



### Article Conceptualising Therapeutic Environments through Culture, Indigenous Knowledge and Landscape for Health and Well-Being

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Abstract: Academic research has long established that interaction with the natural environment is associated with better overall health outcomes. Notably, the area of therapeutic environments has been borne out of the recognition of this critical relationship, but much of this research comes from a specific Western perspective. In Aotearoa-New Zealand, Māori (the Indigenous people of the land) have long demonstrated significantly worse health outcomes than non-Māori. Little research has examined the causes compared to Western populations and the role of the natural environment in health outcomes for Māori. The present study aimed to explore the relationship between Māori culture, landscape and the connection to health and well-being. Eighteen Māori pāhake (older adults) and kaumātua (elders) took part in semi-structured interviews carried out as focus groups, from June to November 2020. Transcribed interviews were analysed using interpretative phenomenological analysis and kaupapa Māori techniques. We found five overarching and interrelated key themes related to Indigenous knowledge (Mātauranga Māori) that sit within the realm of therapeutic environments, culture and landscape. A conceptual framework for Therapeutic Cultural Environments (TCE) is proposed in terms of the contribution to our understanding of health and well-being and its implications for conceptualising therapeutic environments and a culturally appropriate model of care for Māori communities.

**Keywords:** therapeutic landscapes; therapeutic environments; Indigenous knowledge; Mātauranga Māori; health and well-being; culture; cultural landscapes; cultural geography; landscape architecture

#### 1. Introduction

In Aotearoa-New Zealand, Māori have suffered from the pressures of colonisation, globalisation and urbanisation, as have many other Indigenous peoples globally [1,2]. The forced migration from ancestral lands, land confiscation and alienation [3,4], and genocide in some instances [5], have ultimately led to a loss of social and cultural values [6]. Land alienation resulted in lasting intergenerational damage to physical, mental, spiritual and communal relationships [4] and injured the transfer of cultural and environmental stewardship practices to future generations [7]. Consequently, Māori communities suffer significant health inequalities compared to their non-Māori counterparts [8,9]. For example, the average non-Māori male life expectancy at birth is about 75 years and for non-Māori females is about 79 years. In comparison, Māori male life expectancy is about 67 years and for Māori female is about 72 years [10–12]. Priorities for health and well-being differ between Māori and non-Māori; the Western approach emphasises personal dysfunction and socio-economic inequalities, while Māori concerns focus on the wider cultural factors affecting the community as a whole [13]. Research indicates that health inequalities can



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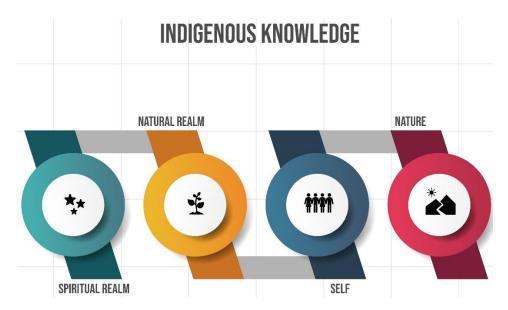


**Copyright:** © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). be better understood by focusing on the social and cultural determinants of health and by considering holistic notions of well-being [14–16].

This article highlights the need to have a more robust understanding of *Mātauranga Māori* (Māori knowledge) to better address the social and cultural determinants of health and well-being. Through interviews and focus groups, it looks at the importance of the relationships between people and the natural environment by focusing on Māori definitions of health and well-being to understand how people perceive, use and respond to the environment and what factors influence engagement with and benefit from such environments. This study proposes a conceptual framework for Therapeutic Cultural Environments to assist the development of community-based health approaches and the integration of Indigenous methods for health and well-being in services for both Māori and non-Māori.

#### 1.1. Indigenous Knowledge

Indigenous knowledge, known as local knowledge, traditional science or traditional wisdom, is the context-specific knowledge that has helped Indigenous communities survive and thrive throughout time [17]. Academic sources recognise that Indigenous knowledge is situated within broader cultural traditions, making it empirical and local as it is orally transmitted through imitation and demonstration, generally as the consequence of practical engagement in everyday life [18]. Consequently, many practices, beliefs and values such as oral narratives, tales, songs, customs and approaches to healing and birthing, as well as death rituals, are shared by almost all Indigenous communities worldwide [19]. Another fundamental aspect of Indigenous knowledge is recognising the interrelation between the spiritual, the natural and the self [20], expressed as the interrelationship between all forms of life, the environment and the cosmos (Figure 1) [21]. The environment provides the mind, body and spirit opportunity to interconnect [22,23].



**Figure 1.** Fundamental aspects of Indigenous knowledge bringing together the spiritual, the natural and the self.

Harmony with nature and interconnectedness between the natural and the spiritual realms are recurring themes in some existing Indigenous literature [20,24,25]. Unity and connection with the land tends to be a fundamental characteristic that defines the existence of Indigenous communities and is therefore reflected in all aspects of Indigenous life [26]. Some studies explain this connection to land as place attachment, often defined as *genus loci*, which attaches people to the essence or spirit of a certain place [27]. In the context of Aotearoa-New Zealand, the disconnection from ancestral land or *tūrangawaewae* (place

of belonging, standing and identity) disrupts the way in which Māori connect to place and limits their ability to adapt to the endemic landscape, where they sought protection, guidance, understanding, knowledge, identity, health and well-being, ultimately leading to adverse health and well-being outcomes [15]. This disconnection is explained by some as a result of colonial appropriation, commodification and privatisation of land as well as the forceful expulsion of local populations from their ancestral lands and suppression of alternative forms of production and consumption [28,29]. Many studies also report that access to physical and non-physical properties of the land is a strong indicator of emotional well-being [30–32].

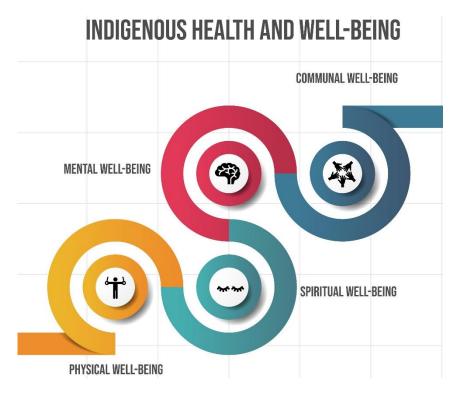
Evidence is abundant on the high standing of nature in Indigenous ways of understanding the world. For example, Māori *kaumātua* (elders) believe that spiritual communication with ancestors can sometimes happen through listening to the singing of a bird [25]. This is an instance of personifying natural elements, which is part of the Māori worldview [25]. The notion of receiving messages via natural elements has also been noted by other researchers [33–35]. Similarly, previous research on the link between climate change and Indigenous health emphasises the importance of understanding myths, stories, traditions and observations to explain climate-ecology-society interactions [36]. On the other hand, the risk of Indigenous knowledge being lost, leading to the loss of valuable knowledge about ways of living sustainably, both ecologically and socially, is a problem identified by many [37,38].

#### 1.2. Indigenous Health and Well-Being

Research studies have dealt with different aspects of the therapeutic effects of natural landscapes. Most studies have sampled deprived urban communities, ethnic minorities and older people [39–42]. Research has shown that spending more time in natural environments increases social contact [43,44] and reduces stress [45,46].

