked. That is how it feels. I really enjoyed our meetings, not structured as a chairman, secretary, treasurer thing. We didn't have that, but we had respect and we had care and we had love … We are the grassroots and everyone has a lot of good ideas. (Tamihana, male, 46–55 years)

Listening is both a conceptual and a pragmatic tool emphasised in the CCA (Dutta, 2014). The act of listening to community voices creates entry points for alternative understandings, problem configurations and community aspirations to emerge into discursive spaces:

> I think the biggest thing is just being able to listen to the people, listen to them because if you continue to listen to the people, they feel they're needed, you know ... If everybody gets a voice, everybody gets a say. Everybody is listened to. (Taimoana, male, 56–65 years)

> Back then it was just kind of like "oh, I've got stuff to do", but now, I really like going because I do like the fact that we all have differing opinions and it's taught me so much more patience about myself and a lot more learning for myself as well, and yeah, trying not to be as judgemental and just listening to other people through why they think that way. (Haringaroa, female, 26–35 years)

Inherent in this commitment to listening and voice is the necessity to ensure that advisory group participants set the terms of engagement—both with one another and with others. The advisory group participants determined the tikanga to guide the meeting structure and flow. Sometimes the meetings were facilitated by the principal researcher (who is also an iwi member) and sometimes the meetings ran as a more informal discussion, going around the table to ensure that everyone had an opportunity to have a voice. Rauarangi (female, 36–45 years) stated, "I was able to express without being criticised or judged on my opinions."

> Everybody had an input. I mean, everybody participated in our hui and we didn't leave anybody out. I think everybody ... we were all on the same page. So it was great because we were all thinking the same thoughts on how we were going to plan the māra kai, how it was going to be harvested ... because we needed to know also ... who we had available at the time, so we could get as many people down there for the harvesting. Because that's when we needed our people the most was in harvesting times. And it was really lovely. (Te Ara, female, 54–65 years)

> I find this whole board system quite, well, some people take it to their head, I guess. Like some

> people get that power role and sometimes it gets a bit too heated up, I guess. And then some people start to drop off because of it. But I feel by not having one, you know, we all had a view and I think because everybody has that same mutual respect ... It was just kind of like, oh, yeah, well, this is how it's going and kōrero just kept flowing. I liked it like that. (Haringaroa, female. 26–35 years)

Here, Haringaroa reflects on structures of board meetings that can dissuade the participation of grassroots whānau or community members. Her reflection challenges monolithic formations of community or district and government board meetings replete with expert members, advisers and agendas that are constructed to either engage with communities or represent community voice. Dutta (2015) investigated the insidious ways in which structures co-opt community participation to carry out programmes of empowerment that are scripted within dominant neoliberal governance frameworks. When configured in this way, power, resources and decision-making are still held intact by neoliberal boards, and voices of communities at the "margins of the margins" are effectively sidelined. The concept of "community participation" becomes equated with the appropriation and co-option of community voice or "cultural sensitivity" (Dutta, 2007).

Conversely, the articulations of Tamihana, Te Ara, Rauarangi and Haringaroa indicate a resistance to monolithic, neoliberal board formations and a preference towards culturally centred, dynamic, whakapapa-framed collectives that offer a wider understanding of communication, rooted in relationship to the health and wellbeing of whānau, the land and the environment and the building of mutually constitutive relationships.

Decolonising health and wellbeing

The participants frequently referenced the māra kai mahi back to the work carried out by our ancestors in previous generations. Some participants could recall first-hand the regular contribution of whānau in mahinga kai practices and others drew upon stories that had been passed down through the generations as a blueprint or a pattern towards decolonising health and wellbeing:

> I grew up eeling with my dad and my uncles … I was like a boy (laughter) … so with the māra kai you are learning, not only the ability to feed yourself, but actually learning tikanga behind it as well, like intergenerational tikanga. (Māmaku, female, 46–55 years)

> Māra kai are what our ancestors did. This was their norm. That's how they fed the people. And it was sort of, you know, just slowly but surely taken away from us. And if we can re-establish it, it is never going to get back to the way that it was, but we can try and sort of introduce those ways back into everyday living. (Manawanui, female, 36–45 years)

The narratives of Māmaku and Manawanui exemplify a whakapapa-based communication frame not just because they reference the ancestors and their prowess at food gathering and cultivation practices but because they highlight that recovering and normalising these practices in contemporary life does more than produce kai to sustain people. It also decolonises individualistic pursuits through continuing the transmission and activation of tikanga associated with kai for the collective and the wider purpose of cultivating social cohesion and health and wellbeing. In this way, we are encouraging thinking outside of ourselves as individuals or individual whānau and caring about others within the wider whānau and community. Hoeta (male, 46–55 years) noted the difference in cultivating a māra kai for a household and cultivating māra kai with and for the wider whānau: "I always had a kai garden but it is a different experience coming together with others and everyone having their input into the decision-making." These configurations of Māori health and wellbeing are activated by connecting to the whenua and the environment, and recovering and extending upon connections among and between whānau. Hinepare and Taimoana explained further:

> Just because we are related doesn't mean to say that we are in one another's lives … but this group and the māra kai kind of helped cultivate that manaakitanga amongst us and with the whenua and our concern for the wider whānau and community. We cultivated the whenua and manaakitanga was cultivated within us. (Hinepare, female, 46–55 years)

> In respect to the old man, he always shared his kai and they would share kai with one another. So, we would go out hunting eels together as families, as bulk families, not just the one family. You don't see that these days. It brought those kinds of things back to me...it brought all those tikanga back, in the way that we used to work together ... We planted, we weeded, sowed, harvested, year after year and it was my experience as a kid. So, it was good to see it come back, to be reminded. (Taimoana, male, 56–64 years)

As a platform for voice and grassroots decision-making, the advisory group planned, organised and harvested māra kai established on ancestral land, connecting to the whenua and (re)activating tikanga practices. These activities widened understandings of Māori health and wellbeing to include the health and wellbeing of the whenua, the whānau and the community through the deployment of ancestral food security practices. The layering of participants' narratives adds further context and contributes to ongoing knowledge generation concerning collective group formations and māra kai as decolonised meanings of Māori health and wellbeing.

Intergenerational wellbeing

Māra kai scholarship provides a robust synopsis of the benefits of māra kai for nurturing Māori health and wellbeing (Stein, 2018; Taiapa et al., 2021; Viriaere & Miller, 2018). The advisory group's articulations of their experiences creating a māra kai concur with these views and affirmed that the experience was "soul healing", "full of joy and happiness" and "lifted the oranga of our whānau … and our whenua and awa".

The advisory group participants' narratives concerning the involvement of multiple generations in the māra kai mahi can be conceptualised as centring intergenerational health and wellbeing, pushing out the parameters of health and communication to include more than one whānau and more than one generation:

> One of the highlights of the māra kai was to see mokopuna getting in there, getting their hands dirty. Getting the rīwai, digging up all the spuds, it was massive! Inwardly I was, oh my, look at this. I was full of joy and happiness about that. (Taimoana, male, 56–65 years)

> That was beautiful. That's the kind of soul healing stuff that you can get from bringing whānau together, with whānau that are your family and you don't even know who they are. The real connecting and even getting my kids out there and connecting with their cousins that they don't know but they've been going to school with. (Manawanui, female, 36–45 years)

> It was definitely beneficial for the young, even right down to the primary school kids coming down and getting involved. It is instilling memories in them. I guess for the ones living in the city, they wouldn't have a clue or know anything about that kind of stuff, but actually getting involved in it, coming down and putting their hands in the whenua, harvesting the spuds and then being able to cook them and eat them, all those kinds of things. It is really … the memories, and I guess for the old, for the kaumātua, coming down and just that whole whānau environment through the different generations is something that you don't really see much anymore. Everyone is too busy these days working. (Hoeta, male, 46–55 years)

These examples demonstrate whānau agency in setting their own journeys to nurture wellbeing across generations, guided by tikanga and embedded in Māori epistemologies. The departure from top-down approaches to health towards culturally centring intergenerational whānau approaches to oranga provides the impetus for localised strategies. Tamihana brought together the various strands explored through the māra kai operation as an enabler of oranga:

> Connecting back to the land, gathering food with the whānau, not doing it as a job, a paid job, but doing it as a sustenance was a big up. And the oranga of that little thing we've done was worth more than money. (Tamihana, male, 46–55 years)

> I just couldn't believe how many people turned up to the whenua to do the harvesting and do the kai. Yeah, I was just excited. And I just got in there and was just looking around at all the whānau and going, oh, this is so cool. Just goes to show how much whānau want to do this [and] the supermarket prices are getting terrible. (Ōroua, female, 36–45 years)

The sentiment shared by Ōroua is the same as what every person in the advisory group and other whānau who also came to be a part of the harvest expressed. For Papa (male, 26–35 years), connecting with the whenua is an affirmation of being Māori: "The feeling of being Māori being tied to the whenua, working with Papatūānuku … I don't know how, but the feeling inside the wairua, it is uplifting in itself, with the whānau." Accordingly, decreased access to environmental resources and control over those resources within iwi and hapū areas has had a negative impact on Māori health and wellbeing (Richmond et al., 2005). Conversely, improving Māori access to whenua and the environment through generating opportunities for (re)connection has been identified as a key determinant for Māori health and wellbeing (Moewaka Barnes & McCreanor,

FIGURE 1 Kaiiwi produce stall at the Feilding farmers' market. Source: Christine Elers.

2019). This has certainly been the experience of the Feilding advisory group.

Generating conversations and disrupting colonial narratives

The advisory group set up their first stall at the market on 19 March 2021 to sell one-third of their māra kai produce (see Figure 1). To our knowledge, it was the first stall by Ngāti Kauwhata iwi members at the market since it began in 2005. The items for sale included varieties of organic rīwai, moemoe, red Desiree and agria plus kete waikawa and kawakawa balm. In 2022, the advisory group continued selling produce at the market and expanded to also include kamokamo, kale and mainese, the latter made with moemoe by one of the advisory group participants, who is also of Cook Island descent.

The presence of Māori with produce grown locally by hapū and iwi members at the market drew attention and generated conversations. A few customers shared their stories with us—stories about gathering kai in the local rivers with our ancestors. The majority of others wanted to know where the produce was grown. When the advisory group explained the location, which is near our ancestral marae, sited about 7 km out of Feilding on a no exit road towards the Ōroua river, many were astonished, not realising that they had lived many years (some had lived most of their lives) in Feilding and were not aware who the local iwi is and where our ancestral site is situated. Manawanui explained further:

> There were a few people that would come to us, just to yack to us, actually and talk about how they would grow their potatoes ... some would even just go into a bit of history … It was really interesting. But sometimes it was quite full on … because it's a different opinion to what we have. (Manawanui, female, 36–45 years)

The different opinions that Manawanui refers to concerned the establishment of a Māori ward. In the midst of the māra kai kaupapa, the Manawatū District Council voted against the establishment of one Māori ward in the district. A protest was organised (see Figure 2). All the affected hapū and iwi came together, with others in support, and marched down one of the main streets in

FIGURE 2 Protest march on Manchester Street, Feilding, for the establishment of a Māori ward 2021. Source: Richard Torres.

Feilding to the Manawatū District Council office (Gill, 2021).

All of the Feilding advisory group participants joined the protest and the quest for Māori representation at the district council. Some of the group participants spoke at various council meetings and others relayed the hurt that they felt seeing very little semblance of Ngāti Kauwhatatanga in the council representation in the community. The marketplace provided another opportunity to disrupt colonial narratives of separatism associated with our pursuit of Māori representation in local government:

> The Manawatū District Council councillors, well, the market seems to be their go-to place every Friday, well, for some of them and so, you know, our stall gave us a chance to have conversations directly, especially during our fight to have a Māori ward. There was one Pākehā councillor who came along, and he didn't vote for a Māori ward and he's still trying to tell us why we shouldn't have dedicated Māori representation on council because it's separatist you know, ra di ra, and we were able to tell him that this here market and this town is on Ngāti Kauwhata whenua and we have been dispossessed of much of our ancestral land, which feels the same as you all blocking and denying us Māori representation at the council. (Hinepare, female, 46–55 years)

Generating conversations at the market to disrupt the erasure of Ngāti Kauwhata history, place names and identity is seen here as part of an Indigenous communication framework embedded in relationships to the land, communicated through intergenerational histories and forged in contemporary struggles for Indigenous representation in local government.

Discussion

Whakapapa provides the basis for an Indigenous communication approach. Māori situated at the "margins of the margins" articulated health knowledge and built platforms for voice so that this knowledge can emerge into dominant discursive spaces. Whakapapa is also utilised as a methodology positioning the participants' articulations as both the reclamation of knowledge and the generation of new knowledge placed in connection to kinship ties and relationships with the whenua amid the settler-colonial landscape of Feilding, Manawatū.

The formation of an advisory group and māra kai provided opportunities for whānau to (re) connect with ancestral land, building whanaungatanga amid complex realities that had rendered hapū and iwi ancestral place names and spaces invisible, as a result of ongoing processes of colonisation. The advisory group meetings presented as a platform for whānau voices that are often not

heard and enabled discussions cloaked in tikanga of "respect", "care" and "love" to co-design strategies for food security amid the COVID-19 pandemic, challenging board formations that adopt strategies for whānau but without their voices from the "margins of the margins".

The cultivation of māra kai equated to the cultivation of kinship relationships and the expression of manaakitanga among the group and to wider whānau and community members, who were also navigating low socioeconomic realities. This affirmed identity, not only as Māori but as Ngāti Kauwhata. The frequent referral to and sharing of ancestral māra kai practices enabled the presence of ancestors through conversations. Therefore, Indigenous communication practices constitute ancestral whispers over the contours of whenua, embodied in their descendants' contemporary practices of māra kai, decolonising meanings of health and wellbeing, and accentuating the exigency of intergenerational wellbeing.

Indigenous communication concerning health and wellbeing also lies in the disruption of colonial narratives that sought to erase Ngāti Kauwhata ancestral and significant place names from the region. The marketplace became a discursive site to generate conversations about ancestral Māori land, historical place names and the connection to the local hapū and iwi. It also afforded opportunities to speak back to local government attempts to block the establishment of a Māori ward for Māori representation in the community. Here, Māori health communication speaks to the challenges that constrain health and wellbeing, due to the fraudulent dispossession of the Rangitīkei-Manawatū block. Hence, a pathway to enabling Māori health and wellbeing is the (re)clamation of whenua and mahinga kai practices through bringing whānau voices to the fore, and through local environmental sovereignty embedded in Māori espistemology. Māori representation via one Māori ward in local government is a start at opening up diverse discursive spaces for Māori. This study has shown how alternative spaces for dialogue concerning Māori health and wellbeing can also be opened up, culturally centring the complex realities of Māori through Māori communication practices. These were expressed through māra kai processes, drawing upon enduring whakapapa connections and (re)Indigenising colonial spaces, which were identified by the advisory group as essential for localised Māori health and wellbeing and are resurgent within whānau of Ngāti Kauwhata in the Manawatū region.