Perceptions of health and well-being are part of the broader category of Indigenous worldviews. For many, Indigenous health is achieved through relationships of mutual care of kin and non-human affiliations that are encoded within the landscape and passed on through oral narratives [47]. In many cases, these narratives are only possible if Indigenous people have access to their natural environment, thereby retaining their identity and sense of well-being. For others, health is explained by balancing the four elements that maintain and support good well-being: physical, emotional, mental and spiritual (Figure 2) [48,49]. Many researchers have agreed that Indigenous health cannot be understood without acknowledging cultural practices [50–52].

Ancestral lands hold a sacred status among many Indigenous people and any damage to these lands can negatively influence the health and well-being of the affected group. Due to these strong perceptions of natural entities, changes to the environment can cause significant health problems for Indigenous people. Several scholars have investigated the potential effects of changes in the landscape and natural environment on the physical, mental, spiritual and social health of Indigenous people across the globe [51–55]. Such changes to our natural environments can damage traditional culture, exacerbate grief and trauma, aggravate socio-economic disadvantage, increase the risk of losing traditions and identity and create a context for behaviour that brings shame to culture [52]. Several studies have found that a strong connection to ancestral lands and sacred sites has not only led to improved physical health [56–58] and mental health [59] but has fostered intergenerational transmission of knowledge [47]. The source of this effect is the belief held by some Indigenous people that 'if the land is sick, we are sick'. Proximity to ancestral lands and natural features, which are frequently featured in Indigenous narratives, make it easier for the recipients to grasp the spirit of their stories.



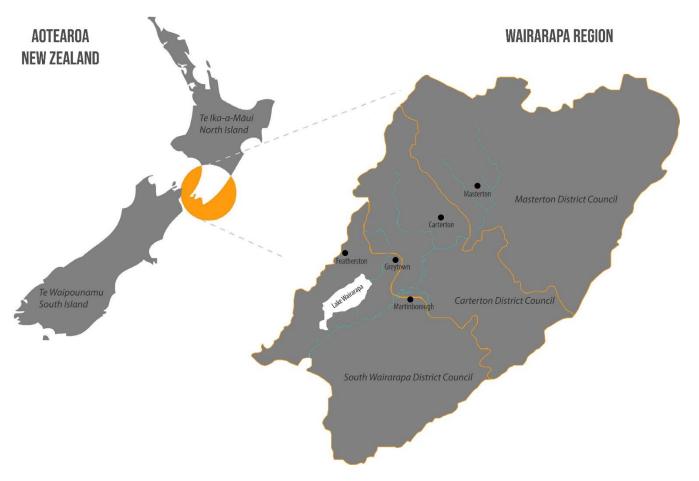


The notion of 'regaining identity' is considered when dealing with topics affecting Indigenous people. More often than not, colonised communities suffer from a 'wounded identity' that needs to be addressed by allowing people to learn about their spiritual and cultural traditions, instil pride and promote self-identity to pass healthy behaviours down to the next generations [51]. While there are opposing views about the degree of effectiveness of traditional healing practices in the modern world, some of the positive contributions of traditional medicine are indisputable [60,61]. Instead of targeting a specific part of the body or injecting a substance, some traditional therapeutic practices attempt to understand the person's health and well-being by situating it within the surrounding sociocultural and natural environment and treating the person as a unified whole. However, it is argued that Indigeneity remains a fundamental health determinant for Indigenous people due to several factors, including the loss of language, lands and identity, and the imposition of power by the non-Indigenous [62]. To overcome the negative health impacts, developing culturally sensitive mental health programmes that include traditional healing practices and access to sacred sites can improve mental health and well-being, promote environmental management and justice and foster language and land custody [63].

#### 2. Materials and Methods

This study is situated in the Wairarapa region of Aotearoa-New Zealand's North Island (Figure 3). Located in the south-eastern corner, northeast of the capital city of Wellington, the Wairarapa region is known for its sheep grazing and dairy farming as well as long occupation by Māori tribes, namely Ngāti Kahungunu ki Wairarapa and Rangitāne o Wairarapa. The regional population steadily increased throughout the twentieth century, reaching 41,097 individuals in 2013 [64]. The Wairarapa region has a total area of 5900 km<sup>2</sup> (or 590,000 hectares), but the *rohe* (tribal boundaries) of both Rangitāne o Wairarapa and Ngāti Kahungunu ki Wairarapa extends to more than 10,000 km<sup>2</sup> (one million hectares) to include the north-adjoining Hawke's Bay region [64]. From the recorded population, 51.5% are females (or 21,162 individuals) and 48.5% are males (or 19,956 individuals). Looking at the population distribution, the higher proportion of people are in the younger age groups (0 to 17 years) as well as in the older age groups (50+ years), representing jointly 65% or

26,832 individuals. Concerning the major ethnic groups, 87% of the region's population identify as of European ancestry (or Pākehā), 17.5% as Māori and a smaller proportion of people have identified as Pasifika. Although the Māori population increased by over 15% between 2006 and 2013, this ethnic group represents 7173 individuals of the Wairarapa region's total population.



**Figure 3.** The Wairarapa region in the context of Aotearoa-New Zealand, with three district council boundaries: South Wairarapa District Council, Carterton District Council and Masterton District Council. Geographic coordinates 41.2676° S, 175.3550° E.

#### 2.1. Process

The methodology used in this study incorporates Mātauranga and Tikanga Māori (Māori knowledge and customs) but also includes aspects of Western research methodology such as a literature review, recorded and transcribed semi-structured interviews with two focus groups (following a wānanga approach of meeting and discussion) and analysis using an Interpretive Phenomenological Analysis (IPA). To establish a collaborative partnership between the researcher and Māori participants, one kaumātua (elder) of Ngāti Kahungunu ki Wairarapa *iwi* (tribe) and another one from Rangitāne o Wairarapa *iwi* (tribe) were consulted. Both *kaumātua* (elders) have a long association with the researcher, which emphasises the importance of whakapapa (genealogy) and whakawhanaungatanga (to establish and maintain relationships), but more importantly, both supported the nature of the research and assured that Māori cultural protocols were followed. For instance, the use of koha (gift), where a small gift and food was given to each participant to thank them for their time, was adopted. The study development included consultation with Te Whare Wananga o Otago-University of Otago's Ngāi Tahu Research Consultation Committee, whose members review research proposals involving research with Māori in Aotearoa-New Zealand. The study was reviewed and approved by the Human Ethics Committee of the Te Whare

Wānanga o Otāgo—University of Otago and conducted within their ethical guidelines. Full informed consent was given by all participants.

#### 2.2. Recruitment

Snowballing or chain referral techniques were employed to recruit Māori participants as it allows for a study sample through referrals among people who share or know of others who have similar characteristics of importance to the research [65]. Kaumātua (elders) were sought for the study as they were thought likely to have the best memory of *tūpuna* (ancestors) practices and be the most knowledgeable. As health and well-being were the study's focus, their (elderly persons') experience of the situations they currently faced was considered relevant. Working with established Māori elderly health groups and through the general  $hap\bar{u}/iwi$  (sub-tribe/tribe) was found to be a better approach to recruit participants. Two participants were known to the researcher, while the remaining participants were identified by friends' and associates' contacts. The researcher initiated the initial contact by email or telephone and provided some information about the study. If participants identified as kaumātua (elders) or were part of an established elderly health group in the Wairarapa region, they were eligible to participate. Information sheets were provided at the start of each focus group. Two focus groups were established. The first focus group was composed of 8 participants, 75% wāhine (women) and 25% tāne (men), mostly aged 65 years or more. The second focus group had 10 participants, 60% female and 40% men, mostly aged 60 years or more. Historically, each iwi (tribe) may have different perspectives and knowledge, and hence, interviewing mana whenua (those who have ancestral relationships with a particular territory) within their rohe (tribal boundaries) would be the best practice [31]. However, over 85% of Māori now do not live in their rohe [66], so they are not mana whenua; instead are termed ngā matāwaka or taura (those who are settled in a different territory to where their tribal ancestors settled). From the 18 participants, 70% were mana whenua while the remaining were ngā matāwaka with mixed whakapapa (genealogy).

#### 2.3. Interviews

Data collection took place from June to November 2020. Face-to-face semi-structured interviews were used to allow multiple topics and concepts to be explored in an open-forum format [67]. A questionnaire with 15 open-ended questions was generated to be used as a guide for the focus groups. The questionnaire was adapted after testing and discussion with Māori elders as part of an early pilot study. The questions covered general health, outdoor environments, physical activity, spirituality and oral narratives and general demographics. Focus groups were carried out at *marae* (Māori meeting places), starting with a *pōwhiri* (welcome ceremony) to establish the relationship between people that at that time did not have a bond and become part of the *whenua* (land) and of the *mana whenua* (those who have ancestral relationships with a particular territory). Focus groups lasted between 180 and 240 min and were audio-recorded.

Research is often viewed with doubt by Māori and has been implicated in the process of colonisation. Māori-led research has, in part, grown out of dissatisfaction with prevailing methodologies [68]. In recognition of this background, a *kaupapa* Māori approach was adopted with the intent to make a positive change [69]. It is essential to acknowledge that the lead investigator in this research has no Māori heritage, but a pre-existing relationship established over time with the local *iwi* (tribe). Further to that, authenticity and accuracy were secured through engagement with Māori academics and related professionals in the community of practice [70] and as a result, this research was peer-reviewed by the Indigenous groups represented. Therefore, the knowledge gained must be returned for the benefit of those taking part and for the *kaupapa*, or topic of the research. This acknowledgement of sharing of knowledge was included in the information for participants and was discussed in some detail with the participants before the interviews.

#### 2.4. Data Analysis

All interviews were transcribed verbatim and analysed using interpretative phenomenological analytic techniques. This method permits the participants to explore and extract meaningful inferences based on their personal world [71] as its emphasis is on hermeneutics, experiences and in-depth analysis. An essential aspect of the IPA analysis process is the interpretation by the researcher (of the interpretation provided by the participants) of their experiences. The IPA coding provides for a detailed line by line analysis of the experiences and interpretations of each participant, and the identification of themes and super-themes, while observing context, language used and content. This was initially undertaken within each transcript of the focus groups [67].

In addition, *pūrākau* (narratives, stories) was adopted as a method or lens of analysis [72]. This method takes a traditional form of Māori narrative, drawing from and responding to the wider historical, social and political research contexts [14,72]. Through *pūrākau* (narratives, stories), Māori maintain connections to the land, such as through narratives about landmarks as ancestors of spiritual significance (e.g., *a maunga*, or mountain, that is *tīpuna*, or ancestral, to a particular *iwi* or tribe, who has significant *mana*, or authority, and thereby confers *mana* upon his descendants). As a methodology, it assists the researchers to unpack the wisdom contained in sacred landscapes by the ancestors and draws on *kaupapa* Māori principles and values to understand and interpret such narratives.

As kaupapa Māori research, emphasis was placed on the mātauranga, or knowledge, passed between generations [73] and participants' experiences as the holders of this knowledge. In addition, care was taken with making connections with participants with the objective that this should accord with *tikanga* (protocols) [74]. For instance, participants were generally located through *iwi* (tribe) or personal contacts of the researchers, focus groups were generally undertaken within the mantle of the *hapū* or sub-tribe, often commenced with a *powhiri* (welcome ceremony) or *mihi whakatau* (official welcome speech), which included karakia (prayer or chants), usually provided by the senior mana whenua person (those who have ancestral relationships with a particular territory), as well as food, and followed a process of *whakawhanaungatanga* (to establish and maintain relationships), and concluded with karakia (prayer or chants). The essential aspect of karakia (prayer or chants) was often reaffirmed in interviews. Its role was to 'clear the path' and provide protection for those taking part and 'lift the heaviness of those discussions' at the end [73,75]. As part of kaupapa Māori methodology, the principles and practice of hap $\bar{u}$  (sub-tribe), and the culture, beliefs, language, pepeha (way of introducing yourself) and mātauranga (knowledge) of participants were recognised for the leading role they provided in this research. Te reo Māori (Māori language) was part of the research, and although the interviews were generally conducted in English, participants were free to use either language.

The data analysis adopted a six-step methodology (Table 1) [76–78]. It started with the first three stages of the process by coding transcripts, adding first-order themes and subsequently moving coded data to second-order themes, allowing consolidation and data reduction. The fourth stage included clustering groups of themes into a coherent thematic framework. Each step of this methodology involved revisiting earlier stages and re-examining how and why themes were grouped together to ensure consistency between codes and themes, especially in lower-order themes, to avoid premature grouping. Each major decision and stage of the study was discussed in detail by the authors and justified using previous literature. An audit process was used to document each step as well as personal considerations and impacts. Findings were assessed in terms of relevance to current and future theory and practice.

Step	Description
1. Data Familiarisation	Transcription, reading and re-reading of data, initial ideas
2. Codes	Identification and organisation of the data into overarching codes
3. Themes	Interpretation of data and collation of codes into potential themes
	based on patterns and commonalities found
4. Review	Identified themes and sub-themes will be rechecked and refined
	in relation to the coded extracts and then the entire data set
5. Define and Name	Revision and refinement of the higher themes in relation to lower
	themes (and vice-versa) to ensure consistency, generating clear
	definitions and names for each theme
6. Results	Report on findings. A compelling narrative where the themes are
	weaved together with data extracts is required

Table 1. Phases of thematic analysis in IPA (adapted from [76–78]).

Both research methods help to enable a rich interpretation of the qualitative information provided by participants. The methods, one from *Mātauranga Māori*, and the other from Western psychological research, align as both hold context to be an important factor, and both have been adopted in health research. Kingi [79] refers to this process as a means of facilitating the development of a conceptual framework, while Holloway and Todres [80] defend that 'thematicising' is a form of qualitative inquiry that can be conducted with several theoretical frameworks, including *kaupapa* Māori as reported by Ihimaera [81]. Based on a traditional Māori worldview (*Te Ao Māori*), four fundamental elements of health: *Te Taha Hinengaro* (psychological), *Te Taha Wairua* (spiritual), *Te Taha Tinana* (physical) and *Te Taha Whānau* (family); are used to help clustering groups of themes [82].