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Glossary

ahi kā	fires signalling continuous occupation of whenua; those of keep home fires alive
Aorangi	one ancestral name for the Feilding area
Aotearoa	New Zealand
awa	river
hapū	subtribe or larger kinship group; pregnant
hui	meeting, gathering; where discussion takes place
iwi	tribe, nation, Māori people; bones
kai	food
Kai-Iwi	ancestral place name encircling Kauwhata marae
kamokamo	squash, stubby green vegetable marrow (or gourd), favoured Māori food eaten young and immature
kaumātua	elder(s)
kaupapa	project, topic, subject
Kaupapa Māori	Māori research theory
Kauwhata Marae	the marae (village courtyard and surrounding buildings) of Ngāti Kauwhata
kawakawa	pepper tree, *Macropiper excelsum*—a small, densely, branched tree with heart-shaped leaves, indigenous to Aotearoa
Kawakawa-ki-te-tonga	one ancestral name for the Feilding area
kete waikawa	harakeke (native flax) woven baskets used to store items and in contemporary times used for shopping
kōrero	talk, narrative, discussion
koro	grandfather

kūmara	sweet potato
mahinga kai	food gathering practices
manaakitanga	hospitality, support, care for others
Manawatū	a region in the central North Island
mana whenua	territorial rights over land sourced in ancestral connections to place
marae	courtyard in front of an ancestral meeting place, where formal discussions take place
māra kai	land under cultivation for the production of food, vegetable garden
maramataka	Māori lunar calendar
mātauranga	knowledge systems
moemoe	a variety of Māori potato with purple skin and reddish-yellow mottled flesh
mokopuna	grandchildren
Ngāti Kauwhata	iwi of Feilding and surrounding areas in the Manawatū
oranga	health, livelihood
pā	fortified marae and surrounding areas
Pākehā	New Zealand European
papa kāinga	village
Papatūānuku	Earth mother, wife of Ranginui (Sky Father)
pūrākau	Māori narratives containing philosophical thought
Rāhui Pōkeka	Huntly, Waikato
rīwai	potatoes
rongoā	medicinal remedies
taiao	environment
tamariki	children
Te Ika-a-Māui	North Island
Te Waipounamu	South Island
tikanga	values and principles that guide practice
tino rangatiratanga	chiefly authority, sovereignty, Māori self-determination
wairua	spirit
waka	allied kinship groups descended from the crew of a canoe that migrated to New Zealand and occupying a set territory
whakapapa	genealogy; placing upon layers; to form a foundation; utilised here as a research approach of connections
whānau	family, extended family
whanaungatanga	kinship, sense of family connection
whenua	land; placenta

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TIKANGA-INFORMED CONSIDERATIONS FOR MĀORI GENDER DIVERSITY

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Abstract

Māori research is increasingly recognising the diversity of Māori, and no area displays this internal variation more than academic considerations of Māori gender diversity and takatāpui, which are slowly but significantly rising. While researchers have focused significantly on unearthing the diversity and realities of Māori sexuality, gender diversity has been largely overlooked. This research proposes that there is a tikanga-informed basis for current Māori expressions of gender diversity and explores the early imposition of colonial gender roles onto Māori, the principles that informed gender diversity and fluidity for Māori before these colonial roles, and the traditional narratives that may have gender diversity woven into them. By collating a series of considerations regarding Māori gender diversity, this research lays a foundation for future researchers in this area to build from, and opens up new considerations of how tikanga and gender are connected to one another in modern Māori cultures.

Keywords

gender diversity, narrative, oral traditions, takatāpui

Introduction

Gender diversity is a field of study that is often overlooked in Kaupapa Māori research, but it is one that has significant ramifications for Māori. The term *gender diversity* is somewhat new linguistically, and this youthfulness is often used to suggest that it has no historic grounds. This somewhat short-sighted approach is pushed back against by many Queer and feminist theorists, who argue that the youthfulness of a term does not translate to the youthfulness of a practice (Butler, 2006; CRASSH Cambridge, 2019; Halberstam, 2005; Sedgwick, 1993) and that gender diversity is one of a long line of terms that indicate a deviance from binary male/female practices. In this understanding of gender, the binary is that of masculine and feminine, not male and female. The former signifies a continuum of sorts, where people are placed varyingly between the two, while the latter is often seen as a set of distinct identities that influence political rights, medical practice and personal abilities. Whether it is the anthropological term of the third sex (Lang & Kuhnle, 2008) or the medicalised transsexual (Amin, 2022), the phenomenon of people's bodies falling out of what is considered a gendered norm has existed across times, cultures and environments. The term gender diversity was chosen in this article because it is the broadest, not requiring any form of transition or reference to male or female, and working across

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both Pākehā and Māori cultural contexts. It is intentionally vague, revealing the loose nature of gender as a whole. It is this malleability that makes the term most appropriate since I argue that the fluid nature of tikanga aligns well with an approach to gender that favours adaptability and contextual consideration.

A term notably absent from the bulk of the article is *takatāpui*, deriving from the pūrākau of the love between Te Arawa ancestor Tutanekai and his manservant, Tiki. Ngahuia Te Awekotuku and Lee Smith rediscovered the term in the 1970s and brought it into the academic world as evidence of complex sexual relationships concerning gender (Kerekere, 2017), and it has since taken dominance as the prominent term for LGBTQ+ Māori (Murray, 2003; University of Otago, Wellington, 2020). Takatāpui can be considered a backwards reclamation of a term that has been picked up in the face of colonisation to encompass a legitimate identity grounded in oral tradition and historic narratives. This universal moniker has not come without criticism, as Mcbreen labels the term an "alternative to heteropatriarchal Māori identity and community" (as cited in Green & Pihama, 2023, p. 68) that seeks to apply an "old" term to a "new" way of being. It derives from a term adjacent to a homosexual relationship and has been overwhelmingly used by theorists of sexuality. Gender diversity seems to be incorporated only as an afterthought.

The term gender diversity, and its seeming uptake in the past 30–40 years, does not represent a new idea but speaks instead to a particular Western cultural climate that favours individual identification and Foucault's (1980) observation that "the phenomenon of the social body is the effect not of a consensus but of the materiality of power operating on the very bodies of individuals" (p. 55)—as power becomes more individualised, the body, and thus the sex, becomes a key site for power negotiations. Foucault's understanding of power and bodies has been of interest not just to Queer theorists but also to Indigenous ones, as seen with Gillon (2020) and Moreton-Robinson (2011), who picked up Foucault's notion of biopower and applied it to Indigenous sovereignty and policing, and the abandonment of many Indigenous peoples. The connection between the increased interest in policing gender—and the corresponding awareness of gender diversity—and controlling Indigenous bodies has yet to receive much critical attention. Emphasis on Indigenous gender diversity overwhelmingly focuses on health and wellbeing outputs (Green & Pihama, 2023), rather than the political and cultural impacts of the issue. It is in light of this political and cultural relevance that I use the English phrase gender diversity to ensure it is clear that my focus is on gender and its somewhat restrictive and contested place in contemporary Māori culture.

Uses of oral tradition

This research focuses on the re/interpretation of written texts, pūrākau and recorded customs as theoretical challenges to social principles. Narratives, often deemed myths, immediately invoke notions of falsehood or abstractions divorced from reality, but rather than turning away from these associations, this research looks at "myths [as] a rich blend of fact, fiction and the fantastical, religion, philosophy and history" (Ihimaera, 2020, p. 14). They are not just stories of the fantastic meant to entertain children; nor are they the dismissed quirks of an inferior race, as theorised by early European settlers (Simmonds, 2009). Myths embody the known world of peoples and allow them to communicate that knowledge across generations (Marsden, 2003) in the form of theories and ethical guides that inform the structure of societies (Stewart, 2020). The immense complexity of these myths is a nod to the significance of story and imagination, where expectations are challenged and boundaries pushed "by the ancient seers and sages to encapsulate and condense into easily assimilable forms their view of the World" (Marsden, 2003, p. 56).

It is nearly impossible to distinguish these myths from more agreed-upon history or tear apart the metaphors from the "facts" of a situation (Ihimaera, 2020); indeed, the myths themselves are often the history and the facts. Moving towards legitimising forms of knowledge that do not fit in the positivist tradition is key to Kaupapa Māori and decolonial thought. An ancient karakia recites the tale of Tāne retrieving the three kete of knowledge—knowledge of the divine (characterised by darkness), knowledge of the material (characterised by light, scientific and seen) and knowledge of the metaphysical (characterised by constant pursuit, since the metaphysical cannot be "proven")—and gifting them to humankind. For Cooper (2012), rather than attempting to translate these into a verifiable form of knowledge, it is better to simply allow them to be "questionable" and without any set purpose, and focus instead on the connection between them and the ways of questioning that they provoke. Simmonds (2009) reinforces the idea of esoteric and spiritual knowledge as being core to a Māori epistemic framework, though she assigns

gender to this form of knowledge, thus reiterating the problematic polarity of male = reason, female = nature (Ortner, 1972). This research presents narrative as a valid epistemic resource, not attempting to find some "real" meaning that invalidates these as fantastical. It also aims to avoid the common issue of teleological presentism within historic writing (Armitage, 2020), where Māori narratives have modern terms placed onto them that impose boundaries on what cultural language is spoken. Kerekere (2017) favours the term takatāpui explicitly because it avoids bringing in English terms and their associated values, though such broad framing has been criticised, as is outlined above.

It is also critical to note that this research derives from various gaps and folds in existing Mana Wāhine theory. Theorists such as Pihama, Simmonds and Smith have been referenced extensively, but this is not a devoutly Mana Wāhine work, since Kerekere (2017) pushed against the cisnormative slant in the field that places wāhine as one of two, equal options for Māori gender (Simmonds, 2011; Smith, 2012). Mana Wāhine, a groundbreaking shift away from patriarchal Māori theory, has relied heavily on essentialist narratives of women as te whare tangata (August, 2004; Mikaere, 2011; Simmonds, 2011), capable of birthing and deriving divine power from menstruation and vaginal imagery, including the consistent reference to Hinenuitepō. While this asserts a legitimate place for femininity within te ao Māori, Yates Smith (as cited in Pihama, Tuhiwai Smith, Simmonds, Seed-Pihama, & Gabel, 2019) argues that this emphasis on power deriving from fertility denigrates femininity and reduces it to reproductive use alone, sidelining young women, old women, infertile women or trans women who cannot menstruate. In light of the tensions within Mana Wāhine, this research draws on the critical gender considerations raised, but emphasises gender diversity at its core.

The internalisation of colonisation

While there are examples of Māori gender diversity in traditional narratives, such as Taranga's masculine topknot (Ihimaera, 2020) and first contact events (Cooper, as cited in Te Awekotuku, 1991), they are recorded less frequently than examples of non-heterosexuality and even less than instances of strict gender binaries. Although this could be read as proof that gender diversity is a colonial import, the legacies and aims of colonisation may provide a different perspective. Stewart (2020) argues that the intention of the British Empire towards the end of their global tirade was not the physical extermination of Māori bodies, as it may have been for earlier colonisation efforts, but rather the cultural and philosophical assimilation of Māori. Given that "colonisation led to the eradication of vital information about the expression of Māori sexuality in historical times" (Hutchings & Aspin, 2007, p. 4), a similar eradication is likely for gender expression because of its significance for the structure of a society (Pihama, 2021). The fluidity of gender that is evident in legendary myths was translated out of the more grounded ancestral stories and whakapapa lines to prime Māori for the translator's colonial and theological contexts (S. Mitchell, 2018; Smith, 2012). The adaptation of these tikanga can be traced to an epistemic history in which only the patriarchal and assimilable parts of tradition were kept; they were then taught to and reiterated by Māori who had urbanised and had little access to their own culture, and absorbed as traditional practice because it occurred close to pre-contact (Pihama, as cited in Pihama, Tuhiwai Smith, Simmonds, Seed-Pihama, & Gabel, 2019).

Colonisation, with its impact on the acceptance of sexual and gender diversity, has led to a seeming rupture within broader Māori society between those embracing takatāpuitanga as a self-determining reclamation of diversity and more conservative Māori holding steadfast to tikanga developed in the face of colonisation (Hines, 2007; Hutchings & Aspin, 2007; Smith, 2012). The imposition of European common law to Aotearoa "convert[ed] what was a mere physical fact into a legal right" (Mill, 2019, p. 13), making physiology rigidly gendered and consequential. The framing of our traditional narratives shifted from appreciation of the diverse and complex "to embed[ding] dominant western misogynistic constructions of gender as a means by which to continue an intentional assault on the roles and status of Māori women" (Pihama, 2021, p. 355). Over the years, the further integration of Māori into colonial societies cemented the view that masculinity was superior to femininity (Halberstam, 1998) and became part of the new "Māori normal" (Irwin, as cited in Pihama, Tuhiwai Smith, Simmonds, Seed-Pihama, Gabel, & Te Wānanga-o-Raukawa, 2019; Simmonds, 2011). This view served to tighten colonial hold on Aotearoa because Māori family structure was intimately tied to the Māori political structure (Hoskins, as cited in Bell et al., 2017; Mead, 2016). Because of the centrality of whānau in Māori organisation, attacks on the family unit were considered more useful than economic sanctions as a means of assimilating Māori.

Even without the more insidious motive of

preparing Māori for a cultural and philosophical extinction, there lies the possibility that early contact settlers were simply unable to comprehend the realities of a Māori gender environment. That gender for Māori was not solely biological and may not have impeded upon their social mobility as much as it did in European contexts (Mill, 2019) may have led to these early accounts simply referring to gender-diverse behaviour as baffling outliers rather than visible indicators of a broader social trend (Kerekere, 2017; Mikaere, 2011). Lang and Kuhnle (2008) also raise the idea that short-term changes in assumed natural gender order have been recorded extensively, but the practice of long-term living has not been; for example, Cooper (as cited in Te Awekotuku, 1991) only noted the existence of "transfemmes" Māori once it was revealed they possessed physiology that did not seem to connect to their gender presentation. The gradual changing of these traditions subtly worked its way into many Māori psyches and "Māori have adopted this binary model of gender and married it with tradition" (Blank, as cited in Hutchings & Aspin, 2007, p. 107). The notion of internalising and replicating dominating mindsets has been handled extensively in literature across the social sciences (Bourdieu, 1984; Fanon, 2004; Freire, 2017; S. Mitchell, 2018) as a tool for surviving oppressive regimes, and Māori had to comply with settler Pākehā or face severe consequences (Taiwanga, as cited in Caselberg, 1975; Ross, as cited in Elkington et al., 2020).

That many takatāpui are often pushed out of Māori spaces by limiting tikanga or religious interference means they are less likely to possess qualities that grant Māori authority, such as language (Murray, 2003), whakapapa recognition (McBreen, as cited in Green & Pihama, 2023) and knowledge of tikanga (Mead, 2016). This further legitimises the conservative Māori voice as the "authentic", and despite infrequent acknowledgement of gender diversity as "part of recognized traditions—and not a colonial import—concession [does] not guarantee that the conversation [is] welcome" (Kēhaulani Kauanui, as cited in Barker, 2017, p. 50). Because of this infiltration of colonial values, it is not surprising that many theorists have stressed the importance of scrutinising current traditional practices for the influence of colonisation (Mitchell, 2018; Green, Te Wao & Laurence, as cited in Green & Pihama, 2023; S. Mitchell, 2018; Te Awekotuku, 1991).

The fluid position of gender in te ao Māori

This research is not a dismissal of all precolonial Māori traditions regarding gender but rather a question of paying "careful attention to what is maintained, what is amended, and what is discarded" (Maclean, as cited in Barnes & Tse, 2022, p. 116). Māori certainly had practices that can be seen to align to gender, such as karanga or whakairo, but the implication that these were concrete roles determined by physiology and indicative of an individual's nature, worth and potential does not hold up under close inspection of the realities of precolonial Māori life (Maclean, as cited in Barnes & Tse, 2022; K. Mitchell & Olsen-Reeder, 2021). Stewart (2020) argues that some Māori derive gender from either the godly realm of Ranginui, for boys, or the earthly realm of Papatūānuku, for girls. It is the balance of these two essences that determines gender at birth. Some coastal tribes regarded north and east winds as feminine, and south and west as masculine—the gender of the child being determined by the winds they were born under (Heuer, 1969). The use of oriori before birth could outline a child's place in the community according to ancestral deeds, environmental signs and current context (Gloyne, 2023; Waka Huia, 2011), regardless of the physiology revealed at their birth. This brief exploration of pre-birth rituals shows that gender was not based on physiology, and instead, a greater emphasis was held on status and ideas of ira.

Philosopher Carl Mika has highlighted the significance of essence for Māori selfhood by arguing that "ira has the capacity to undermine the firm foundation that Western terms and their concepts—such as sex, science, and gender—ask for" (as cited in Green & Pihama, 2023, p. 53). Applying a word that has the translation of essence to gender will send up red flags for any proponent of performativity theory, which stresses a form of gender entirely externally influenced and outside the self (Butler, 2006; Sedgwick, 1993), but Mika (2015) pushes against the notion that essence must be something stagnant and eternal, instead offering the idea that "ira suggests that the self becomes what it is" (103). Non-Māori trans theorists have keyed into this idea as well. Barad (2015) draws on quantum physics, stating that "nature emerges from a self-birthed womb fashioned out of a raging nothingness" (p. 393). Stryker has a similar idea, highlighting the value of a "being and becoming that emerges from a nothingness that nevertheless teems with lively potentials" (CRASSH Cambridge, 2019, 34:09). Ira, a concept grounded seemingly in essentialist thought that

humans have a predetermined gender, complicates the assumptions underpinning both performativity and essentialism—humans are not locked into a specific path but are not captains of their own destiny either. This is most demonstrated in one term that the takatāpui community is gradually growing to recognise—*irakore*—loosely translated to "non-binary". Kore derives from Te Kore, the pure state of generative capacity from which everything derives that occupied the space before the beginning of the universe, "the realm between non-being and being; that is, the realm of potential being" (Marsden, as cited in King, 1975, p. 216), and the genderless realm that created te ara uwha through the feminine Māhorahoranuiarangi in contrast to the masculine Te Mangu (Ihimaera, 2020). The essence of a being, an unfixing ira, is connected to the notion of a state of constant transformation characterised only by its "nothingness", to provide a term for a gender that does not fit well into labels but does have some definitive background.