#### 3. Results

The stories emerging during the focus group conversation occurred both spontaneously and in response to questions and discussion. They are grouped in five superordinate overarching, overlapping and interconnected themes, namely: *whakapapa* (genealogy); *mātauranga* and *tikanga* (knowledge and customs); *hinengaro* and *wairua* (mind and spirit); *tinana* and *tāngata* (body and people); and *whenua* (land). Two subordinate themes were also identified: *Te Tiriti o Waitangi* (Treaty of Waitangi) and *hangarau* (technology).

#### 3.1. Whakapapa (Genealogy)

Throughout the focus groups, participants described *whakapapa* as the main story and the many-nuanced other supporting stories, the expressions of those stories, their contexts and their interpretation. *Whakapapa* was understood as the story, without which culture, *Mātauranga* (knowledge) and things, Māori would not exist. An important aspect of *whakapapa* was that its interpretation could occur at many levels and have various associated meanings. There was a consensus that this construct encapsulated the creation of all things, people and their connections, events, places and time [83], as the following quote demonstrates:

'... the story of investigating Māori health values is about people and relationships: whakapapa. It is about mātauranga [knowledge], the land and connections to land and people. I would ask a little question and suddenly all these stories came to the fore ... each relating to each of these values.' (participant 3, female)

The participants used *whakapapa* to explain the connection to ancestral land and the importance of the place where an individual was born as well as to justify the migratory patterns among *kaumātua* (elders) within Aotearoa-New Zealand. Place-specific stories were told and termed 'kāinga tahi, kāinga rua' [84], which illustrates the need to migrate to another place for work and later returning home. This emphasised the relationships with other people in that particular place (or *whenua*) and what was important to them and their lifestyles. The stories about their early lives and education are of cultural relations and survival, as illustrated in this quote:

'When I went to school, we were forced to learn about Pākehā [non-Māori] history and traditions. The only way to connect to our whenua [land] was to hear the stories of our kaumātua [elders].' (participant 6, female)

Navigation stories were told, such as of Kupe (first Polynesian discovering the islands of Aotearoa-New Zealand) and the rocks, revealing the love of coast, land, place and ancestral connections, all related to the knowledge and customs embedded in whakapapa. A participant corroborates:

'So you know, that's our story and our link to here ... and it makes lovely telling ... and the stories that come out of it are just beautiful, and mind-blowing ... and I feel privileged to have these stories shared with me. (participant 15, male)

Health was interpreted from family stories. The stories were about memories, time, and place. The extensive body of knowledge derived from *whakapapa* (genealogy) is inextricably linked and forms the unbounded collection of Māori theory that maintains cultural identities and well-being. Thus, *whakapapa* became a code for stories of knowing who one is and where one fits as it explores connections and relationships with entities both animate and inanimate on the *whenua* (land) for the advancement of well-being:

## 'And if you can say, I'm going to stand on this whenua [land] because it's mine, that's really important.' (participant 9, female)

Such stories were appreciated by participants as a great opportunity for *rangatahi* (youth), as it fostered the sharing of knowledge and linking generations through *whakapapa*. Some participants mentioned the importance of such bonding moments as a ceremony of connection that permitted the claim of *tūrangawaewae* (place of belonging, standing, and identity). Others mentioned stories associated with times when *tohunga* (healers) were still around, or stories of how they were raised as children, often by their mothers, generally in families of 4 to 16 siblings. Most stories referred to fond memories of huge gardens and knowledge of *rongoā* (traditional healing system), while others referred to difficult memories resulting from the impact of colonisation, the desecration of *wāhi tapu* (sacred sites), pollution and destruction of waterways. Many agreed that the value of *urupā* (cemeteries) for recounting stories and *whakapapa* (genealogy) as well as the importance of contemplating the photos of *tūpuna* (ancestors) as being relevant to the individual and collective health and well-being.

'Our parents and grandparents, all wanted to share. And they shared some really sad stories ... and really funny. Just the telling of the stories is really healthy.' (participant 7, male)

Many discussed the importance for their health of passing on stories and knowledge through *waiata* (singing), *whakapapa* (genealogy), *awhi* (care and respect), *manaaki* (hospitality), *te reo* (language), *akoranga* (learning), *whenua* (land) and *wairua* (spirit) of *tūpuna* (ancestors). The stories included the importance of *karakia* (prayer or chants), of *marae* (Māori meeting places) and *whenua* (land), the significance of the spiritual world, yearning for spirituality, old knowledge handed down in stories, the powerful stories of death, stories of health issues and ancestors and the importance of *pepeha* (way of introducing yourself) for health and well-being through knowing who they are, where they belong and the landmarks that massage the bones of their *tūpuna* (ancestors). Other participants mentioned the significance of home as the place of their family's *urupā* (cemetery), as illustrated in this quote:

'Taking my daughter back to Te Uru a Tane [Blackbridge cemetery] was an amazing thing for my heart. We can look out at the whenua [land] where our ancestors came from. So both my family and connection back to my homelands, they're paramount for my wairuatanga [spirituality] ... and give me strength to do anything that I feel I can do outside here at work or even in the community. I think for a lot of them ... when they wanted to return back, whenua was important, papakāinga [housing] was important,

# whakapapa [genealogy] was important. Maunga [mountain] was important. Awa [river] was important. But a lot of them ... sold their land to the Pākehā [non-Māori]. So they had no land to go to.' (participant 8, male)

*Whakapapa* was linked in stories that interweave *tūpuna* (ancestors), *mokopuna* (grandchildren), strength, company, socialisation, friends, love; to *tāngata* (people), *whanaunga* (relatives), support, community, children, *iwi* (tribe), burials, *rangatahi* (youth), *rangatira* (chiefs) and birth. All who discussed *whakapapa* indicated that it was important to them as a Māori, as it fosters a sense of community and collective and brings together many environments. Such environments represent both living and non-living things within each community and that, in turn, was important for their health.

#### 3.2. Mātauranga and Tikanga (Knowledge and Customs)

*Mātauranga Māori* (Māori knowledge) was identified as a key theme across the interviews. It was introduced as a defining element of *Te Ao Māori* (Māori worldview) because of the inextricable link to both *whakapapa* (genealogy) and *tikanga* (customs) [85]. Knowledge was seen as descending down from ancestors and through to the current and future generations. *Kaumātua* (elders) were perceived as the guardians of knowledge, which meant that their health and well-being depended on the presence (or not) of Māori knowledge.

In terms of *mātauranga* (knowledge) and health-related topics, *kaumātua* (elders) discussed the importance of *rongoā* (traditional healing system), *mirimiri* (massage) and *whitiwhiti kōrero* (discussion and counselling). *Mahi wheua* (bone realignment), bush food and pain remedies were all part of traditional healing. While maintaining a holistic approach to traditional healing, health remedies first and foremost for older and past generations were sourced from nature. One participant spoke of empowering others to consider options to learn and do their own *rongoā* (traditional healing system) as well as spiritual healing:

### 'The knowledge of well-being for anyone, is really your knowledge of who you are.' (participant 12, female)

Most of the participants reported that of vital importance to *mātauranga* (knowledge) were the narratives associated with creation myths, *taonga* (treasures) and *kaitiakitanga* (guardianship) as well as *tikanga* (customs), such as *pōwhiri* (welcome ceremony), *koha* (gift) and reciprocity. Other important values identified by participants were *manaaki* (hospitality), *mana* (authority), and *kawa* (protocols), values for living and ways of knowing.

### 'It's important to know who you are and where you fit in, where your tūrangawaewae [place of standing] is. These are things that keep you safe.' (participant 17, male)

Many agreed that *rangatahi* (youth) and *tamariki* (children) play an essential role in maintaining and fostering *mātauranga* (knowledge) and *tikanga* (customs) because of their potential for learning and absorbing knowledge. To support that, acceptance of *te reo Māori* (Māori language) within the education system was an aspect of well-being which was important to several *kaumātua* (elders) as well as *mātauranga* (knowledge) and the fine art of telling stories.

'The young people of the day, one of the things they had to do was look after kaumātua [elders]. And so that was the first phase of caring for the elderly. And they would see ... that if anyone became really ill, it was the rangitahi [youth] that had to arrange for another kaumātua [elders] to sit with them. And they cared for their own in that way ... They cared for them and in their own environment.' (participant 10, female)

Children were also taught and trained through a visit to the *urupā* (cemetery). 'Every time we used to get into trouble, he would take us to the cemetery. And we would get in there and sit down and he used to talk about who was where, and what was, and how you do it' (participant 1, female). Others affirmed the importance of *urupā* (cemetery) for knowledge, tranquillity and well-being.

The significance of *Mātauranga Māori* to assist health and well-being was described as fundamental. Some were reliant on *mātauranga* (knowledge) to maintain their well-being.

In contrast, others were more sensitive to its availability as some participants had not been raised with that knowledge or were dissociated from it. '*How do we empower our people to take that knowledge in*[to] the community,' (participant 4, female) one participant asked. Another seemed to answer the question by commenting, '*It's a rippling effect. The more you spread something, the more people know'* (participant 11, female).

#### 3.3. Hinengaro and Wairua (Mind and Spirit)

Within this theme, emerging topics throughout the interviews included inspiration, learning, teaching, balance, happiness, depression, mental health, attitude, challenge, motivation, cherished memory, peace, contentment, identity, loneliness, stress, isolation, laughter, emotions, resilience, self-sufficiency, adaptability, apathy, talking and love, as well as stories, *waiata* (singing), *karakia* (prayer or chants), arts and music and *mauri* (life force).

'The main principle that I was taught by my tūpuna [ancestors] is that the most sacred part of the human being is their mind and their thoughts,' said one participant. (participant 13, female)

Most of the participants agreed that *wairua* (spirituality) is the essential aspect of good health; however, spirituality in *Te Ao Māori* (Māori worldview) is very difficult to define [13]. Some participants referred to the natural order of things, while others mentioned the understanding of one's life force or sacredness and recognition that the same life force is present amongst all other things. In essence, *'wairua'* is the acknowledgement of all things being sacred, interwoven and connected through a force that is present within everything and has a genuine impact upon the physical well-being [86]. In addition, other participants considered that a healthy *wairua* (spirituality) is directly connected to the surrounding environment, which includes the natural environment (land, mountains, rivers, sea, etc.) and the social environment (*whānau* or family, *hapū* or sub-tribe, *iwi* or tribe).

'We are first primarily spiritual beings in a physical body. Wairua [spirituality] is the pathway to access any feeling first and foremost ... When someone becomes unwell it is because their wairua [spirituality] has been interfered with ... the manifestation comes through to the physical. Therefore to feel a person's illness, is to perceive that spiritual fragmentation.' (participant 5, female)

Participants agreed that healing begins with an assessment of spiritual experiences and understandings. 'The sacredness of all our tinana [body] is wairuatanga [spirituality]. For example, every day, every evening we say blessings, we ask for blessings to give thanks to our atua [gods] and we live by wairua [spirituality]' (participant 14, female). Many established a direct link between wairua (spirit) and stories that were told to them during childhood, because that enabled them to learn to respect the power of karakia (prayer or chants), matakite (prophecies) and whānau (family).

'We have learned to respect wairua, our spiritual side. It's not all boogie night material ... and all our whānau that have passed on, we know that their wairua [spirit] lives somewhere amongst one of us. Whether it be through waiata [singing], whether it be through te reo [language], whether it be through whakapapa [genealogy] ... ' (participant 18, male)

*Karakia* (prayer or chants) was frequently identified as an important aspect of *wairuatanga* (spirituality) and keeping people safe. Formally, *karakia* was performed by *tohunga* (healers) in all kinds of healing situations and such knowledge was tribe-specific and never shared [87]. *Karakia* (prayer or chants) can be understood as the ritual for healing the sick by connecting a person to the *atua* (gods), distancing it from the practices of religious praying and linking it more to practices of blessing and protection [88]. The tradition of *karakia* remained an essential part of Māori society, and today is performed in different settings, mainly by *kaumātua* (elders). Such practices and healing techniques view Western medicine practices differently from non-Māori, particularly regarding the acceptance of multiple pathways to healing, such as *karakia* (prayer or chants) and herbal medicines. Like many other Māori healing techniques, *karakia* (prayer or chants) is based on accepting that practices from the past were successful and effective as they were tested over a long period, shared with incoming generations and were gifts from *atua* (gods). Participants in the focus groups highlighted the importance of practising and delivering *karakia*:

'Being Māori, the first thing is karakia [prayer or chants]. The power of karakia.' (participant 2, female)

'Everything that we have done in tikanga Māori has been through the blessings of karakia.' (participant 16, male)

'And with the karakia, you put in that karakia what you need done for the tinana [body], for the mauri [life force], for the mana [authority or prestige] of your people. If the balance is uneven, then you must bring that balance back. You must do one thing before you even attempt to go in and start doing. Go into the ngāhere [forests] to get rongoā [traditional healing system based on plants], you must first ask Tānē Mahuta [god of the forests and birds]. You must go through all those Atua [gods] ....' (participant 14, female)

While there were differences of opinion, some elders were lonely while others living at home alone enjoyed the time for contemplation. Others discussed evidence of the health effects of loneliness and discussed the importance of locating people, love and companionship through *kaumātua* (elderly) groups for health, mobility and well-being. Some noted that when *whānau* (family) are mobile and move overseas, they leave *kaumātua* (elders) at home. Most agreed that spiritual reconnection was needed for their health and well-being, as stated:

'I don't even remember seeing depression when I was young. Everybody had a role and they all knew what their role was,' (participant 7, male)

'I see too many that are just looking into space. There is a sense of loneliness and those things are going to bring that wairua [spirituality] and health down.' (participant 12, female)

'I think that the vibration of waiata [singing] is very powerful. And for our aged people who were surrounded by those vibrations in their lives, and then to be living alone, can be very depleting on their wairua [spirituality].' (participant 1, female)

#### 3.4. Tinana and Tāngata (Body and People)

The fourth identified theme was the relationship between *tinana* (body) and *tāngata* (people). Topics raised included people, family, *kaumātua* (elders), mobility, fitness, wellness, weight and food. The effect of retirement, disability, blood pressure, sedentary lives, amputation due to diabetes, ailments and pain were also discussed. For many, *tinana* was understood not only as the well-being of the body itself, but also the physical systems that have an impact on and be impacted by the psychological/spiritual/social systems that influence overall well-being. *Tinana* (the physical dimension) is concerned with the well-being of the human body and how the body interacts with the external world [89].