While contemporary Māori societies see gender as "as a first and foremost deciding factor for labour distinction" (K. Mitchell & Olsen-Reeder, 2021, p. 87), there is evidence that prior to European contact, Māori saw other qualities, such as descent lines, aptitude, necessity and education, as influential in the place of an individual in their community, and "merely possessing the required physiology did not in any case constitute a *right* [emphasis in original] to certain roles and practices; at most, perhaps, physiology could be said to confer the right to earn the right" (Maclean, as cited in Barnes & Tse, 2022, p. 119). Gender can then be seen as being based in appropriate labour allocation and a non-fixed self-identity that may operate within broader structures (Besnier, as cited in Herdt, 1994; Sedgwick.1993; S. Mitchell, 2018), in which all people have maleness and femaleness but "masculinity and femininity do not map easily onto male and female bodies" (Moore, 2007, p. 13). Either way, far more important for the distribution of labour was often the intricacies of tikanga and the role of whakapapa.

The idea of a Māori labour–gender hierarchy is disproved throughout Aotearoa by an inspection of descent lines, since "if one accepts that a male was always at the apex of the whakapapa, then it follows that a hapū or tribe should be the name of a man" (Mahuika, as cited in King, 1975, p. 92). That there are hapū across the country named after women, with their narratives handed down through that whakapapa, proves the significance of women and femininity in precolonial Māori society. Ngāti Kea/Ngāti Tuara is named after two prominent ancestors, Kearoa, the wife of Ngātoroirangi, and Tuara, the daughter of Ika. The hapū descends from a union of these two lines in Te Rangiwahitu and Te Uira, but it was Kearoa and Tuara whose mana was deemed high enough for them to become eponymous ancestors—not the respective men in their life. Aptitude and whakapapa lines have routinely been seen to trump gender when determining leadership:

> Metge says "women are frequently recognised as kaumātua" in their own right among the East Coast tribes. Buck says "in rare instances, a female ariki, such as the famous Hinematioro of Ngāti Porou, was raised to queenly pomp and power by her peoples". And Best notes "it occasionally happened that a well-born woman attained a high position in a tribe, owing to special qualities of mind and heart". (Mahuika, as cited in King, 1975, p. 91)

This chronicling of prominent women extends into the examples of Hinepare, who was given the same share of territory as her brothers; Hinerupe, whose sisters forfeited their territory on the basis of her greater ability; and the language of succession in Ngāti Porou, which is used without gendered connotation (Mahuika, as cited in King, 1975). It is thus obvious that while physiology may have played a role in assigning certain status, it was not the definitive or central characteristic it is today. Women were historically able to place themselves, and be placed, in positions of total authority, dismantling the misogynistic, colonial idea that that was only the domain of men. It is thus possible that gender-diverse Māori would also be able to place themselves, and be placed, in communities outside of the "typical" order.

Tapu, noa and mana

Tasks in precolonial Māori society were given tikanga in order to maintain certain propriety in honour of Gods. While this tikanga covered all aspects of life, such as keeping the preparation of food distinct from places of karakia or learning, it was—and often still is—most visible in its gendered iteration, including the women's karanga of tūpāpaku onto the marae to acknowledge Hinenuitepō (K. Mitchell & Olsen-Reeder, 2021). Hinenuitepō, as a feminine deity, was most appropriately served by a woman's karanga—but K. Mitchell and Olsen-Reeder (2021) ask "if it was the nature of tapu involved in a task that was a pivotal determinate for our tīpuna, and not gender" (p. 88). The nature of this tapu was contextual,

since tangata whakatāne/whakawāhine "were accepted without stigma. They played their roles openly and with the support of their communities" (Mead, 2016, p. 192), participating in tasks that aligned to their levels of tapu and noa and the propriety of their worship, such as weaving and combat. The connection between gender and tapu/noa is certainly visible, but not as direct as it has been made out in retellings after colonisation (Heuer, 1969).

The connection between femininity and noa is undeniable in traditional Māori social order because ruahine routinely used their inner thighs to restore the noa of food and men (Higgins, 2004), though the imposition of sexual darkness can be seen to derive from Christian notions of the "unsanitary" and solely female connotations of menstrual cycles (Jones, 2021; Maclean, as cited in Barnes & Tse, 2022). The people who have the greatest alignment to noa—those who menstruate, cook or practise black magic—are routinely dismissed on contemporary marae, seen as necessary yet inferior vessels of a corrupting power, despite its complementary status to tapu. Many feminist scholars (Madden, 1997) have argued against this common misogynistic view that female mana articulated through noa is negative and male mana articulated through tapu is positive (Marsden, as cited in King, 1975). Noa is not the inferior or destructive reverse to tapu, but the freeing counterweight to the heavy restriction that some states of tapu imply. Restoring the respect of noa restores a Māori way of conceptualising gender that does not favour masculinity, but understands balance.

The most tapu rank in precolonial Māori society was that of the tohunga, a revered expert chosen by the Gods to uphold knowledge from the celestial realm who trained in intensive whare wānanga isolated from the rest of the community (Mildon, 2011). In these whare wānanga, "male students were most often dedicated to the God of War and of human affairs, Tūmatauenga. Most often female students were dedicated to the Goddess of the Moon, Hineteiwaiwa" (Mead, 2016, p. 246). The whare wānanga was seemingly open on the basis of dedication and connection to deities—though they were often gendered, it was not always the case (Mead, 2016). If an individual studied under a deity that their gender prohibited, the relevant God could refuse to pass on the requisite knowledge to move past novice status (Reed, 2002). Thus, the existence of female tohunga shows that there were openings for various genders under the whare wānanga, provided the student had the ability to maintain the correct tapu and mana (Mildon, 2011).

Indicative, not definitive: Myth and narrative

A fluid approach to gender can also be seen throughout many precolonial Māori myths, such as the planting of the kūmara, in which "Makareti states that 'no woman could take part, for fear of polluting the tapu, which would be a great insult to Rongo'" (Madden, 1997, p. 61). The kūmara was considered to be under the domain of Rongomatāne, a masculine deity, and therefore, women were supposedly not allowed to plant them because of their connection to noa. Such tikanga comes from Makareti's Te Arawa context, but was "broken" by a prominent ancestor at the very arrival of Māori to Aotearoa. Whakaotirangi is credited to both the Tainui and Te Arawa waka as being the keeper of the kūmara seeds, a direct descendant from Panitinikau, the mother of the kūmara and partner of Rongomatāne (Reed, 2002). It was her mana and ability to maintain the integrity of the seeds that kept them safe as the waka moved across the Pacific Ocean, and when the tribe eventually settled, she oversaw the kūmara gardens at Pākarikari, one of the first major gardens in Aotearoa (Ihimaera, 2020). Not only did she take part in the planting regardless of "polluting the tapu", she oversaw it and has been remembered favourably for it.

The change of tikanga to allow Whakaotirangi to excel in her field, and keep her people fed on the long voyage from Hawaiki, emphasises this article's main point. While gender was a factor to consider—if Whakaotirangi possessed no other traits to increase her suitability for the role the task may have gone to someone more masculine and therefore connected to Rongomatāne—it was not the *most important* factor. Her skill, lineage and the necessity of the action overpowered her femininity and led to her success in the action. The idea of a mortal overcoming their own humane limitations in times of need is not a one-off in Māori oratory, and another ancestral narrative—privileging the perspective of the author's own Ngāti Awa, though it is worth noting that Te Whakatōhea argue that Muriwai is the protagonist—involves Wairaka, daughter of the prominent Mataatua waka captain Toroa.

The narrative most often cited is Te Awekotuku's 1991 retelling. When the Mataatua waka landed near Kaputerangi Pā, Toroa and the other men had left to secure their landing with a war party, but a great tide sprang up and dragged Mataatua to the

nearby rocks (Te Awekotuku, 1991). The women on board were restrained by tikanga that regarded waka as the tapu domain of the masculine, so Wairaka leapt up and cried, "Me whakatāne au i ahau/I will become a man", and steered the waka to safety (Te Awekotuku, 1991). Rather than reading the narrative as a definitive, eternal statement that says Wairaka is a trans man, which falls in line with Western ideals of gender transitioning (Halberstam, 1998), applying Māori notions of justice and punishment opens up a new perspective. Takatakahi, divine punishments, were not something that was brushed aside by precolonial Māori society, or indeed the Gods whose mana was challenged by such actions (Marsden, as cited in King, 1975). Punishments for takatakahi were severe, since "the price for not complying with Māori customary practice was death" (Ihimaera, 2020, p. 219). Challenging gendered conventions of tapu and noa in this way, often considered unthinkable in contemporary Māori contexts, was clearly considered passable in terms of the Gods, given that no party involved seemed to receive any divine punishment. In this iteration of the narrative, it is clear that the tikanga of gender bowed quickly to necessity, and Wairaka was left in solitude and her bloodline passed through her son, who was raised instead by his father (Bach et al., 2011).

Perhaps Wairaka's cry of masculinity was not a literal transition from binary female to binary male, since there is no record that she continued life as a man and many have taken her future relationship with Muriwai as a distinctly feminine love between a masculine woman and feminine woman (Bach et al., 2011; Elleray, 1999; Te Awekotuku, 1991). Instead, the moment she was "made man" was a temporary transition along the continuum of masculine and feminine, tapu and noa, tipping her into the side of masculine but not to become a male. Because tapu is often considered a means for people "to 'tap into' the mana necessary for overcoming usual human limitation" (Madden, 1997, p. 58), Wairaka's action may be read as a human "tapping into" a more masculine incarnation of her own mana, moving from a state of noa linked to her active menstruation (Ihimaera, 2020) into the state of tapu required to overcome the imitation of her physiology and perform the masculine task.

The place of gender diversity

Research and discourse surrounding Māori gender relations is increasingly urgent. Māori men receive disproportionately high levels of police attention (Brittain & Tuffin, 2017), and trans Māori women, particularly those in sex work, have highlighted the rampant physical violence, employment discrimination and frequent refusal of accommodations they face in their daily lives (Beyer, as cited in Casey, 2023; Escaravage, 2016). Young, Queer Māori have some of the country's highest rates of suicidality, self-harm and mental illness (Dudley, 2021; University of Otago, Wellington, 2020). The "issue" of the rights of women to speak on marae has been a topic of heated debate, and Irwin points out that if the issue of whaikorero is limited to one of pure sexism, without consideration of tikanga, "Māori culture and society, by association, are also identified as sexist" (as cited in Pihama, Tuhiwai Smith, Simmonds, Seed-Pihama, Gabel, & Te Wānanga-o-Raukawa et al., 2019, p. 72). Tensions around gender, Māoritanga and their influence on one another abound, and it is clearly bubbling to the surface across many modern Māori landscapes. As hormone replacement therapy, gender-affirming care and social transitioning become more accessible as well (Green & Pihama, 2023; Oliphant, 2021), there is increased participation of gender-diverse and takatāpui people within Māori spaces, such as the Matatini-level rōpū Angitū. New perspectives on how gender functions and changes within our communities are needed, and if these new perspectives are grounded in ancestral principles, then it is an obvious foundation for looking to the future of Māori gender acceptance.

Across Indigenous and decolonial political theory, the notion of horizontal violence, through which marginalised people, connected by shared violent histories and experiences, have a unique power to harm others in their communities (Freire, 2017; Kerekere, 2017; Lorde, 2019; O'Sullivan, 2021), is central. Horizontal violence is enacted as manifestations of internalised discrimination, unconscious appeals to the oppressor or to maintain any semblance of power that a marginalised population may have. This violence has led to a situation in which takatāpui people's "ability to live as their preferred gender relied on whānau recognition and acceptance which was not always forthcoming" (Kerekere, 2017, p. 102). The denial and discrimination of these Māori leads to a violent disconnect from Māori society that damages the mana and spirit of both the individual and their wider community, actively pushing many Māori away from efforts to revitalise our culture, language and relationship to land.

By challenging other Māori on the basis of their gender identity rather than the colonial

order, in which "the dimension of fluidity, so much a part of Māori tradition, was denied them" (Te Awekotuku, 1991, p. 102), Māori self-determination as a whole is held back. The denial of Māori gender fluidity is ultimately linked to the denial of a full Māori world, despite the insistence by many misogynist Māori that issues of gender identity are distractions from the ultimate goal of sovereignty (Simmonds, 2011). By abusing Indigenous gender diversity and choosing to uphold colonial ideologies, the colonial machine is able to perpetuate itself without needing a Pākehā insert because "it is in the interest of the oppressor to weaken the oppressed still further, to isolate them, to create and deepen rifts among them" (Freire, 2017, p. 114). Internal division between Māori who consider gender diversity a colonial import and those who consider gender diversity a recognised part of tradition and tikanga only serves to strengthen colonisation's grip on Aotearoa.

Audre Lorde (2019) makes clear that re-acceptance of gender diversity is a key step on the road towards decolonising any worldview because "by creating another whole structure that touches every aspect of our existence, at the same time we are resisting" (p. 95). Though her work centres on her own Black context, she applies broad analysis for any marginalised community that has been denied the ability to consider social structures in their own terms. Moving beyond imposed models of gender with a restoration of Indigenous gender models means a concrete shift away from the prescribed thinking of colonial regimes and towards thinking derived in Indigenous power. If "knowledge emerges only through invention and re-invention, through the restless, impatient, continuing, hopeful enquiry human beings pursue in the world, with the world, and with each other" (Freire, 2017, p. 45), then it is necessary for Māori to confront head on the supposed cornerstones of our traditions, challenge them and rejoin the process of perpetual inquiry that so characterised our ancestors. In order to be seen as an independent social structure, self-determining of our own pathways and engagements with the world, a return to the fluidity and dynamism that characterised our ancestors is required.

Tikanga must be allowed to do as it has always done and respond to circumstance, rather than being condemned to a stagnant, historic set of laws that cannot be broken or bent. Moving away from this ability to adapt to the world around us "has a negative impact on the present. Knowledge of whakapapa creates strength and conviction—if takatāpui were accepted by our tūpuna, so they should be accepted today" (Kerekere, 2017, p. 143). Concrete assertions that "women are X and men are Y and that is the Māori way" do not have a place in Indigenous struggles for sovereignty and a restoration of traditional roles and rights, and puts the individual, a human influenced by their own desires, upbringing and biases, above tikanga passed through generations and endorsed by mana and tapu.

Conclusion

Gender diversity is an often neglected area of exploration within Kaupapa Māori research, yet it holds profound implications for the Māori community. By embedding rigid gender ideologies into Māori traditions, we inadvertently weave a colonial agenda within our own cultural fabric. This research has endeavoured to begin filling a significant gap in Māori gender literature by exploring narratives and structures originating before the disruptive influence of colonisation and European ideals. From an understanding of the reasons for the invisibility of Māori gender diversity, to various examples of how gender has been negotiated within different Māori groups and times, this research shows that physiological gender binaries may not be as solid as they appear. Ultimately, this research argues that understanding and embracing gender diversity is not only beneficial for gender-diverse and trans Māori but for the entire Māori community. It signifies a departure from colonial ideologies and a reaffirmation of our own cultural norms, pushing us forward by casting our eyes back.

Glossary

ariki	leader
hapū	internal tribal unit
Hinenuitepō	Goddess of death
ira	soul, spirit, essence
irakore	non-binary
karakia	prayer; chant and incantation
karanga	ritual call
kaumātua	elder
Kaupapa Māori	Māori based topic/event/enterprise run by Māori for Māori
kete	basket made of flax strips
kūmara	sweet potato
Māhorahoranuiarangi	daughter with infinite capacity

mana	inherent authority of spirit passed by Gods
Māoritanga	the very essence of being Māori
marae	communal meeting and living space
Ngāti Awa	traditional inhabitants of Whakatāne
Ngāti Kea/Ngāti Tuara	traditional inhabitants of Horohoro
noa	humane protection
oriori	lullabies/soothing chants
Pākehā	a person of predominantly European descent
Papatūānuku	Earth Mother
pūrākau	narrative
Ranginui	Sky Father
rōpū	group
ruahine	post-menopausal people
takatakahi	transgression of tikanga
takatāpui	Queer Māori
takatāpuitanga	Māori Queerness
tangata whakatāne/ whakawāhine	transgender men/women
tapu	sacred protection
te ao Māori	the Māori world
Te Kore	The nothingness
Te Mangu	son of darkness
te ura awha	the female spirit line
Te Whakatōhea	traditional inhabitants of Ōpōtiki
te whare tangata	the womb
tikanga	right way of acting/due process
tohunga	expert, skilled, learned
tūpāpaku	dead body
tūpuna	ancestors
wāhine	feminine Māori
waka	ancestral canoe
whaikōrero	formal speech, oratory
whakairo	carving
whakapapa	genealogy both ancestral and descendant
whānau	political and familial unit
whare wānanga	formal learning institutions

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WHAT'S IN THE KETE?

An inventory of Māori-centred resources for disaster preparedness in Aotearoa New Zealand

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Abstract

Māori collectives are drawing from mātauranga and asserting rangatiratanga over disaster preparedness for the wellbeing of their communities. However, long-standing impacts of colonisation have contributed to Māori being disproportionately impacted by disasters, and to a lack of knowledge concerning the existence and availability of Māori-centred disaster risk and resilience (DRR) tools that help whānau prepare. Two key findings were drawn from a desktop literature review and thematic analysis. Firstly, government DRR policies and guidelines in Aotearoa New Zealand which reference te Tiriti o Waitangi | the Treaty of Waitangi rarely refer to DRR knowledge exchange with Māori communities or Māori-centred DRR tools. Secondly, there are some Māori-centred DRR education tools being created by collaborative teams either led by or partnering with Māori. However, many of these tools are hard to find, and there is little evidence to indicate their impact, uptake and sustained resourcing. The authors discuss these findings, current barriers to uptake, and present further research opportunities.

Keywords

disaster risk and resilience (DRR), disaster preparedness, DRR communication, education tools, Māori-centred

Mihimihi

This research is guided by the following whakataukī:

> Kotahi karihi nāna ko te wao tapu nui a Tāne.
> *The creation of the forests of Tāne comes from one kernel.*
> —Professor Te Wharehuia Milroy CNZM QSO

Ka nui te mihi e aku rakatira kua auaha ngā ara ki tēnei wāhi rakahau ki āhei i ngā rakatahi kairaka-hau. Ka nui tā tātou aroha mō tō koutou māia ki te hāpai i ngā mātauraka e pā ana ki te manawa ora, me haumaru o ngā hapori Māori puta noa i ngā motu kei roto i te ao hurihuri.

Nō Te Waipounamu a Ruby, he uri ia nō Kāi Tahu, Kāti Māmoe me Waitaha.

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He rakatahi kairakahau rāua, kei te hiahia rāua i te āwhina mō ngā kaupapa haumaru e haere ake nei.

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Introduction

Disaster risk and resilience (DRR) is a part of Indigenous knowledge systems worldwide, a knowledge which has been well recognised in global strategies since the mid-1990s (Lambert & Scott, 2019). The Sendai Framework for Disaster Risk Reduction 2015–2030 (SFDRR) explicitly notes and encourages utilising Indigenous knowledge in DRR practices and policies (United Nations Office for Disaster Risk Reduction [UNDRR], 2015). The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) acknowledges the collective rights of Indigenous peoples as paired with rights of individuals (United Nations [UN], 2008). UNDRIP therefore acknowledges the right to mana motuhake for Māori, the Indigenous peoples of Aotearoa New Zealand. The declaration states that Indigenous peoples have "the right to revitalize and transmit to future generations their histories, language, oral traditions, philosophies, writing systems and literatures, and to designate and retain their own names for communities, places, and persons" (UN, 2008, Article 13.1) as well as "the right to establish and control their educational systems and institutions providing education in their own languages, in a manner appropriate to their cultural methods of teaching and learning" (UN, 2008, Article 14.1). Despite the rights set out in UNDRIP, long-standing impacts of colonisation and marginalisation have meant Indigenous peoples are often disproportionately impacted during natural disaster events (Howitt et al., 2012; Lambert & Scott, 2019). Education and preparedness are a way forward, but these need to be grounded in cultural knowledge and created using cultural methodology to be effective (Howitt et al., 2012).

Māori are recognised globally for asserting rangatiratanga over DRR (UNDRR, 2022). Māori have experienced natural processes such as earthquakes, tsunami, volcanic eruptions, severe weather events and landslides over centuries and have adapted their knowledge system, cultural customs and protocols to enhance their resilience (Gabrielsen et al., 2017; Kenney et al., 2023; King & Goff, 2010). Aotearoa is now a multicultural society, but it was founded by te Tiriti o Waitangi | the Treaty of Waitangi between Māori and the British Crown in 1840. New Zealand is a signatory to the SFDRR, which highlights the importance of education in resilience (UNDRR, 2015). In accordance with te Tiriti and the SFDRR, the previous Labour-led government sought to achieve aspirations detailed within UNDRIP (Te Puni Kōkiri [TPK], 2022). However, under the Equal Citizenship section of the Coalition Agreement between the National Party and New Zealand First, "the Coalition Government does not recognise the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) as having any binding legal effect on New Zealand" (New Zealand National Party & New Zealand First, 2023, p. 10). This raises concerns around the new government's position concerning the rights of Indigenous peoples.

The need to enhance community resilience and disaster risk awareness throughout Aotearoa when we are facing increased threats due to climate change is of national regard (New Zealand Government, 2018, 2019). In January 2023, Tāmakimakaurau, Te Tai Tokerau and Waikato experienced unprecedented precipitation and flooding, following which Māori were quick to mobilise personnel to help on the ground and make marae available for whānau in need (Bush International Consulting, 2023). Only a month later, Te Ika-a-Māui was hit by Cyclone Gabrielle, with rural Māori communities throughout Te Matau-a-Māui, Te Tai Rāwhiti, Te Tai Tokerau and Te Tara-o-te-Ika-a-Māui being among those hit hardest (Harrington et al., 2023). Māori have long been underrepresented in mainstream disaster risk preparedness (Kenney & Phibbs, 2015) despite their consistently effective responses to disaster events, something which emphasises the value of weaving Indigenous knowledge into DRR education and communication.

DRR in Aotearoa aligns with global DRR theory, which is rooted in Western science (Kenney et al., 2023). Consequently, DRR concepts, including

hazards, exposure, vulnerability, readiness, response, disaster risk, recovery and resilience, are communicated using this perspective, and DRR tools and resources are designed with this lens (Kaiser & Boersen, 2020). Furthermore, the current organisation of Aotearoa's DRR system into Four R's: Risk Reduction, Readiness, Response and Recovery (New Zealand Government, 2019) is compartmentalised and may not align with Māori perceptions of DRR, potentially creating barriers to partnership, engagement and knowledge exchange, most notably in the Reduction and Readiness phases, for which there is limited Māori-led research.

This article considers "Māori-centred" tools and resources as being made through processes undertaken by Māori researchers and research partners for the benefit of Māori communities using a Kaupapa Māori (by Māori, for Māori) research approach. This approach addresses Māori concerns and is undertaken by Māori researchers, holding kaupapa and mātauranga Māori at the centre of all research processes (Kenney et al., 2023; L. T. Smith, 2015). DRR education and communication tools are critical in initiating dialogue and necessary relationships between those who respond to disasters, including community members, iwi and hapū, first responders, and mandated agencies (Gabrielsen et al., 2017; Kenney et al., 2015). However, it is not yet clear what is being done to improve Māori disaster preparedness and resilience, as DRR knowledge creation and exchange with Māori communities and organisations is limited (Blackett et al., 2021; Gabrielsen et al., 2017). Mainstream DRR approaches taken by the Crown, such as the Four R's approach, have diminished the importance of mātauranga Māori and iwi communication and education methods, inhibiting the resilience of iwi/Māori communities (Gabrielsen et al., 2017).

The purpose of this research was to identify existing and available education tools and resources that focus on DRR knowledge exchange with and within Māori communities; record their diverse purposes, creators and target audiences; and identify the challenges or learnings in the process of their creation in order to evaluate gaps and determine what further research is required. This project also sought to understand the extent to which government strategies, policies, regulations or other incentives are driving the creation of these tools and resources, and in this way begin a discussion about future opportunities to support further knowledge exchange and generation of Māori-centred DRR education and preparedness resources.

Mātauranga Māori and DRR

Māori have extensive knowledge surrounding DRR (Kenney et al., 2023; King & Goff, 2010), which has not been well recognised in Aotearoa's conventional DRR tools and practices (Kaiser et al., 2020). "Mātauranga Māori" is a term that refers to the overarching system of Māori Indigenous knowledge (Durie, 2003, 2017), the connections between the land, whānau and the whole of the natural environment (Repia & Bailey, 2021). It is an ever-evolving system, which Tā Hirini Moko Mead (2003) explains as encompassing "all branches of Māori knowledge, past, present and still developing" (p. 305).

There is growing recognition of mātauranga and increasing Māori scholarship in DRR, although published literature remains limited. Kenney and Phibbs (2015) state that Māori approaches to disaster and risk reduction are underpinned by mātauranga Māori, tikanga and Kaupapa Māori, with whakaoranga iwi whānui as the outcome sought. King and Goff (2010) explain that the term "mātauranga taiao", which encompasses Māori knowledge of natural hazards and DRR, and is inherently linked with mātauranga Māori, has a broader meaning than "disaster risk". It is evident Māori have their own knowledge generation and transition methods around disaster risk that are adaptable to societal and environmental changes and need to be considered in mainstream DRR.

Iwi and hapū use oral traditions and stories as tools to transfer mātauranga, drawing on local understandings to adapt and revitalise this living knowledge base through the generations (King & Goff, 2010; King et al., 2007). For example, pūrākau are a traditional method of storytelling (King & Goff, 2010), along with pepeha, whakataukī, mōteatea and waiata (King et al., 2007). Knowledge was also transferred via place names and visual methods including whakairo, tukutuku and pouwhenua (King et al., 2007; Repia, 2018; Royal Society Te Apārangi, 2021). Many of these stories and methods communicate risks, potential impacts, and how to reduce risks, and often involve incidents with taniwha and co-occur with breaking tikanga or tapu practices, resulting in increased severity of impacts (King & Goff, 2010). Tapu was often placed on areas, actions or objects to discourage certain behaviours, reducing risk to both people and the environment (King et al., 2007).

The intergenerational transmission of knowledge is common to many Indigenous peoples and is used to accumulate and refine knowledge obtained through past experiences of natural events (Lambert & Mark-Shadbolt, 2021). Through these intergenerational experiences and stories, communities develop a deeper knowledge concerning these natural events, resulting in more effective rohe-specific risk reduction through time (King & Goff, 2010). Utilising oral traditions and pūrākau supports whanaungatanga and creates a space for Māori research to be represented and communicated with and within Māori communities (Kaiser et al., 2020). Having spaces where Māori can contribute their perspectives and knowledge, and be not only heard but understood, is greatly needed in DRR (Lambert & Mark-Shadbolt, 2021).

Education and DRR

In te ao Māori, tamariki and rangatahi are considered critical and precious agents for knowledge creation and exchange (Lambert & Mark-Shadbolt, 2021). The consideration of tamariki and rangatahi in Western emergency management, which is driven from the top down by central and local government DRR communications, is very limited (Kaiser & Boersen, 2020; Kaiser et al., 2020). Disaster education tools and media aimed at the public have traditionally been targeted towards adults. This has begun to change in recent years to incorporate disaster education in schools and youth programmes (Johnson et al., 2014; Kaiser & Boersen, 2020). Hazard education programmes in school settings have been found to increase risk awareness and knowledge in children, especially when these tools are interactive, can be discussed and applied at home, and include relevant actions children themselves can take to be more prepared (Ronan & Johnston, 2001).

Aotearoa is growing proficiency in the DRR education space, with research showing that interactive, action-based DRR education and communication tools can be effective in increasing community preparedness (Vinnell et al., 2020). DRR education tools discussed in this article encompass knowledge exchange tools and resources in both formal and informal education settings, with the purpose of achieving Priority 1 (Understanding disaster risk) of the SFDRR (UNDRR, 2015). Currently, many DRR education tools have been created for a generic audience (Kaiser & Boersen, 2020) and privilege Western scientific discourse (Howitt et al., 2012). However, as Harmsworth and Raynor (2005) explain, there is a difference in how people of different cultures understand, interpret, perceive, assess and manage information regarding disaster preparedness. Therefore, bespoke education tools designed by and for Māori may be more effective in communicating DRR information to, and engendering action among, Māori (Kaiser & Boersen, 2020).

Current happenings in the Māori DRR education space

In recognition of Māori responses to recent earthquakes and flooding (Bush International Consulting, 2023; Kenney & Phibbs, 2015), the recent National Disaster Resilience Strategy aspires to build relationships with Māori representatives as well as to recognise and integrate Māori perspectives (New Zealand Government, 2019). However, in contrast, the Civil Defence Emergency Management (CDEM) Act 2002 makes no mention of Māori (Department of Prime Minister and Cabinet [DPMC] & National Emergency Management Agency [NEMA], 2020). Any acknowledgement of Māori in more recent emergency management legislation is limited to merely "considering" the knowledge and advice, recommendations and perspectives of Māori (New Zealand Government, 2018, 2019).

The present DRR framework for allowing Māori to exercise tino rangatiratanga (Te Tiriti o Waitangi [Māori version], 1840, art. 2) and ōritetanga (Te Tiriti o Waitangi [Māori version], 1840, art. 3) is still inadequate (Bush International Consulting, 2024; Kaiser & Boersen, 2020; NEMA, 2021). As noted above, national strategies and monitoring tools were being reviewed under the previous Labour-led government to work towards achieving aspirations set out in the UNDRIP (TPK, 2022) and respond to recommendations from the Ministry of Civil Defence and Emergency Management (MCDEM)'s Technical Advisory Group (MCDEM Technical Advisory Group, 2017). Furthermore, an Emergency Management Assistance Team had been established, which had the opportunity to enhance the proficiency of Civil Defence's engagement with iwi. The team included experienced public information managers with the capability to engage with Māori (MCDEM, 2019). However, a limitation of this system reform is a lack of research around DRR knowledge exchange and risk communication for and with Māori communities and Māori-centred DRR education tools. On 8 May 2024, the Emergency Management Bill 225-1 (2023) introduced under the previous Labour-led government to replace the CDEM Act (2002) was discharged by the present government. Some of the purposes

of this bill were to recognise and enhance the role of Māori in emergency management, providing financial mechanisms for funding iwi for their role in emergency management and requiring Māori membership on "Emergency Management Committees and Emergency Management Co-ordinating Executives". It also contained a section pertaining to the Crown's responsibility under te Tiriti o Waitangi. With the discharging of this Bill, the opportunities for tino rangatiratanga and ōritetanga remain uncertain and the need for research-informed decisions is amplified (Gunson & Perese, 2024).

Methodology and methods

This research was led by Māori authors guided by Kaupapa Māori research values, including whakapapa, rangatiratanga and tikanga (Pihama, 2015; Ratima & Wikaire, 2021; G. Smith, 1992; L. T. Smith, 2015) within the bounds of a limited project scope. The intent of this research was to support notions of rangatiratanga by providing information to uplift other projects and policy changes that support Māori aspirations around DRR knowledge exchange and DRR education tools.

The availability, design scope and limitations of current Māori DRR tools and communication methods with and within Māori communities were analysed through a desktop review of academic and grey literature. Material reviewed included peer-reviewed literature, online material such as government and iwi websites, iwi management plans, Aotearoa risk reduction policies and guidelines, and relevant case studies to gain insights into DRR communication tools and resources currently available which are centred around Māori communities.

To identify references to te Tiriti or Māori in government-level documents relating to DRR in Aotearoa, we searched for the following keywords: "Tiriti o Waitangi", "Treaty of Waitangi", "Māori", "iwi", "hapū" and "whānau." Hits were limited to one per sentence as "Māori", "iwi" and "hapū" were often used repetitively. Any mentions in titles, footnotes, appendices or references were not included as they were not regarded as making a relevant contribution to this assessment. Target audiences for Māori-centred DRR education and communication tools were categorised as either experts (defined as DRR professionals/officials/managers), adults (public), kaumātua, rangatahi and/or tamariki. This formed the basis for creating an inventory of available Māori-centred tools and resources to inform future work and research.

Results

Seven out of the 10 government-level documents reviewed in this research relating to DRR in Aotearoa contained mentions of Māori in discussions surrounding communication methods or education tools. Total mentions of Māori in government-level documents relating to DRR in Aotearoa ranged from 0 to 54, while the number of key extracts pertaining to Māori-centred DRR communication or education tools ranged from 0 to 2 per document. Where Māori are mentioned, the need for improved relationships and effective communication with and within Māori communities is a recurring theme, especially in documents published from 2018 onwards.