A common aspect highlighted by many participants was the importance of exercising and keeping an active lifestyle. Ways to exercise which were enjoyed included swimming, dancing, dog walking, *waka* (canoeing) sports, darts, housework, exercise at work and the *māra* (garden). Gardens for health, fitness and resilience were frequently identified, particularly as exercise for older generations. Some participants mentioned the importance of *mokopuna* (grandchildren) to exercise through playing games and a source of well-being. Other participants mentioned the power of *karakia* (prayer or chants) to heal the body and make sure Māori rituals and traditions are upheld before, during and after healing.

'When our moko [grandchildren] arrive in the school holidays it's really, really quite a joyous time.' (participant 9, female)

'If it wasn't for her mokos [grandchildren], she would be well and truly in the ground. But she lasted a long time, and she is so thankful to have her mokos around her.' (participant 5, female) Participants believed that negative emotions are held or trapped in the body and may manifest as a disease. Such negative emotions can be the catalyst to problems in specific parts of the body. Many defended that emotions are the link between mind and body, such as participant 8 (male): *'if those bad emotions and thoughts are trapped in your body, they can cause damage* ... *it's all to do with the connection of mind, body and spirit.'* 

The preciousness and concern for older adults' health were often discussed in relation to the extended family. The *whānau* (family) always has an impact on these issues, either directly or indirectly, and the *whakapapa* (genealogy) of both the individual, the individual's *whānau*, and the culture in which these are nested, is important.

'Whānau [family] should not lose sight of their kaumātua [elders] and should really try for them to be together and to know where other people are they can actually contact. So that they are never isolated. So that whatever they are going through, they will never be on their own. So that we will be able to work it out as whānau.' (participant 3, female)

Alongside this, in *te ao Māori* (Māori worldview), the historical processes of a *whānau* (family) can play an important role. For example, many cases of illness can be traced back to a transgression by *whānaunga* (relatives) in a previous generation [25]. As such, many participants said that *whānau* (family)—and the broader culture—must share the responsibility of addressing these issues. For example, some participants spoke of obesity, amputation (usually linked to diabetes), the effects of smoking, and stories of alcohol and enjoyment of life. 'I think a big problem with many of our elders is obesity' (participant 18, male).

Another critical aspect of the socio-historical environment is the input of *kaumātua* (*kuia* and *koroua*, female and male elders, respectively). Participants defended that *kaumātua* (elders) play an essential role in linking the present to the past. They are pillars of the community, who hold the collective wisdom and knowledge of *Māoritanga* (Māori culture), and are the primary practitioners of often-unknown *tikanga* (customs) [90]. Many participants said that *whānau* (family) is regarded as a fundamental aspect of identity in *Te Ao Māori* (Māori worldview) and can be the source of many vital strengths and protective factors. Thus, the well-being of the individual is inseparable from the well-being of their social network. However, some recognised that there was a lack of support for *kaumātua* (elders) in their area. The living conditions (desirably safe, warm and dry) were also a feature of discussions.

'I think our kaumātua [elders] should be amongst us and being cared for by us. One of the greatest assets for kaumātua [elders] and kuia [older women] is the whānau [family].' (participant 6, female)

#### 3.5. Whenua (Land)

The fifth superordinate theme discerned the importance of land (*whenua*). Participants described it concerning identity, *tūrangawaewae* (security and land base, place of belonging, standing and identity), *papakāinga* (housing) and *marae* (Māori meeting places), sacred places, mountains, water, wildlife, plants, forests and gardens (māra) as well as the importance of *Ranginui* (sky father) and *Papatūānuku* (earth mother) and the rituals of birth. The *whenua* was thought of as a knowledge base for how the land could be a source for sustenance and health.

'I am yearning to get out of the city, to head back home and learn how to fish properly. That is hopefully going to be my connection back to the land.' (participant 2, female)

'For me the whenua [land], wherever that whenua, is so important in terms of well-being and the health of the people.' (participant 14, female)

'And we know that there are people who have difficulty getting a home, so it is paramount for me not only for the well-being of kaumātua [elders] but for the well-being of people. Not just Māori but all people.' (participant 10, female)

Māori believe a solid cultural identity greatly influences health and well-being [91], and for most participants, their cultural identity was deeply embedded in *whenua* (land). In

addition, participants mentioned that Māori *tikanga* (customs and traditions) acknowledges that individuals are inherently connected to one another, their surrounding landscape, and that one's self is but a part of the more outstanding landscape, and the landscape is part of one's being [70]. Conversely, polluted and damaged land without *mauri* (life-force) was expressed as a source of *mamae* (pain). There was a perception of illness of place, which in turn affected people's health.

'My dad, quite a few years ago, he was a bit sad when he couldn't go out and gather toheroa [shellfish], because there weren't enough and there was something going on at the place where he used to gather them ... So if we could work together to make our waterways as clean as we can. I think cleaning our waterways would help not only old people, but the whole community.' (participant 13, female)

'We need to stop using sprays and look at more organic ways of clearing drains. What's wrong with using our hands? It's healthier for the body.' (participant 17, male)

This deep and intricate connection with *whenua* (land) assists in elucidating other Māori concepts. For instance, the sprinkling of water from a sacred stream onto a new-born child and dedicating the child to an *atua* (god) is just one example. The cultural beliefs related to birth, *'how a child is taken back to the awa* [*river*] *and immersed as soon as born'* (*participant 4, female*) and the importance of place and whenua *'when the tohungas* [*healers*] *were still around'* (*participant 15, male*), were recounted in stories of water for healing, birthing and for sick and elderly. The burial of the placenta (also *whenua*) in the ancestral lands of the tribe, often at the base of a marker tree, thereby linking the child to the tribal lands, was also mentioned by the participants. Embracing these traditional values re-instates *mana* (prestige/power) and *whenua* (land) of people and places.

'It's amazing what water can do in the spiritual realm for us as iwi [tribe]. We have a true belief in this awa [river] ... that keeps us safe, within that tapu [sacred] realm of our Māori tikanga [customs and traditions].'(participant 12, female)

Many participants mentioned that the loss of land and population directly resulted in significant losses of cultural heritage. This is supported by similar research, which illustrates that identity is drawn from the connection to the land and that confiscation of territory was effectively stripping away Māori identity [92]. Notably, participants—who all came from urbanised backgrounds—highlighted the disruption of *wairua* (spirituality) through colonisation, through disruption to one's physical environment (e.g., urbanisation), contributing to poverty, unemployment and lack of education. All of this has led to *whānau* (extended family) experiencing poor well-being, which leads to the poor well-being of individuals within that *whānau*.