As Table 1 shows, only three of the 10 government documents reviewed make reference to te Tiriti. In documents written before the release of the updated National Disaster Resilience Strategy in 2019, there are no references to te Tiriti. Two documents published in 2019 and 2022, respectively, do not mention te Tiriti either (MCDEM, 2019; NEMA, 2022). Recent revisions and alterations to policies and plans regarding DRR specify the need to engage, consider and collaborate with Māori across the emergency management system (NEMA, 2021; New Zealand Government, 2018). However, there is little guidance on how to collaborate across different units of modern Māori society (i.e., whānau, hapū, hapori, iwi and Māori organisations).

Table 2 identifies 14 Māori-centred DRR communication and education tools and resources which have been created for a range of purposes. Nine were created within the past six years, and 11 were designed to increase awareness by sharing knowledge of the processes behind hazards and the risks to communities. Earthquakes and tsunamis were the focus of five, two focused on flood risk, and one on volcanic risk, while each of the remaining six included information on a range of natural disasters. Like mentions of Māori in government-level documents, the number of Māori-centred tools also appeared to increase following the Christchurch and Kaikōura earthquakes, with Kia Takatū being the only tool created prior to 2014.

The 14 education tools and resources identified were created for a range of target audiences. Of the 10 that were targeted at tamariki, four were designed to be applied in school-based settings, four were place-based and five were grassroots initiated/community-led. Most of the 10 tools were difficult to find, and there was limited access to the tools themselves. Kia Toka Tōku Ao; Rū Ana, Takatū Ana; and Kia Takatū were

TABLE 1 References to te Tiriti o Waitangi or mentions of Māori in government-level documents relating to DRR in Aotearoa

Document	Refers to te Tiriti/ the Treaty?	Mentions Māori?	Total mentions	Key extracts pertaining to DRR communication with Māori communities or Māori-centred DRR education tools
Civil Defence Emergency Management Act 2002	No	No	0	N/A
National Disaster Resilience Strategy (New Zealand Government, 2019)	Yes	Yes	54	"It is committed to an inclusive, community approach to resilience. It is focused on putting people at the centre of resilience, including an emphasis on manaakitanga and wellbeing. It aims to build the relationship between iwi and agencies with roles in the emergency management system (before emergencies happen). It also seeks to build recognition of the role culture—including kaupapa Māori and tikanga Māori—plays in our wider resilience" (p. 21).
Consistent Messages for CDEM (NEMA, 2022)	No	Yes	24	"Marae preparedness planning enhances resilience and safety of marae, taonga and iwi, assisting te hau kāinga (the people of the marae) and te haupori (the wider community) to understand and manage their risks" (p. 24).
Emergency Management System Reform: Programme Update (MCDEM, 2019)	No	Yes	5	"The Emergency Management Assistance Team includes experienced Public Information Managers and capability to engage with Māori" (p. 2). "Consider legislative changes or regulations that would require civil defence emergency management consultation with iwi/Māori when planning" (p. 7).
Updating the Legislative Framework to Strengthen New Zealand's Response to Emergencies—Tranche One [Proactive Release] (DPMC & NEMA, 2020)	Yes	Yes	14	"As part of developing the Government Response, the former Minister of Civil Defence held some discussions with some iwi and marae representatives about the TAG's recommendations to more fully recognise the contribution of iwi/Māori to effective emergency management. This resulted in the Government agreeing to provide for iwi/ Māori representation on CDEM Coordinating Executive Groups, and to explore a requirement for CDEM Groups to consult iwi on key planning documents, as part its broader response to TAG" (p. 12, para. 67).
Terms of Reference for Ministerial Advisory Committee on Emergency Management (NEMA, 2021)	Yes	Yes	27	"As part of supporting an approach that enables rangatiratanga NEMA looks to improve its ability to enable Māori specific solutions. Specifically, advice provided will ensure that there are no structural boundaries to enabling Māori leadership and engagement across the emergency management system" (para. 9).
Delivering Better Responses to Natural Disasters and Other Emergencies (New Zealand Government, 2018)	No	Yes	22	"We agree that these teams should include experienced Public Information Managers and Strategic Communications experts as required, and the teams should have the capability to engage effectively with local Māori" (p. 28). "Standardising best practice across the response framework, including a full range of communication channels e.g. iwi radio, access radio, social media" (p. 39).
Ministry of Civil Defence & Emergency Management Business Plan 2018–2022 (MCDEM, 2018)	No	Yes	8	"The Ministry is committed to strengthening the relationship between Māori and the CDEM stakeholders. Iwi, hapū, whānau, and Māori communities play an important role not only in community resilience building, but also during response and recovery when affected communities may be supported with manaakitanga" (p. 13). "The Ministry will continue to work alongside central and local government to build stronger relationships with iwi, hapū, whānau, and Māori communities to develop strategies for engagement across the 4Rs of risk reduction, readiness, response and recovery and community resilience building" (p. 13).
The Guide to the National Civil Defence Emergency Management Plan 2015 (DPMC, 2015)	No	Yes	38	N/A
National Civil Defence Emergency Management Plan Order 2015	No	Yes	17	N/A

TABLE 2 Available Māori-centred DRR education and communication tools

Māori-centred DRR tool	Creators	Funding source	Purpose	Key audience	Year tool was created
Marae-opoly (Colliar & Blackett, 2018)	Maungaharuru-Tangitū Trust and Tangoio Marae in affiliation with NIWA	Deep South National Science Challenge	Increase risk awareness and identify potential plans to reduce risk of flooding to the marae with climate change.	Rangatahi, adults, kaumātua	2016
Project Rūaumoko ("Collaborative Project Opens Conversations", 2021)	Ngāti Kahungunu Wairoa Taiwhenua Inc with support from GNS Science and East Coast Lab	Hikurangi Subduction Zone Endeavour Project	Build capacity to create mātauranga Māori based educational tools communicating earthquake and tsunami risk.	Tamariki, rangatahi, adults, kaumātua	2021
Te Hīkoi a Rūaumoko (Andrews et al., 2014)	Hawke's Bay CDEM Group, Ministry of Education, Te Puni Kōkiri, Ngāti Kahungunu Iwi Incorporated, Te Ūrunga Waka at the Eastern Institute of Technology and Kahungunu Kōhanga Reo Tari	MCDEM Resilience Fund, Te Hīranga Rū QuakeCoRE	Communicate Ngāti Kahungunu stories of Rūaumoko and increase tsunami risk understanding.	Tamariki	2014
Kia Toka Tōku Ao (House of Science, n.d.)	House of Science—Te Whare Pūtaiao	Unknown	Create an engaging and effective learning environment surrounding earthquakes, earth layers, tectonic plates, and liquefaction.	Tamariki, rangatahi	No date
Rū Ana, Takatū Ana (Te Papa & Toka Tū Ake Earthquake Commission [EQC], 2020)	Toka Tū Ake EQC & Te Papa	Toka Tū Ake EQC	Educational tool for teachers to help students build outcomes to help with the impacts of earthquakes and develop new ways forward.	Tamariki, rangatahi	2020
Kia Takatū (Waho et al., 2008)	CDEM and a working group of representatives from the Māori community	MCDEM	Māori version of "What's the Plan Stan", designed as an education tool for teachers and tamariki increasing risk awareness and understanding to be better prepared.	Tamariki	2008
LEARNZ—Natural Hazards: Our Taupō Supervolcano (LEARNZ, n.d.)	University of Canterbury, GNS, Core education and the ECLIPSE program	Commissioned by Toka Tū Ake EQC via ECLIPSE programme	Bi-cultural natural hazards virtual field trip raising risk awareness and identifying steps to increase readiness.	Tamariki, rangatahi	2019
Iwitea Community Resilience Plan (Iwitea Whānau, 2021)	Community of Iwitea in collaboration with Hawke's Bay Emergency Management Group	Unknown	Foster and increase resilience.	Rangatahi, adults, kaumātua	2021
Te Puni Kōkiri (TPK) Marae Emergency Preparedness Plan (TPK, 2018)	Bay of Plenty CDEM Group, Te Puni Kōkiri and NEMA	Te Puni Kōkiri, NEMA	Increase the preparedness of a marae via a template of personal and resources at the marae as well as what hazards may impact the area.	Adults, kaumātua	2017
Papa Wiri Project (QuakeCoRE, 2020)	Anne-Marie and Benoir Midwood-Murray, Brandy Alger, Kristie-Lee Tamati, Lucy Kaiser in collaboration with Whānau of Te Kapa o Te Rangiita ki Oruanui and Whānau of Ngāti Tūwharetoa, Te Rūnanga o Ngāi Tahu Whānau & Emergency Response Team, Te Rūnanga o Moeraki and others	QuakeCoRE, Toka Tū Ake EQC	Create Māori-centred educational tools and engage with tauiwi and Māori concerning Aotearoa's resilience to natural hazards.	Tamariki, rangatahi, adults, kaumātua	2018
Pouwhenua (Repia, 2018)	Harmony Repia, Jo Bailey, and community participants from Tūranganui-a-Kiwa	Joint Centre for Disaster Research Massey University, GNS Science	Master's research project. Increase tsunami and earthquake awareness in Tūranganui-a-Kiwa through a different medium of storytelling.	Tamariki, rangatahi, adults, kaumātua	2021
Nanny Kui (Te Pāti Māori, 2023)	Te Pāti Māori	Te Pāti Māori	Campaign communicating and educating risk associated with flooding and Cyclone Gabrielle.	Tamariki, rangatahi, adults, kaumātua	2023
What's in Your Bag? Whānau Go Bags (Ngai Tahu, 2022)	Te Rūnanga o Ngāi Tahu	Te Rūnanga o Ngāi Tahu	YouTube video communicating what should be in an emergency go-bag.	Rangatahi, adults, kaumātua	2022
Kauraka e Mataku, Kia Takatū! (Te Rūnanga o Ngāi Tahu, 2023)	Te Rūnanga o Ngāi Tahu	Te Rūnanga o Ngāi Tahu	Video campaign to help plan and prepare for emergencies	Tamariki, rangatahi, adults, kaumātua	2023

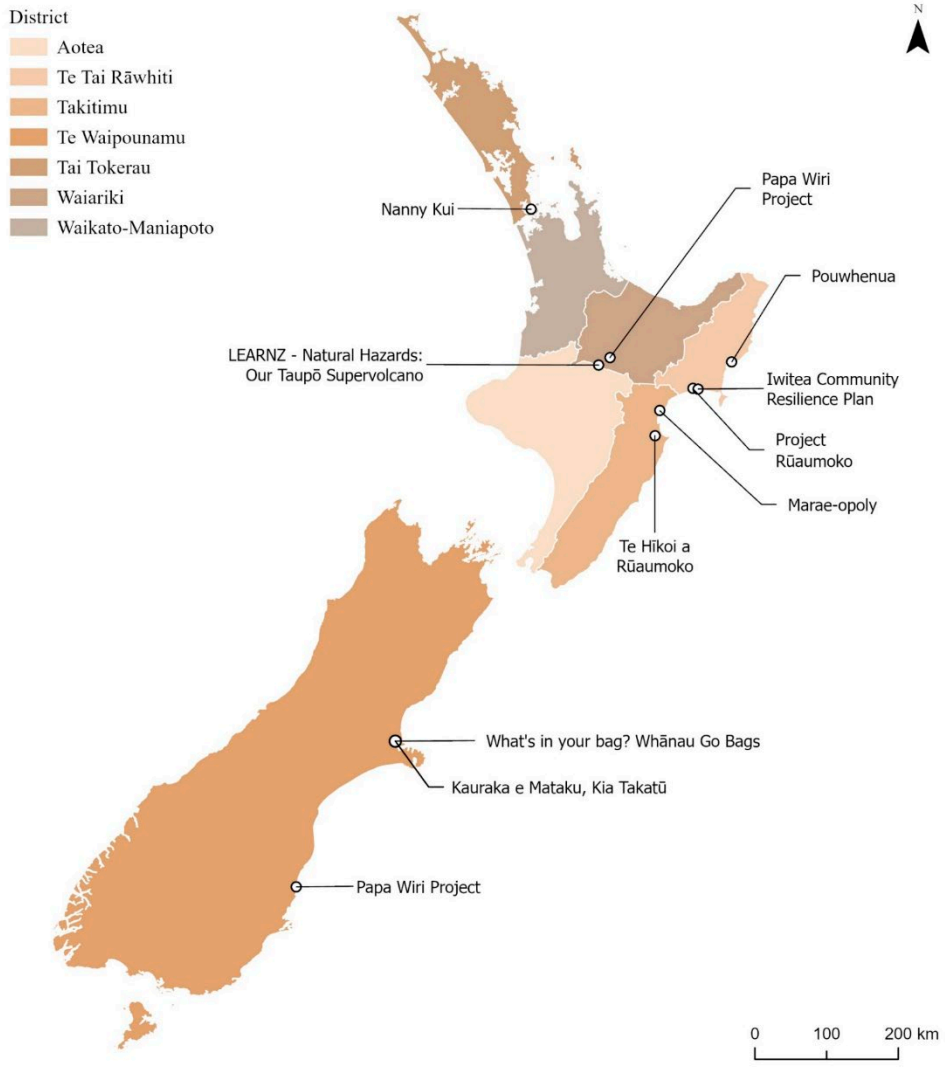

FIGURE 1 Distribution of Māori-centred DRR education and communication tools by region

Note: Several tools created for a national audience have not been mapped, including Kia Toka Tōku Ao; Rū Ana, Takatū Ana; Kia Takatū; and the TPK Marae Emergency Preparedness Plan.

simply translations of existing English DRR school resources, as opposed to being specifically centred around Māori schools/communities.

Māori-centred tools appear to have been created by a range of collaborators using various methodologies and creation processes. Most tools appear to have been created in isolation from one another, through short-term research projects driven by Māori researchers with marae and iwi. Exemptions include the Iwitea Community Resilience Plan and Te Hīkoi a Rūaumoko, examples of collaboration between communities and local CDEM groups to generate DRR conversations and plans specific to their area (Gisborne District Council, 2022). The TPK Marae Emergency Preparedness Plan and Nanny Kui were the only central government–led DRR tools found which were centred around Māori communities. Nanny Kui was developed by Te Pāti Māori as an in-the-moment DRR campaign as flooding events and Cyclone Gabrielle unfolded in 2023 and was well received by the public, judging by the high number of interactions with campaign social media posts (Te Pāti Māori, 2023). The TPK Marae Emergency Preparedness Plan is designed to encourage several key kaupapa central to Māori emergency management and DRR (Royal Society Te Apārangi, 2021), including mana motuhake, rangatiratanga, kaitiakitanga and whakawhanaungatanga.

In terms of geographical spread, most tools have been developed with communities in Te Ika-a-Māui. Most have originated from the East Coast

of Te Ika-a-Māui (Figure 1), again focusing predominantly on earthquake and tsunami risk. There is no documentation suggesting that Te Tairāwhiti was specifically prioritised for tool development based on disaster risk, and the funding sources for these tools are diverse across National Science Challenges, Endeavour Funds, Crown Research Institute strategic funds, emergency management/CDEM funds and Centres of Research Excellence.

However, there are a number of Māori DRR researchers and leaders with whakapapa to the region leading or involved in large research programmes (Awatere et al., 2021; Kaiser et al., 2020; Repia & Bailey, 2021; Tapuke et al., 2023). There are also proactive iwi researchers and representatives (Pohatu & Warmenhoven, 2007) as well as local CDEM groups with active education and outreach programmes and broker capacity through vehicles such as East Coast Lab (Kaiser & Boersen, 2020), all of which may have helped to facilitate these projects.

Most of these tools were created using mātauranga from the involved iwi and kōrero tuku iho of the processes behind earthquakes and tsunamis. The creation of Marae-opoly drew from mātauranga from Tangoio Marae during hui organised and hosted by Maungaharuru-Tangitū Trust. Marae-opoly was based on a shared foundation from which appropriate adaptation pathways could be considered (Blackett et al., 2021). Hui and workshops with iwi members were also used in the creation of the pouwhenua to understand stories from the rohe. Surveys were another common method used to understand communities' risk preparedness and awareness in the beginning stages of making these tools and resources (Repia, 2018). For the remaining tools, project documentation did not disclose the methodology or processes of their creation.

Discussion

The number of mentions of te Tiriti and/or Māori in governmental documents peaked in 2019, which is likely due to the effective response of Māori to the Kaikōura earthquake (2016) and Edgecumbe floods (2017) (New Zealand Government, 2019). However, this increase was not reflected in the number of mentions of Māori-centred DRR communication or education tools. As can be seen in Table 1, mentions of te Tiriti and/or Māori dropped from the high of 59 in 2019 to 14, 27 and 24 in 2020, 2021 and 2022, respectively.

Relying on passion projects

Currently, most Māori-centred DRR education tools are being driven by small collaborative teams, hapū/iwi representatives, community groups, Māori students, and early career researchers and their mentors (e.g., Andrews et al., 2014; Iwitea Whānau, 2021; LEARNZ, n.d.; Repia, 2018; Waho et al., 2008). Consistent with the findings of Kaiser and Boersen (2020), these projects are occasionally funded by small and short-term contestable research grants. In the absence of government incentive and long-term investment, these small-scale projects are worth celebrating. However, there appears to be little coordination or strategic prioritisation for these tools in areas that may be more at risk than others (McNaughton & Van Hove, 2014). While larger iwi organisations may have specific Māori-centred tools and resources accessible to them through these collaborations and/or access to funding to create their own, smaller or isolated communities may be left on the back foot in regard to participation in DRR procedures (McNaughton & Van Hove, 2014). These smaller communities are less likely to have either the resources or personnel available to tailor DRR tools to their rohe, making actions and funding at the government level crucial (McNaughton & Van Hove, 2014). This could lead to communities relying on passion projects to effectively include their expectations, needs and practices (Kaiser & Boersen, 2020; Kenney & Phibbs, 2015), as opposed to there being an existing and resourced space for mana motuhake in preparing for disaster events.

Māori-centred DRR education tools are difficult to find, potentially leading to the limited application or assessment of effectiveness outside of their initial programme. Marae-opoly effectively engaged a wide range of audiences and generated risk conversations during its development (Colliar & Blackett, 2018), yet due to project limitations of a short time-frame and limited budget for wider implementation and uptake, there are no further public examples of its use outside of the design stage. Similarly, although teachers were interested in further development and increased distribution of the educational tool Kia Takatū (Renwick, 2012), no evidence of its use was found. In a government-led policy response, however, we would expect to see investment in these resources for wider community uptake. Many of the more recent educational tools, such as Project Rūaumoko; Te Hīkoi a Rūaumoko; and Rū Ana, Takatū Ana, focus on earthquakes and tsunamis, aligning with the current educational tools emphasising risk and

awareness of disasters which occur more regularly (Kaiser & Boersen, 2020). LEARNZ (n.d.) was the exception to this, communicating the impacts of volcanoes via an educational virtual field trip. Evaluations have yet to be made of the continued use and effectiveness of these tools, research which is required to support their longevity.

Many of the tools identified were created in collaboration with Māori communities (Andrews et al., 2014; Colliar & Blackett, 2018; Iwitea Whānau, 2021; LEARNZ, n.d.; Ngai Tahu, 2022; Repia, 2018; TPK, 2018; Te Rūnanga o Ngāi Tahu, 2023; Waho et al., 2008), meaning projects were often guided by mātauranga of that rohe as opposed to the homogeneous methods applied at the government level (NEMA, 2022). People are more likely to address risk in their community if prompted by real and recent events (NEMA, 2022) and if these conversations are place-specific (Repia & Bailey, 2021).

Work undertaken by Repia (2018) illustrates an exciting way forward for Māori-centred DRR, utilising pouwhenua as tools for DRR communication. Repia (2018) combined traditional Māori designs representing atua with modern digital elements to create a contemporary, interactive educational DRR tool communicating tsunami risk. Incorporating interactive and visual communication methods such as the pouwhenua provides an opportunity to transform the way disaster risk is communicated (Becker et al., 2019; UNDRR, 2015), increasing the capacity to reach a wide range of audiences as opposed to traditional text-based methods (Becker et al., 2019).

Relationships are key in building Māori-centred DRR education tools

Mana motuhake, rangatiratanga, kotahitanga and other principles of te Tiriti o Waitangi are key kaupapa in developing education tools useful for Māori communities and require relationships between iwi, hapū, communities, researchers, emergency services and officials (Kaiser et al., 2020). However, sustained te Tiriti partnership between iwi and the Crown is required, firstly to develop policy and legislation reframed from a Kaupapa Māori position to guide the development of education tools useful for Māori communities, and secondly to implement other DRR objectives aligned to Māori aspirations. At present, however, there is little mention of sustained te Tiriti partnership in government guidelines. The updated *Consistent Messages for CDEM* acknowledges the necessity of building trust and confidence in the way disaster risk is communicated, yet the only mention of Māori-centred tools in these communication guidelines is when describing the TPK Marae Emergency Preparedness Plan (NEMA, 2022). Few of the tools identified in this study were made in collaboration with CDEM or NEMA, indicating this legislation and policy gap (Kaiser et al., 2020; Kenney & Phibbs, 2015; Kenney et al., 2015).

The existing and developing Māori-centred DRR tools provide learning opportunities around relationship building, collaboration, and weaving mātauranga Māori and DRR knowledge to inform policy development. However, sustainable resourcing is also required to invest in the collaborative development, updating and reviewing of Māori-centred disaster education tools. Indigenous researchers play a key role in creating a space for Indigenous knowledge to be utilised in environmental knowledge research, exchange and application (Ruru & Nikora, 2021). Iwi researchers and Māori scientists are critical bridges for establishing the relationships required in this space, working to build capability by weaving in Māori perspectives as opposed to integrating mātauranga into pre-existing strategies based on Western science.

Mainstream DRR knowledge creation and exchange has predominantly involved adults (Kaiser & Boersen, 2020), keeping knowledge distribution pathways correspondingly narrow. Broadening DRR communication methods requires including tamariki and rangatahi (Kaiser & Boersen, 2020; King et al., 2007). Tamariki are excellent receptors of information and innovative in creating solutions, and knowledge learned in school is transferred to parents, kaumātua, and the wider community (Kaiser et al., 2020). The significant role played by schools in increasing the risk awareness of whole communities has been widely acknowledged (Johnson et al., 2014; Kaiser & Boersen, 2020; Kaiser et al., 2020; Repia & Bailey, 2021). However, studies measuring the success of school-based DRR communication and education programmes in facilitating disaster risk conversations and application during disaster are limited (Johnson et al., 2014). "Serious games" are also an effective way of facilitating disaster risk conversations among a range of audiences and have been found to help develop knowledge of risk reduction and the ability to consider alternative adaptive pathways (Blackett et al., 2021). More research around this topic is required to collaboratively create new methods to engage, to address the information needs across diverse

communities, to evaluate measures of success and to share these learnings.

Future work

The whakataukī that guided this research, "Kotahi karihi nāna ko te wao tapu nui a Tāne", can be interpreted as "Even though something is small, it has the potential to become more." This research represents a small first step in understanding the knowledge gap around Māori-centred DRR communication and education tools, from which stems a range of opportunities to equip our kete. As this area of research is relatively new and is currently being developed, there will be ongoing projects and publications which are not publicly accessible or published yet. Many iwi tools and resources may also have restrictions on who is able to view and use them as access to mātauranga and Māori risk reduction tools is primarily determined by whakapapa (Mahuika, 2015), a key driver in rangatiratanga and mana motuhake (Royal Society Te Apārangi, 2021). A limited time frame meant the key findings and discussion in this article are limited to the availability of information in the public domain.

Kanohi ki te kanohi communication is a key next step in working with Māori communities and local government to investigate what DRR communication and education tools are needed in their rohe. This form of communication and engagement has been essential in forming strong trusting relationships with and within Māori communities during previous disaster responses (Becker et al., 2019; Kenney & Phibbs, 2015; Kenney et al., 2015). Local government working alongside Māori communities is a key pathway for establishing DRR needs and relationships prior to disasters occurring.

Under the Labour-led government there was significant reform of legislation and DRR policy in Aotearoa which aimed to provide opportunities for collaboration with whānau/hapū/hapori/iwi and Māori organisations to develop and sustain new tools and adapt current ones. This aligned with Articles 2 and 3 of te Tiriti o Waitangi (1840), UNDRIP (UN, 2008) and the SFDRR, to which Aotearoa is a signatory (UNDRR, 2015). Under the new coalition and their recent discharge of the previous government's emergency management reforms, and the concerning lack of evidence-based decisions (DPMC, 2024), opportunities to remedy shortfalls in regard to Māori rangatiratanga of disaster education are now uncertain. Emergency management policy is needed for Māori to be actively involved in DRR knowledge creation and exchange from the onset to achieve Priority 4 (Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction) of the SFDRR (UNDRR, 2015). However, government-led engagement with iwi/Māori entities appears to be low, despite Māori desires for greater involvement in planning and arrangements across the Four R's working alongside local government and CDEM groups (NEMA, 2021). Future studies could be undertaken to better understand the sustained use and evaluation of DRR education and communication tools, which areas should be prioritised, and what lessons have been learned from each of these collaborative projects, with the ultimate goal of producing guidelines or a framework for Māori communities to lead Māori-centred DRR research.

Conclusion

This research has provided the first inventory of available Māori-centred DRR education tools and resources, and outlined their purpose, creators, target audience and location. Fourteen resources were identified, mostly created in Te Ika-a-Māui by small-scale community-based research projects in collaboration with Māori researchers/organisations, iwi and hapū and targeted towards tamariki and rangatahi. However, little is documented around the key learnings of these projects and sustained use.

This research also highlights the lack of incentive, direction or guidance included in government strategies, policies and regulation in creating Māori-centred DRR education resources. This is concerning considering Māori are among the most impacted during disaster events in Aotearoa and that these events are expected to increase in severity and frequency due to climate change.

As a desktop-based study reviewing literature in the public domain, the findings of this research are limited by the small data sample and scope of the project. To further understand the methodologies being used and the challenges and successes of these tools, further research is required in collaboration with the creators of the tools. Further research is also required to create space for mātauranga-based and Māori-centred DRR communication and education in Aotearoa. The legislative reforms under the previous government provided opportunities for mana motuhake and rangatiratanga of DRR education and preparedness through DRR regulations adhering to te Tiriti o Waitangi. While government-led opportunities for further development of these tools are now uncertain, the majority of existing tools have

been created in response to community needs and research gaps. Future research funds and projects should consider the research gaps highlighted in this article, and keep the following whakataukī in mind:

> He iti noa ana, he pito mata.
> *Just a little morsel, but it has not yet been cooked.*

In other words, if the uncooked morsel of the kūmara is planted, it will sprout and grow to produce more. Even though the scope of this research is small, it has the potential to be more.

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Glossary

Aotearoa	New Zealand
atua	gods
hapū	sub-tribe
hapori	community
hui	meeting/gathering
iwi	tribe
kaitiakitanga	guardianship
kanohi ki te kanohi	face-to-face
kaumātua	elder
kaupapa	topic
Kaupapa Māori	Māori approaches/ practices/principles
kete	basket
kōrero tuku iho	stories of the past
kotahitanga	unity
kūmara	sweet potato
mana motuhake	separate identity; autonomy
manaakitanga	kindness
Māori	Indigenous peoples of Aotearoa
marae	meeting house
mātauranga	knowledge, wisdom
mātauranga Māori	Māori knowledge/ understanding
mātauranga taiao	Māori environmental knowledge/understanding
mōteatea	lament/traditional chant
ōritetanga	equality
pepeha	tribal saying
pouwhenua	land post, traditionally carved from wood marking possession/ jurisdiction over land
pūrākau	legend/story
rangatahi	youth
rangatiratanga	chieftainship
rohe	region
Rūaumoko	god of earthquakes
Tāmakimakaurau	Auckland
tamariki	children
taniwha	water creature/spirit
taonga	treasure
tapu	sacred
tauiwi	foreigner/non-Māori
tautoko	support
te ao Māori	the Māori worldview
Te Ika-a-Māui	North Island (Aotearoa)
Te Matau-a-Māui	Hawke's Bay
Te Pāti Māori	the Māori Party
Te Tai Rāwhiti	East Coast of the North Island (Aotearoa)
Te Tai Tokerau	Northland
Te Tara-o-te-Ika-a-Māui	Coromandel Peninsula
te Tiriti o Waitangi | the Treaty of Waitangi	New Zealand's founding document, meant to be a partnership between Māori and the British Crown
Te Waipounamu	South Island (Aotearoa)
tikanga	custom
tino rangatiratanga	self-government
tukutuku	lattice-work panels
waiata	songs
whakairo	carvings
whakaoranga iwi whānui	community recovery, restoration, resilience
whakapapa	genealogy
whakataukī	proverb
whakawhanaungatanga	establishing relationships
whānau	family
whanaungatanga	relationship

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UNDERSTANDING THE WORKFORCE FOR DIABETES MANAGEMENT WITH MĀORI AND PACIFIC PEOPLES

Using Tangata Hourua as the framework method for analysis of qualitative research

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Abstract

The aim of the study reported in this article was to explore the experiences of (1) people living with type 2 diabetes (T2D) and their whānau, and (2) kai manaaki, community health workers and dieticians who provide care to Māori and Pacific peoples living with T2D in the community. A key objective for this research was for its findings to inform workforce development strategies that will achieve equity for Māori and Pacific peoples with T2D and other long-term conditions. Using the Tangata Hourua framework, a Kaupapa Māori and Pacific research model, the experiences of people enrolled in Mana

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Tū—a mana-enhancing programme that supports people with poorly controlled T2D to "take charge" of their condition—and their whānau were gathered, analysed and then compared with the experiences of health workers. This approach has yielded new and rich knowledge strongly supporting the view that Māori and Pacific health workers who are based in the community are best positioned to make genuine relationships with Māori and Pacific clients and their whānau.

Keywords

diabetes, Indigenous, qualitative, Māori, Pacific peoples, workforce development

Introduction

Type 2 diabetes (T2D) is a common health condition in Aotearoa New Zealand. One in every four New Zealanders is pre-diabetic, with Māori, the Indigenous people of New Zealand, and Pacific peoples at significantly increased risk of developing T2D and its complications compared with other ethnic groups in New Zealand (Beaton et al., 2019; Harwood et al., 2018; Selak et al., 2018). T2D contributes substantially to the lower health status of Māori and Pacific peoples compared with New Zealand Europeans, with the gap predicted to increase along with T2D incidence (PwC, 2021). Such disparities in T2D are unjust and inequitable, avoidable, and detrimental to society.

Given the inequities in diabetes incidence by ethnicity in New Zealand, there is an urgent need for diabetes management programmes specific to Māori and Pacific peoples, including appropriate workforce development (Harwood et al., 2018; Selak et al., 2018). The current lack of effective programmes is partly due to the complex health, social and economic issues associated with T2D (PwC, 2021). However, one potential area for intervention is the workforce, as the benefits of an appropriately trained and culturally safe workforce are now well recognised, and positive effects on the treatment of diabetes in Indigenous populations have been reported (Beaton et al., 2019).The key features of such a workforce include an excellent understanding of the cultural beliefs, values and practices of intended recipients in addition to knowledge of their personal, family and community context of living with diabetes (Harwood et al., 2018). With the current health system reforms underway in New Zealand, including a commitment to deliver on equity, active protection, partnership, tino rangatiratanga and options for Māori (Future of Health, 2021), it is timely to plan, train and employ a workforce that will deliver on these commitments.

Diabetes care in New Zealand is currently provided by a wide range of people and services. Recently, a new type of workforce—kai manaaki (KM)—was introduced in communities via a programme called Mana Tū (which means "to stand with authority"). This Kaupapa Māori, Māori-led whānau approach to supporting Māori and Pacific peoples living with poorly controlled T2D and their wider whānau was delivered to almost 400 people across the North Island of New Zealand from 2017 to 2019 (Harwood et al., 2018). KM provide an intensive case management approach to diabetes self-management, supporting whānau (those with T2D diagnosis and their wider whānau) with poorly controlled T2D (defined as HbA1c > 64 mmol/mol) and addressing the wider social determinants of health (Harwood et al., 2018; Mullane, Harwood, Warbrick, Tane, & Anderson, 2022; Selak et al., 2018). A specific research framework, Tangata Hourua (lit., "strength in combining"; Mullane, Harwood, & Warbrick, 2022), was then developed in response to health-workforce-focused questions pertaining to the delivery of Mana Tū compared with other community-based health services for Māori and Pacific peoples with T2D.

Methodology

The study used qualitative methods underpinned by the Tangata Hourua framework (Mullane, Harwood, & Warbrick, 2022), an Indigenous research framework that draws upon Kaupapa Māori principles as outlined by G. H. Smith (1997), as well as Pacific values identified as common amongst Pacific communities residing in Aotearoa (Ministry for Pacific Peoples [MPP], 2018). Some of these core Māori and Pacific values and beliefs are outlined in Table 1 and can be understood as instruments through which Māori and Pacific people experience and make sense of the world (Marsden, 1988; Ryan et al., 2019). These instruments have been used to thematically analyse the data collected for this research study.