An aspect that affected *wairua* (spirituality) and Māori health was identified as urbanism. With the loss of ancestral lands, participants referred to migrations away from homelands to urban centres, the loss of sacred *puna* (springs) or places, through desecration, destruction and pollution, and the pain of loss of connections, memories and special places, all contributed to a reduction in health and well-being. Spiritual experiences and the power of *karakia* (prayer or chants) were recounted in stories which also held that many of these experiences were no longer occurring in the cities: the physical signs from the natural world, forecasts of deaths or events to come seemed alien in the city but had been part of participants' early lives. Some participants illustrate these concepts as follows:

'Some very wonderful things about wairua [spirituality]. And how, you know, if you were feeling not so good, you went back to your land ... You took yourself and your troubles back to the land. And you talked to the land, to the river ... and so that really set you on the path to wellness, or hauora, again.' (participant 2, female)

'How can you ask the world of today to replace something like that? It's gone, it's been taken away.' (participant 11, female)

'The marae [meeting places] was there and everything was good, then everything started to change.' (participant 16, male)

This deep and intricate connection with *whenua* (landscape) assists in elucidating that the importance of place was about self and relationships. It included the physical wellbeing of the land—we are not well when the earth is not well. Pollution, global warming, deforestation and loss of resources/land were mentioned as causes to destabilise human well-being. The participants also celebrated the primordial connection to *Papatūānuku*, as the mother of all, and the *whenua* (the land/placenta) as the source of warmth, nourishment and security. Many participants agreed that when the *whenua*, or the person, is damaged somehow, their *mauri* (life-force) is also damaged or even lost. The land provided both physical and mental healing and was spoken to as a living entity; therefore, it was a reinforced commitment to *kaitiakitanga* or guardianship of the land. Some participants demonstrated that importance very vividly:

'If I had to think about traditional ways of keeping ourselves healthy, I would have to go back to the māra [gardens], and our traditional ways of gathering food. Our traditional things definitely all had to do with what we ate, and how it was gathered and how it was collected. We [children] were allowed to go anywhere with our billy, but when we returned home those billies needed to be filled with something to contribute to the dinner.' (participant 5, female)

'Like my dad, he's 83, and he'll get outside and do his māra, his garden. That's his well-being. Just being outside in the environment and breathing the air. And getting his hands in the whenua [land].' (participant 9, female)

#### 3.6. Te Tiriti o Waitangi (The Treaty of Waitangi) and Hangarau (Technology)

Throughout the coding of the results, two subordinate yet unrelated themes were detected: the importance of the *Te Tiriti o Waitangi* (the Treaty of Waitangi), as the foundation document of Aotearoa-New Zealand, and the use of smart technologies.

In an effort to protect native lands, resources and interests, many Māori tribes in 1840 signed *Te Tiriti o Waitangi* (Treaty of Waitangi) with the British Crown, including Ngāti Kahungunu ki Wairarapa and Rangitāne o Wairarapa. The treaty aimed to improve general relations between both parties and better understand one another; however, the treaty's enactment was riddled with difficulties. Many linguists claim it as a rushed translation resulting in multitudes of disagreement and misinterpretation [93]. Among the most significant of these disagreements is the concept of land ownership and British sovereignty. Māori of the time under *tikanga* (customs and traditions) did not have the concept of sole ownership [94], with many communities sharing ownership of land at the time [95].

The treaty was identified as an important aspect of Māori health by several participants. It was described as 'a sense of social justice and legal justice and the Treaty of Waitangi is the balance between those two things' (participant 1, female). Social justice was thought to confer happiness, and therefore well-being. The same kaumātua (elders) noted that 'while the British have betrayed Māori since the signing of the Treaty ... there are signs that equality is beginning to take shape' (participant 18, male). The Treaty of Waitangi was regarded as the first aspect of well-being.

Most of the participants referred to the country's current administrative and jurisdictional structure, especially the local authorities, such as councils. The role of councils was regarded as essential for Māori health and well-being, but it should move from a tokenistic approach to one that engages directly with *iwi* (tribes) and voices their concerns. Some participants mentioned the importance for councils to adopt concepts based on Māori *tikanga* (values) while dealing with recreational areas and developing vibrant places that combine rich cultural elements with beautiful greenery.

The healing power of a *puna* (springs) and stories associated with healing were contrasted with insensitive development undertaken by councils ' . . . *in their arrogance. It hurts our people'* (*participant 4, female*). These stories highlighted the damage to land, the lack of appreciation of Māori customs and values and the impact on Māori health. '*It affects our mental health, it affects our land. It affects everything'* (*participant 13, female*). Grassroots experience of health systems that empowered people to take responsibility for their own

health and develop and implement a succession of Māori health initiatives was discussed as stories and an important cultural link to Māori health.

Along the same line of thought and in regard to *hangarau* (technology), participants were often users of smart technologies such as exercise monitors and smartphones and tablets. Some mentioned how important it is to have a smart device that monitors their health and as a peace of mind to their own family. Looking at existing outdoor spaces, there was a consensus on the importance of developing areas that could potentially have technology embedded but only if there was a direct link to Māori culture. Some participants referred negatively to outdoor fitness areas, preferring nature and flourishing green vegetation as they were concerned with safety. Others mentioned that such areas are an excellent opportunity to connect with their grandchildren and enjoy some fun.

#### 4. Discussion

This study provided insights into the relationship between Māori culture, landscape and the connection to health and well-being, adding to the research in this area. It demonstrated the importance of *Mātauranga Māori* (Māori knowledge) and how this might be used more effectively to improve our physical, mental, spiritual and communal health and wellbeing. To accomplish this, the connection to health and well-being was maintained through *whakapapa* (genealogy), *mātauranga* and *tikanga* (knowledge and customs), *hinengaro* and *wairua* (mind and spirit), *tinana* and *tāngata* (body and people) and *whenua* (land).

Culture was at the heart of all discussions with the participants, which affected their health and well-being. An understanding of and respect for *Mātauranga Māori*, Māori knowledge, seemed an essential aspect to understanding wellness for Māori. This, in turn, demands consideration of customs and values and being aware of aspects of the Treaty of Waitangi. It is not enough, the information gathered indicated, to treat Māori *kaumātua* (elders) for physical matters—the treatment needs to be of the whole person to include their mental and spiritual health. The mind and spirit were bound into their health and wellbeing. With this came the power of *karakia* (prayer or chants), which was widely adopted, and other cultural aspects such as *waiata* (singing) and talking to family and groups. In addition, the health of the environment, its *mauri* (life-force), in turn, affects Māori health. The impact is still being felt of the many effects of colonisation and suppression of things Māori, and this should be addressed.

Healthy bodies were also linked to healthy active families and caring for the elderly. Activities and technology to assist with fitness were discussed, and despite their age, many Māori used everything available to them. However, those interviewed were actively connected *kaumātua* (elders), and there may be others who are immobile, confined to their homes, isolated. Few participants had chronic diseases, and there was an acknowledgement that this was a health issue for Māori and likely caused by lack of resource access to healthy food or poor food choices. *Rongoā* (traditional healing systems) was frequently mentioned as a way to combat some of those illnesses. Many different remedies were described as a way to improve the participants' health and well-being. In addition, a number of *kaumātua* (elders) were practitioners of Māori massage and other healing techniques, which their families and friends welcomed.

The importance of healthy land for Māori health was also raised by many or affirmed when questioned. Many suggestions about how public services and health providers could assist were put forward. This included acknowledging Māori identity in parks and open spaces, using Māori place names and narratives and better managing pollution of waterways and the environment. Accordingly, many participants emphasised the need for our public spaces to provide as many opportunities as possible to connect to the natural environment and spend time with loved ones. Such spaces should be adequately equipped to allow for intergenerational knowledge transfer, ensuring that the social and environmental health factors stay at a high level. In addition, the opportunity to gather in health/elderly Māori groups seemed very beneficial to those who took part in the study. While some elders were frail (in their 80's and 90's), and some used strollers for stability, they were clear that contact in their families, especially grandchildren, and in the community, assisted their mobility. It seemed that special facilities were not essential for this. A walk on the beach was an activity favoured by many. Their opportunities in groups, such as going to swimming pools, were also meaningful. However, many sought more green spaces that had meaning for Māori, rather than acultural, bland spaces. Aspects of concern were identified, firstly in the perceived lack of open spaces in cities and towns that indicated a place for Māori and held meaning for them, as well as their deep concern about environmental health and pollution, particularly of waterways.