The Tangata Hourua framework has been used to accommodate, move with and adapt to the ever-increasing complexities of the growing Māori and Pacific populations in Aotearoa (Mullane, Harwood, & Warbrick, 2022) whilst showing the potential to positively inform robust research with

Māori and Pacific populations (Naepi, 2015). As a new, or at least adapted, way of doing research, the Tangata Hourua framework has multiple advantages, including being respectful to tangata whenua; being open to Pacific principles; addressing diverse Māori and Pacific identities; challenging the tensions in combining Kaupapa Māori with Pacific methodologies; and advancing knowledge, wellbeing and outcomes for future generations of Māori and Pacific peoples. The Western-oriented framework method (Gale et al., 2013) was used to apply the Tangata Hourua framework to the data obtained from the participant groups, enabling themes to be developed both inductively from the accounts (experiences and views) of research participants and deductively from an existing framework of themes. Key processes followed in using the framework method are outlined below.

Methods

Two sets of raw data were analysed, and the themes generated were then compared and contrasted using the combined qualitative approach of the Tangata Hourua framework, Kaupapa Māori and Pacific values, and the framework method (Gale et al., 2013). This combined analysis resulted in a unique set of themes derived from the views of Māori and Pacific individuals and whānau (as users of health services) and from those of the providers of health services (Kaupapa Māori and mainstream) that have not been published before.

A focus group method was chosen to promote individual and collective wellbeing. Key components in the protocol and process at the focus groups included:

- mihi by the lead researcher to initially greet and engage with participants (Lacey et al., 2011);
- opening with a karakia, and sharing genealogical, historical, cultural or sociopolitical links as a way of affirming a sense of familiarity and connectedness;
- informed consent forms being distributed to and signed by participants;
- locations that were accessible, appropriate and private;
- whakawhanaungatanga occurring at the beginning of the session to create a meaningful and reciprocal engagement, and to form a relationship that is sustained and maintained (Lacey et al., 2011); and
- discussions, recorded at each meeting, that were based around the following guided questions:
  1. What can you tell me about your role?
  2. What do you think is important to consider in working with Māori and Pacific peoples living with T2D?
  3. How do you know if you are effective?

On request, transcripts were sent to participants, who were invited to contact the lead author to discuss or request any changes to their interview statements. The transcripts were then reviewed by research team members (MH and IW) and discussed with the author in research hui. The language and subjective positioning of the author were explored from the perspectives of the research team and used to guide subsequent analysis.

Participants

The views of four stakeholder groups were sought in total: (1) KM, (2) community health workers (CHWs), (3) dieticians and (4) Māori and Pacific peoples with T2D and their whānau. Table 1 shows the ethnicity of the participants in groups 1–4.

Participants in groups 1–3 all delivered T2D programmes to Māori and Pacific peoples in the community and were asked their views on how best to meet the needs of Māori and Pacific peoples with T2D in the community. The primary data from groups 1–3 were collected by the lead author via focus groups. The views of participants in group 4 were sought via group interviews and consisted of Māori and Pacific peoples with T2D and their whānau, who were asked about their involvement of Mana Tū services and experiences working alongside a KM. The primary data from group 4 were collected by TT via interviews (see Tane et al., 2021) and are connected to the broader research programme that this study comes under (see also Harwood et al., 2018; Selak et al., 2018).

Ethics approval for groups 1–3 was obtained on 23 June, 2020 by the Auckland University of Technology Ethics Committee, reg. no. 20/8; ethics approval for group 4 was obtained from the New Zealand Health & Disability Committee (ref. 17/NTB/249/AM02). Research team.

The research team at the time of data collection and analysis comprised the lead investigator, workforce researcher and PhD candidate (TM—Fijian/Tongan woman); the lead Mana Tū researcher (MH—wahine Māori); the Mana Tū research manager and programme manager (TT—wahine Māori); and other members of the wider Mana Tū study, including other supervisors (IW—tāne

TABLE 1 Groups and ethnicity of participant types

Group	Type of participant	Number and ethnicity
1	KM – Mana Tū health workers	5 Māori, 1 Indo-Fijian
2	CHWs working in communities with mostly Māori and Pacific people with T2D	2 Māori, 2 Pacific people (Cook Island Māori and Samoan), 4 New Zealand European
3	Dieticians working in the same communities with mostly Māori and Pacific people with T2D	3 Pacific people (Tongan and Cook Island Māori), 4 New Zealand European
4	Māori and Pacific people with poorly controlled T2D enrolled in the Mana Tū programme and their whānau	32 Māori and Pacific people 10 whānau members

Māori, VS—New Zealand European woman, AA—wahine Māori).

Data analysis

The primary data from groups 1–3 provided credible evidence as to how health workers viewed their work delivering preventative diabetes programmes to Māori and Pacific peoples in the community.

The primary data from group 4, meanwhile, gave a voice to Māori and Pacific individuals and their whānau as to their experience of being part of a unique Kaupapa Māori service which included KM. The interviews with participants from group 4 had been analysed previously (Tane et al., 2021); the raw data was re-analysed for the current research project.

Every transcript was read and re-read to ensure the researchers' familiarity with the whole data set. Interesting segments of text were then highlighted—these could range from only a few words to parts of sentences or whole paragraphs—and were coded and interpreted in terms of their relation to the Tangata Hourua framework, with conceptually related codes grouped together, confirmed, and then given a brief definition which formed the initial analytical framework.

Results

The multicultural/multidisciplinary research team (details above) analysed the group 4 data that looked at the views of clients with T2D (and their whānau in some cases) on their experiences with KM staff delivery of the diabetes programme in community settings, which was then aligned to the views of the KM (group 1), then contrasted with the views of other health workers (groups 2 & 3) who delivered similar programmes. In the collective data thematically analysed using the Tangata Hourua framework, seven themes were identified, as outlined in Table 2.

1. Whanaungatanga, reciprocal relationships

Whanaungatanga is significant and can be described as knowing one's relationships to people and land, with relationships through blood ties and kinship often recited by elders, and relationships with other iwi and peoples across Polynesia (Mane, 2009). All participants in this study acknowledged that whanaungatanga was an essential component of health user–service relationship. Clients also noted that the culturally based approach to relationships of Mana Tū ensured the inclusion of extended whānau, so diabetes management became a whānau affair:

> I have been a frequent user of the service, being diabetic, plus also with my family … [This means the service] knows us, knows our conditions … has that relationship with us, which I think is really important for Māori. (Tane, Male)

The building and maintaining of relationships requires a sense of reciprocity, accountability and mutual respect (L. T. Smith, 1999; Tomlins-Jahnke, 2008). Implicit in these relationships are clear roles and responsibilities (Mane, 2009) which KM said supported them to establish a strong relationship, build rapport and consider things from another's perspective. This enabled them to build their knowledge and expertise. For one Māori KM, whanaungatanga meant taking the time to see it from their eyes, helping them to address things that are uncertain or correct any information that's not quite accurate, making a significant difference, which included valuing of their time and what they're talking about."

CHWs and dietician participants also agreed

TABLE 2 Tangata Hourua framework core Kaupapa Māori and Pacific values and themes

Core Kaupapa Māori principles	Definition	Core Pacific principles	Themes
1. Whanaungatanga	Process of establishing relationships	Caring and reciprocity	Reciprocal relationships
2. Ako Māori	Culturally preferred pedagogy	Connectedness and relationships between the individual, family and community	Reciprocal teaching and learning
3. Kaupapa	Philosophy		Shared vision
4. Whakapapa	Genealogy	Unity, holism	Connections of time and space
5. Tino rangatiratanga	Self-determination	Respect	Leadership
6. Tikanga	Customs, meanings, practices	Love/humility/caring	Doing and being right
7. Te reo	Māori language	Culture/language, customs and protocols	Informed

that whanaungatanga was essential to meaningful sustainable interactions. Two Pacific dieticians felt that the connection with the family occurred in steps: "build[ing] up a relationship, establishing a really good rapport … build[ing] trust to them." However, they also felt that this was more challenging in their roles as they were restricted by limited session times and funding. Clients reported similar experiences with non-Mana Tū staff: "Because no one has ever really worked with me, with my diabetes, ever. I just used to stay home and just do nothing" (Hine, Female).

2. Ako Māori, reciprocal teaching and learning

Ako acknowledges teaching and learning practices that are inherent and unique to Māori, as well as practices that may not be traditionally derived but are preferred by Māori (G. H. Smith, 1997). These practices are grounded in the concept of reciprocity, where everyone is empowered to learn with and from each other (Ministry of Education, 2022). Participants suggested that the location of diabetes management was critical to ako. The delivery of services in traditional cultural settings such as marae for Māori and churches for Pacific peoples was effective in shifting power to clients, due to their experience of cultural affirmation (Mullane, Harwood, Warbrick, Tane, & Anderson, 2022). Marae-based sessions received positive comments such as "Well from day one for me the marae was very welcoming you know. You sense, you feel a sense of aroha" (Mere, Female). A KM also saw the benefits of clients feeling empowered:

> Being based on the whenua of a marae is key to what we do and how we do it … Being on the marae and having the marae support, working within an organisation that is guided by Kaupapa Māori values.

Marae also provided a place where wider whānau felt supported to be engaged: "Having whānau and family there and involved because Māori and Pacific work is more whānau-based and collaborative ... connecting with the whole family" (Hone, Male).

Non-Māori and Pacific health workers also recognised the importance of being in their clients' comfort zones and getting out of their own in order to be effective, with a New Zealand European CHW commenting: "My feeling is we work in the community, we are based in Ōtara, people see us out there. We are not part of the hospital, we are in a place for people to come to and make it more comfortable."

3. Kaupapa, shared vision

Kaupapa or shared vision was reflected by the health workers who worked in multidisciplinary teams (MDTs). They felt MDTs enriched their work with Māori and Pacific peoples with T2D as they were strength-based—that is, different members of the health team had different roles based on

their strengths or expertise (Mullane, Harwood, Warbrick, Tane, & Anderson, 2022). This was strongly supported by clients: "So, must be about nine years. Eight or nine years I've been with [clinic name]. But I personally wouldn't change anything about it … everybody's incorporated" (Eru, Male).

A Māori KM noted that the MDT approach supported "the capacity of us to be the link between the clinicians and the whānau, 'cause a lot of the time the whānau was unable to be honest with the clinician for fear of judgement." A strength was that MDTs allowed the same message to be communicated but in different ways. KM also commented that having experts working together as a collective improves clients' knowledge and wellbeing, as well as service provider efficiencies.

4. Whakapapa, connections over time and space

For Māori and Pacific peoples, whakapapa is an important cultural practice that links people and specific places *together* (MPP, 2018; L. T. Smith, 1999). Participants spoke of the importance of making links, suggesting that having more Māori and Pacific health workers would improve healthcare and health outcomes: "Having a Māori [diabetes worker] is important for me 'cause they kind of understand the cultural element of things, and also the spiritual aspect of health … so, you know, having those common beliefs" (Naki, Male). This included common Māori values and the belief "that caring is aroha, and I always say manaakitanga" (Mere, Female). When these core Māori values were not present, as experienced with non-Māori and non-Pacific health professionals, their diabetes was often not controlled: "No one has ever really worked with me, with my diabetes, ever. I just used to stay home and just do nothing" (Hone, Male).

KM spent a lot of time initially remedying past hurts, undertaking significant groundwork with clients who had had negative experiences with other health professionals. One KM commented: "Basically, people are getting told off all the time … hence people won't pitch up to some of those appointments anymore … They think we are going to judge them and tell them what to do."All health workforce participants advocated for building the Māori and Pacific workforce, which they felt would best meet the needs of the clients and whānau, with one European dietician observing: "Greater recruitment of Māori and Pacific into health professional roles is really important … The reality is we don't have enough Pacific or Māori in the dieticians." One European CHW suggested:

> Having someone who is Māori or Pasifika working in the team is essential. Having a PI [Pacific Islander] involved in the delivery of the programme … from that ethnic background … she can engage with them in a way that I can't and that's good.

One New Zealand European dietician was acutely aware of their own conscious/unconscious biases: "To put it bluntly [it's] a very white health system … A whānau approach is definitely not included in the way we deliver our services."

5. Tino rangatiratanga, leadership

Tino rangatiratanga has been defined as self-determination, sovereignty, independence and autonomy. Individuals and communities experience tino rangatiratanga and positive wellbeing when hauora services include active protection, partnership, equity and options (Te One & Clifford, 2021). This aligned with participants' views about a diverse diabetes workforce providing choices: "[The KM has] been really helpful in regard to that knowledge and gaining different options" (Tangi, Female).

Having data on the effectiveness of various programmes supported workers in decision making, with one KM taking pride in the results achieved by Mana Tū at both individual and population level: "Mana Tū was a very successful programme, and the research shows that we did have major successes, and a few people have sustained the changes." They were able to recognise and articulate the role they played in achieving good outcomes: "Offering appropriate follow-up, appropriate cultural support and understanding what they are saying, all those things … we are loving them by removing barriers."

KM felt that leadership development, which was formally built into their professional development (PD), empowered and inspired them to want to do their best for clients: "They helped us to develop to the strengths of ourselves and recognise that when we needed some PD, we would upskill, yeah, and also to cater to our communities that we were working with."

6. Tikanga, doing and being right

Clients were clear the role of tikanga had in their diabetes management with Māori and Pacific whānau, which requires love and compassion, humility, and a sense of humour. Such an approach has wide-reaching benefits, as one participant said of Mana Tū: "I've found it beneficial. I've found it nurturing. I've found it learning. I've found that I've been given more options, so instead of

being crucified, of being judged, I've been taught" (Wiremu, Male).

KM had also had clear and definite views of how they were making a difference: "Connectivity, that they were happy to see me, and they wanted to see me … They were eager to try new things, they were excited. Just that they showed up [to the] appointment, they came." Some of the CHWs and dieticians also knew when they were making a connection through "aha moments": "They are smiling today … They brought their daughter or someone with them to learn some more with them."

It was noted by clients and their whānau that interactions could be different when they were dealing with non-Māori:

> There was another health nurse that I use to meet with, who I didn't get on with. She was not Māori and because of certain words that she said [to me] that I didn't agree with … we started arguing, and I was like, wow, that should not happen.

There was acute awareness from clients and their whānau as to who they thought best met their needs in ways that led to better engagement with the service provided, as outlined in the positive and negative experiences above. To complement these views, New Zealand European health workers reflected that they were not the most appropriate people to deliver these services and acknowledged the choice Māori and Pacific clients made when deciding not to engage with them.

7. Te reo, informed

Providing a strong foundation for clients' sense of wellbeing and belonging were Indigenous languages and culture, which facilitated healthy relationships within families and communities (MPP, 2018). Clients and whānau noticed when the right language and approaches were used, explained and understood. One whānau member commented: "[The client has] always come away being clear and understanding, because their kōrero is more important to her wairua as opposed to me and my sister trying to sort of awhi and take care of her" (Mere, Female).

KM also agreed that appropriate communication and language was important for fitting with the intended Māori and Pacific audience, which they felt was about "knowing their language, respecting the cultural differences, respecting them." One KM noted that language worked best when it was "simple … [with a] non-judgemental lens, taking that judgement out ... We don't use jargon from the clinic, we use everyday language that we/they know." Ensuring a strength-based approach meant their role was to "just chill out, listen … because a lot of times when they talk, they actually come up with the solution—you don't have to do anything. [We] don't make assumptions that we know any more than they do."

A Pacific CHW's approach to groups used the idea that the curriculum needed to educate and support clients to take ownership of their own health and environment, which included "breakfast clubs, student health councils, after-school sports, dance workshops, workshops, meetings with key stakeholders, a place for the kids to eat that's sheltered." Group education was also an integral approach of two Pacific dieticians, but one noted it came with challenges, such as

> the logistics of how to get a group of people together … I mean, do you try to get a pan-Pacific group together and deliver it in English or do you get a Tongan group … or a Samoan group together?

A New Zealand European dietician connected with the importance of "let[ting] them talk [and] tell the[ir] story—then you will pick up history" and had amended her practice to allow this. Overall, there was recognition amongst both clients and health workers of the importance of resources being contextualised to the culture individual clients identified with. Again, clients were clear about how they felt when communication was not clear: "I didn't fully understand it, and it wasn't explained properly" (Rangi, Male).

Discussion

This critical qualitative Kaupapa Māori and Pacific investigation into (1) the experiences of people enrolled in Mana Tū and their whānau, and (2) their experiences with KM (in contrast to other CHWs) has yielded new and rich knowledge. Our findings align with some of the core values and principles of the Tangata Hourua framework (Mullane, Harwood, & Warbrick, 2022). For participants in this research, whanaungatanga, or reciprocal relationships, enabled an inclusivity that included their extended whānau. Ako Māori, or "our way of being", was contextualised by whānau as to the location of diabetes management services, with recommendations for non-clinical, traditional cultural settings such as marae for Māori and churches for Pacific peoples. A kaupapa, or shared vision, was more likely to exist in MDTs which were strength-based in the sense that different members of the health team had different roles

based on their strengths or expertise (Mullane, Harwood, Warbrick, Tane, & Anderson, 2022). Whakapapa, or connections, occurred when clients saw "people like me" because those health workers best met their cultural needs.

For clients, tino rangatiratanga, or leadership, meant being able to make choices from a range of options on what would best suit them at that time; for health workers it meant support and validation of a Māori-for-Māori approach, feeling trusted, and being part of the organisation that offered PD programmes that were Kaupapa Māori- and Pacific-led. Tikanga for the clients was about the right way of doing things, which meant that being tika, or correct, in diabetes management with Māori and Pacific whānau requires love and compassion, humility and a sense of humour. The use of te reo, or the appropriate language, by health workers can inform and enable a strong foundation for connections between relationship, language and identity, which increased personal mana for Māori and a sense of wellbeing and belonging that facilitated healthy relationships within families and communities for Pacific peoples.

For the clients, their whānau and the KM involved in Mana Tū, there was a strong connection with a service that was culturally responsive and aligned to their own cultural values. Non-Māori CHWs and dieticians also agreed that a culturally responsive service was appropriate, which meant, among other things, the inclusion of more Māori and Pacific peoples to deliver the service in the community. A multidisciplinary approach was not a key feature brought up by the dieticians, but was heavily endorsed by the clients, whānau, KM and CHWs as an essential component of positive experiences. Non-clinical approaches and environments were also seen as an essential component, even by the dieticians who, traditionally, are based in a hospital setting.

In summary, clients and whānau appreciated and better engaged with health workers who (1) could meet their needs culturally; (2) spoke their language or spoke in non-clinical terms that could be easily understood; (3) understood who they were and the communities they came from; (4) provided services that were adaptable and non-clinical in their approach, such as where they were delivered; and (5) provided a multidisciplinary approach. The clients and their whānau highlighted how a multidisciplinary approach engaged them with their health worker and the services they provided. Furthermore, a multidisciplinary approach and collaboration between agencies and/or between lay and professional groups was seen as essential to improving services by all those who worked in this model of delivery.Other aspects that positively contributed to the client/whānau experience were face-to-face interaction and flexibility as to where the services were provided. Special mention was given to marae-based services, and the mixture of individual visits as well as groups, which they felt created a *whānau environment*. Building the feeling of tino rangatiratanga was important for the KM who worked under the Mana Tū umbrella, and this aligned with the government's priorities for health research and service development that contribute to Māori health and eliminate health inequities (Ministry of Health, 2022). This feeling was also spoken about by the clients and their whānau as something they were able to experience in their relationship with diabetes and their ability to control their destiny.

Strengths and limitations

As with all research, there are both strengths and limitations in this analysis. Firstly, qualitative research is subjective (Harris et al., 2006), and this study has presented accounts from clients and their whānau who were engaged with the Mana Tū programme about their experiences with KM and then compared those accounts with the experiences of other health professionals. Therefore, the findings are not generalisable beyond these samples. As the primary researcher's interpretation and subsequent analysis of client and whānau narratives is subjective (Braun & Clarke, 2006), peer and supervisor review were sought to ensure that the analysis was fair and balanced.

Conclusion

There is an urgent need for health services to acknowledge the challenges that many people face when engaging with the New Zealand health system. More integrated and seamless services are required that care for those who need them most (Ryan et al., 2019). Achieving equitable outcomes for Māori, Pacific peoples and people living with T2D in their communities demands a healthcare system that is specifically designed to achieve health equity.

Viewed optimistically, the recent health reforms provide an opportunity to create a transformative, equitable, accessible, cohesive and people-centred healthcare system that focuses on working in partnership with Māori, honouring te Tiriti o Waitangi and improving the wellbeing of all New Zealanders (Ministry of Health, 2022). This reset in the health system should not be viewed

as starting from scratch, as the collective pool of knowledge amassed by tangata whenua and by people from Moana-nui-a-Kiwa is both deep and broad. The understanding around hauora as holistic, with a focus on whānau, hapū, iwi and community wellbeing for all, not just a few, should be seen as a chance to centre Indigenous knowledge and leadership in a way that is focused on strength-based solutions to move Māori and Pacific health from the margins to the centre.

Acknowledgements

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Glossary

ako Māori	culturally preferred pedagogy
aroha	affection, sympathy
awhi	embrace
hapū	subtribe
hauora	wellbeing
hui	gathering, meeting
iwi	tribe
kai manaaki	skilled case managers delivering the Mana Tū programme
karakia	prayer
kaupapa Māori	Māori values and knowledge
Kaupapa Māori	Māori approach; based within a Māori worldview
kōrero	conversation
mana	wellbeing, control
manaakitanga	hospitality, kindness
Mana Tū	lit., "to stand with authority"; a mana-enhancing programme that supports people with poorly controlled type 2 diabetes
marae	traditional meeting house
mihi	greeting
Moana-nui-a-Kiwa	Pacific Ocean
tāne	man
Tangata Hourua	lit., "strength in combining"; Indigenous research framework
tangata whenua	Indigenous people of New Zealand
te reo	Māori language
te Tiriti o Waitangi	the Treaty of Waitangi
tika	correct
tikanga	customs, meanings, practices; right or correct way to do things
tino rangatiratanga	self-determination
wahine	woman
wairua	spirit, soul
whakapapa	genealogy and lineage
whakawhanaungatanga	process of establishing relationships
whānau	family members
whanaungatanga	connection or reciprocal relationships
whenua	land

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PACIFIC YOUTH WELL-BEING

Diaspora perspectives

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Abstract

Pacific youth in diaspora have faced many well-being challenges. This group has had to navigate the tensions between holding on to their Pacific values and participating in Western society, which at times can be contradictory. As this group comes of age in their host country, their well-being becomes ever more important. In this article, we explore the well-being journey of this cohort and their stories of resilience. We show how these groups have been able to use their Pacific culture(s) as a form of positive well-being. Through the sharing of Pacific youth experiences, by two Pacific researchers, we provide an insider's perspective on how our youth have been able to positively navigate their respective host countries with a positive connection to their Pacific culture(s). As members of our communities, we highlight the importance of Pacific culture(s) among this cohort, in the hope that it will better inform government and non-government initiatives.

Keywords

Pacific youth, Pacific diaspora, Pacific well-being, Indigenous well-being, diaspora studies, youth studies

Introduction

The migration of Pacific families beyond the islands for new opportunities in foreign lands has resulted in an ever-growing Pacific diasporic population (Faleolo, 2020). The early establishment of Pacific Island people in countries like Australia, New Zealand and the United States as early as the 1940s has meant that many of these migrants have had children in the host country (Enari & Fa'aea, 2020; Va'a, 2001). Interestingly, when Pacific people left their island nations, they did not leave their cultures behind. Instead, they used their Pacific ways of being and knowing to navigate their new country of residence (Enari & Taula, 2021; Mila-Schaaf & Robinson, 2010).Many Pacific people used their family and church networks, languages and cultural practices to sustain themselves upon arrival (Enari & Taula, 2021).

As the children of the original Pacific Island migrants came of age, many were taught

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contradictory values (Enari & Matapo, 2021). They were taught Pacific values of collectivism at home and among their Pacific circles, only to learn contradictory values of individualism among mainstream society (Enari & Matapo, 2020; Tiatia-Seath, 1998). This article aims to explore the narratives of diasporic youth, not only highlighting the challenges but also privileging their notions of resilience. It is also our aim to explore the positive correlation between Pacific youth well-being and their Pacific culture(s). We present these stories as two Pacific diaspora researchers, one residing in New Zealand and the other in Australia.

Pacific youth in New Zealand

Using Stats NZ data on the Pacific population in New Zealand, the Pacific Advisory Group Pasefika Proud (2016, pp. 2–5) show that 55% are under the age of 25 years old, with Pacific peoples having a faster growth rate than the general population of New Zealand. Approximately 93% (274,806 people) of the Pacific population live in the North Island, and 66% reside in Auckland. Nearly one-fifth (18.6%) of the general population speak more than one language, with Samoan being the third-most common language following English and Māori in the country. Samoans are the largest Pacific group, followed by Tongan, Cook Islander, Niuean, and the other island groups. More than half of the New Zealand Pacific population are New Zealand-born.

Unfortunately, the New Zealand-born Pacific population are at higher risk of developing mental illness compared to island-born migrants to New Zealand (Oakley-Browne et al., 2006). Mila-Schaaf and Robinson (2010) highlights the struggle that Pacific youth face in terms of identity. They identify with the ethnic backgrounds of their parents but struggle to be accepted by their community due to many factors, including lack of cultural knowledge and language. A high number of families who identify with multiple cultures also bring diverse cultural backgrounds. There are a high number of Pacific young people who identify themselves with several ethnicities. This contributes to challenges with identity, which heavily influence and impact on mental health (Tiatia-Seath, 1998).

Addressing the needs of these Pacific youth requires critical understandings of this (these) group(s), with the ability to attend to their needs accordingly (Manuela & Anae, 2017; Thomsen et al., 2023). This means untangling the Pacific population and focusing on their ethnicities, with an emphasis on their differences. Pacific youth tend to assimilate the norms and values of the host country, New Zealand, with little knowledge of their Pacific country of origin, their values and norms (Vaka, 2014, 2016; Vaka et al., 2016, 2020).

Despite this, Pacific youth have been able to thrive in New Zealand with their Pacific culture(s). Forums where Pacific youth display their cultural pride include the annual Polyfest (the Auckland Secondary Schools Māori & Pacific Islands Cultural Festival), and Pacific language and cultural subjects taught in school and church youth groups. Pacific culture(s) have not only been showcased in New Zealand but have also been sewn into the fabric of New Zealand society. Manifestations of Pacific pride such as Samoan ʻava ceremonies, the Mate Maʻa Tonga fans, and Cook Island dance groups can be seen across New Zealand and on mainstream television. Pacific pride has helped Pacific youth in New Zealand embrace their Pacific culture(s). Pacific youth can be seen (re)presenting their Pacific pride through all aspects of their lives including music, sport and academia. In displaying Pacific costumes during music festivals, speaking their Pacific languages during sports interviews (Enari & Keung, 2024), or speaking of how their Pacific cultures helped them navigate the school system (Enari & Matapo, 2020), many Pacific youth in New Zealand have attributed their success to their Pacific Island cultural values and pride.

Pacific youth in Australia

The mass contemporary Pacific Island migration to Australia can be traced to the Australia and New Zealand Trans-Tasman Agreement of 1973 (Faleolo, 2020). Through this arrangement, Australian and New Zealand citizens have been able to freely migrate between countries (Vasta, 2004). The majority of Pacific Island migrants to Australia have used their New Zealand citizenship to reside in Australia (Voigt-Graf, 2007). Australian Bureau of Statistics (ABS, 2017) census data show 214,635 people who identify as Pacific Islanders. However, it is believed this figure is a low indication of actual Pacific Islanders in Australia, as there are those who have not disclosed their Pacific Island ancestry and were captured as either Australians or New Zealanders. Pacific communities are considered some of Australia's fastest-growing (ABS, 2006, as cited in George & Rodriguez, 2009). Pacific Islanders have migrated to Australia from New Zealand for educational opportunities and higher wages (Horton, 2014; Kearney, 2012).

Figure 1 The Griffith Pasifika Association cultural dance group comprised of Pacific youth; co-author Dion Enari is top left (2014).

Despite moving to Australia for better living conditions, many were faced with new challenges, such as lack of government support (Va'a, 2001). Sadly, many of these families were unaware of their ineligibility for government assistance before arrival (Moosad, 2019). The unreliable nature of data on Pacific youth in Australia has made it difficult to monitor and assess their needs (Kearney et al., 2011). Regrettably, there is a lack of Pacific Island researchers in Australia. For robust, meaningful and culturally appropriate research, more Pacific Island researchers are needed, as they are not only of the communities; they also understand their cultural, spiritual and religious intricacies. The current research on Pacific youth in Australia is scarce, with the limited work available focusing on social disengagement and negative health outcomes (see, e.g., Ravulo, 2015). On top of negative Pacific youth research, this cohort is also overly reported throughout the media as the main perpetrators of youth violence, which further instigates social exclusion (MacDonald, 2017). Pasifika youth have also been identified with poor educational outcomes (Chenoweth, 2014) and low representation at tertiary institutions (Kearney, 2012).

Some believe these issues are caused by a disconnect between home and school culture. Ideologies of individualism are at odds with ideologies taught at home, which focus on collectivism (Kearney et al., 2011), and the background and lived experiences of white school teachers are different to those of their Polynesian students (Kearney, 2008). Others have also apportioned Pacific education underachievement to familial obligations such as providing for the family (Ravulo, 2015), while some believe it is due to a lack of support for New Zealand citizens (Moosad, 2019).

Despite the negative data on Pacific youth in Australia, there has been an upsurge of positive Pacific role models. These Pacific role models have been beneficial in positive well-being formation and encourage this cohort to view others from their background, and consequently themselves, through a strengths-based lens. Pacific people in reputable positions in the National Rugby League, Australian Rugby Union, Ultimate Fighter Championship, the music industry and the business sector have been able to (em)power and inspire Pacific youth to be proud of their Pacific identity(ies) while navigating the Australian context. These role-model Pacific Islanders have been able to (em)power this cohort through workshops, seminars and online engagements.

There are also other community initiatives for Pacific youth in Australia which encourage them to (re)connect with their Pacific cultures (Enari & Matapo, 2020; Shepherd & Ilalio, 2016). These communities hold activities such as Pacific dance groups and language classes to encourage youth to (re)connect with their ancestral languages, dances and relatives. An example of these events is shown in Figure 1 (Enari & Faleolo, 2020).

Many of these activities of cultural engagement among Pacific youth in Australia have contributed to positive well-being outcomes (Enari & Fa'aea, 2020; Faleolo, 2020). There is also a push for Australian education pedagogy to reflect Pacific values and ways of being.

Pale (2019) believes that if Pacific values and

beliefs are more evident in the classroom, a better sense of belonging and identity could be achieved, which will positively affect educational outcomes.

Discussion

Pacific youth are relational beings, as many are (re) claiming their connection to their Pacific culture(s). Interestingly, our Pacific youth, many of whom are born out of the islands still see value in their Pacific cultures. Our observations and ongoing communication with this cohort reveal that their collective well-being is positively affected by their Pacific cultures (Enari & Faleolo, 2020). More specifically, this cohort has been able to internalise their island pride in navigating their space in the diaspora. Although this cohort have had negative experiences with their cultures, they see the value and importance of it in their lives.

In these situations, Pacific youth (re)connect with their cultures as a form of positive well-being. Many speak of their love for their Pacific language, culture and family.

The communal nature of Pacific youth well-being means that any effective initiatives must always be in consultation with the wider community. Despite the negative perceptions of Pacific youth, they have shown strong resilience. The youth's resilience can be seen in the way they have adapted their Pacific cultures in a diasporic context. The benefits this cohort gain from their connection to culture can be used as a catalyst for other Indigenous youth.

Conclusion

Pacific youth in both New Zealand and Australia have been represented negatively in research. However, both cohorts have also shown how their culture(s) positively affect their well-being. The island pride that these youth experience is the main reason they have been able to progress and navigate their country of residence (em)powered.

It is envisioned that the positive outcomes from cultural empowerment can be used as a catalyst for current and future initiatives involving Pacific youth, as it is an integral part of who they are.

In closing, this article has provided useful insight into how Pacific youth well-being can be positively affected. Future youth initiatives should consider how the well-being of Pacific youth is affected in a Western society. Also, those who engage with Pacific youth should nurture their Pacific cultural pride as a form of empowerment. Despite migration and generational establishment in the host countries, this cohort still draws upon their culture(s). It is our intergenerational and collective responsibility to ensure our treasures are sustained, and that our worldviews live on, not only now, but for future generations to come. La manuia.

Glossary

Māori

Māori	Indigenous peoples of New Zealand

Samoan

ʻava ceremony	ritual in which a ceremonial beverage is shared to mark important occasions in Samoan society
la manuia	good luck

Tongan

Mate Maʻa Tonga	Tonga national rugby league team; lit. "Die for Tonga"

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