Another aspect of concern was the lack of appropriate homes for elderly Māori, which affected *whakapapa* (genealogy). This was perceived as the knowledge base, events, stories, people, time and place which held Māori culture together. Those participants in this study linked their health and well-being to contact with family and people and activities in gardens and with grandchildren. Most discussed that local government and public services could do more to acknowledge Māori identity, which would be beneficial for their well-being.

*Whakapapa* (genealogy) seemed to be the cultural aspect that pulled these health stories together. Each aspect discussed was connected, whether it be family, events or land, history of colonisation and urbanisation, memories or ancestors, knowledge or *karakia* (prayer or chants). Addressing environmental management and health in a holistic way and communicating what seems a complex story to those who can realise beneficial changes is needed. As such, a framework is proposed based on how the stories interrelate and how those stories can be used as a metaphor for health and well-being. This framework, Therapeutic Cultural Environments, depicts *whakapapa* (genealogy) as the central aspect of health and well-being, which in turn links to *mātauranga* and *tikanga* (knowledge and customs), *hinengaro* and *wairua* (mind and spirit), *tinana* and *tāngata* (body and people), as well as *whenua* (land), all interrelated aspects of Māori health (Figure 4).

### 'And to me, you know, that's great. That's really good. Because you know, it's still living knowledge.' (participant 6, female)

The detailed responses of those participating and sharing their knowledge generally indicated no disagreement. The advice is consistent in that Māori knowledge, customs, values, land and the Treaty of Waitangi (social justice and other aspects including *tino rangatiratanga*, or absolute cultural integrity) are all critical for health, happiness and wellbeing and should not be addressed separately. *Wairua* or spiritual aspects are as important as fitness and exercise, people, *whānau* (family) and *whenua* (landscape).

The focus of the study was on the contribution of Māori knowledge to our understandings of health and well-being and its implications for conceptualising what a therapeutic environment entails. In-depth meaning and insights from Māori *kaumātua* (elders) assisted in expanding the idea that a therapeutic environment is not only the access to nature and greenery but is primarily related to meanings, stories and their identity as Māori. It would be beneficial for future research to investigate current understandings and future expectations for ageing well and expand on ideas related to more holistic health care. Future research could also extend to other age demographics such as *pakeke*, other adult Māori groups, or *rangatahi*, Māori youth, to comprehend health and well-being constructs and how those differ (or not) as we conceptualise a holistic therapeutic environment. We also know little from Māori health practitioners and those deeply involved in the healing processes of *rongoā* (traditional healing systems). Such topics are worthy of further investigation as there is already a wealth of information, and a thorough analysis of this before reporting circulation to health providers is required.

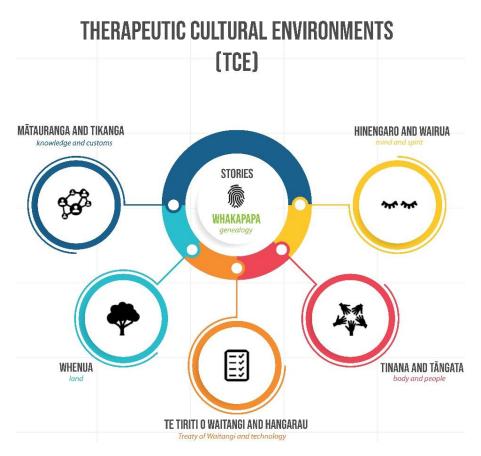


Figure 4. The proposed framework for Therapeutic Cultural Environments (TCE).

#### 5. Conclusions

This article aimed to provide insight on the importance of therapeutic environments for health and well-being by providing a conceptual framework grounded on *Mātauranga Māori* (Māori Indigenous knowledge) and cultural values that benefit both Māori and non-Māori people in Aotearoa-New Zealand. Often conventional well-being models are rigid in approach, but by understanding this holistic approach to contact with *whenua* (land) as dependent on *whakapapa* (genealogy) as the central aspect of health and well-being, which in turn links to *mātauranga* and *tikanga* (knowledge and customs), *hinengaro* and *wairua* (mind and spirit), *tinana* and *tāngata* (body and people), we can apply it to other populations to improve collective understandings of forces that impact well-being.

There needs to be more research work on Therapeutic Cultural Environments to continue to build the evidence base on the connections between health and nature through Indigenous knowledge using accepted methodologies. Such work is highly relevant for sharing widely with the health sector, researchers, governments, businesses, nongovernment organisations and communities. Māori kaumātua (elders), whether steeped in Mātauranga Māori (Māori knowledge) or not, enjoyed stories, laughing, reminiscing in each other's company, in being Māori. The activity of meeting, talking, and learning is beneficial for their health, and *iwi/hapū* (tribe/sub-tribe) groups that provide support for this to happen regularly, such as with organisation, transport and a venue, are enhancing the well-being of their kuia (older women) and koroua (older men). Extending these activities to natural areas, the beach and places with meaning for their elderly was agreed as desirable by participants in this study. Most of those who took part in the study were mobile, active and explained this by reference to exercise in gyms, swimming and activity in their gardens, with whānau (family) and communities, especially with their grandchildren. Exercise in natural accessible, green and flourishing open spaces with cultural integrity was highly preferred, especially in urban spaces regarded as less culturally meaningful.

Learning from local Māori *iwi* (tribes) and *hapū* (sub-tribes), which have multidimensional approaches to health and well-being, including connection to landscape and spiritual and traditional knowledge and practices, was crucial for Māori elders. The elderly groups have many stories about cultural traditions and broad knowledge of Māori healing methods and *rongoā* (traditional healing system). Maintaining health practices is as important as keeping the knowledge base itself. *Iwi/hapū* (tribes/sub-tribes) and health groups should record the knowledge and practices for assisting their youth in Māori knowledge and identity. Innovation in how this health and *pūrākau* (narratives, stories) knowledge is imparted to align with new knowledge transfer methods is needed to maintain the attention and commitment of youth when many opportunities compete.

Māori communities referred to the importance of access to natural places unique to them for health, spiritual well-being and cultural connections. Enhancing access and ensuring open spaces have meaning for Māori as well as non-Māori cultures were some measures recommended. The most concerning aspect of this investigation is that older adults who retire and remain at home cannot make new community contacts. This may be a particular issue among Māori, who may lack transport and other resources. Specific attention is needed by health providers and *iwi/hapū* (tribes/sub-tribes) on retirement activities and plans, so that immobility, loneliness and depression do not flourish in their area. Analysis, evaluation and detailed reporting to Māori health providers and public services should be the focus in the following stages of this research. Māori knowledge is produced in Māori worlds and through relationships between people and places, and these remain crucial for preserving, encouraging and growing knowledge of the land to support and sustain health and well-being.

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