Māori Cultural Identity: A Determinant of Wellbeing for Older Māori

A thesis presented in partial fulfilment of the requirements for the degree of

Master of Science

in

Psychology

At Massey University, Manawatū, Aotearoa New Zealand

Ariana Rutawa Rose Apiti

2020

Abstract

Kaumātua is a term used to describe older Māori in Aotearoa New Zealand. Encompassing both males and females, the term serves a functional purpose that reflects a sense of leadership within given communities. With various researchers making contributions to strategies and focusing on how older adults navigate this phase of life, it is important to ensure the voices of kaumātua are accounted for in ageing discourse. When exploring determinants of health for older Māori, an emphasis on Māori cultural identity (MCI) as a determinant of wellbeing specifically, may provide a more empowering perspective towards the ageing process.

The research aim for this thesis is to explore the relationship between Māori cultural identity and well-being for older Māori adults.

The research objectives are outlined below:

1. To examine the different levels of MCI present in this sample of older Māori adults.
2. To examine the relationship between each level of MCI and the four dimensions of well-being, as encompassed by Te Whare Tapa Whā.
3. To examine the relationship between demographic variables and well-being for older Māori adults.

The data for the present study was collected as secondary data, sourced from the 2018 Health, Work and Retirement (HWR) study survey. A total of 970 participants who self-identified as Māori, aged 55 years and over and provided answers to all MCI items were included in the sample. The data was analysed using Kruskal-Wallis ANOVA, Mann-Whitney U tests and multiple linear regression.

Main findings from the present study indicate that Māori cultural identity plays a role in shaping wellbeing for older Māori adults. Older Māori adults who reported a secure MCI also reported experiencing a greater sense of overall wellbeing, supporting MCI as a significant determinant of wellbeing, for older Māori adults.

Acknowledgements

My deepest gratitude goes to Dr Natasha Tassell-Matamua who expertly guided me through the thesis process. Her guidance, persistence and patience during this long journey I have been on, enabled me to complete this piece of research. Without her unwavering support and belief in me, I question whether I would have completed. I know I did not make this journey an easy one, so thank you for not giving up on me.

My appreciation also extends to Dr Sarah Herbert for her extensive knowledge and support on the topic of older Māori adults. Her thoughtful critiques and feedback helped me develop a better understanding of the topic. Your input and keen eye for detail was invaluable.

To my mum and dad, thank you for always supporting me with my many endeavors. Even when you don't fully understand why I am still at university and wonder why "I haven't got a proper job yet." Thank you for allowing me the freedom to explore the world and make mistakes, yet always being there when I need you both. You have inspired me to find my purpose in life and pursue it with determination. To my siblings Mikayla, Kristopher and Emma – thank you for keeping me on my toes. Most importantly thank you for looking after our parents, while I have been down here in Palmerston North. You all motivate me to keep going when times get tough.

To our ancestors who have passed on – thank you for the hard-work and sacrifices you made to provide us with the opportunities we have today. I hope one day to reciprocate and hopefully contribute in a small but meaningful way, to opportunities for my future mokopuna. Thank you for looking out for me and guiding me through life.

This journey has been long and at times a painful one. Never did I think, I would be in the position of creating my own small piece of research. This journey has tested my resilience, confidence and helped me grow as a person. Whilst acknowledging I am in a privileged position to be able to under-take study at university and very grateful for the opportunity. I am also grateful this journey has now come to an end.

Glossary - Te Reo Māori Translations

This glossary provides explanations of Māori terms within the context of this thesis. They are by no means intended to be definitive, as iwi have their own translations, understandings and contexts for Māori terms, which may hold different meanings.

Māori	Translation
Aotearoa	Land of the long white cloud, New Zealand
Atua	Spiritual entity
Aroha	Love
Hapū	Subtribe
Hinengaro	Mental wellbeing
Iwi	Tribe
Kaumatua/Kaumātua	Elder/Elders
Kotahitanga	Unity, togetherness
Mānaakitanga	Hospitality, caring, nurturing
Mana	Prestige, authority or spiritual power
Māori	Indigenous people of Aotearoa
Māori Motuhake	Māori as a distinct group with autonomy and independence
Marae	Gathering centre
Mauri	Life force
Mokopuna	Grandchildren
Noa	Safe/free from sacredness
Pākehā	European
Tane/Tāne	Male/s
Taha	Wall or Side
Tāngata Whenua	Indigenous people/People born of the whenua
Tapu	Sacred
Te Ao Māori	Māori world

Te Reo Māori	Māori language
Te Whare Tapa Whā	Four sides of a whare - Māori health model (taha whānau, taha wairua, taha hinengaro, taha tinana)
Tikanga	Customs and traditional values
Tinana	Physical wellbeing
Tōhunga	Expert/high priest
Wahine/Wāhine	Female/s
Wairua	Spiritual
Whakawhanaungatanga	Establish relationships
Whānau	Family
Whanaungatanga	Relationship/kinship
Whāngai	Adopted/foster child
Whare	House
Whenua	Land/placenta

Table of Contents

List of Tables

Chapter One

Introduction

Kaumātua is a term used to describe older Māori in Aotearoa New Zealand. Encompassing both males and females, the term serves a functional purpose that reflects a sense of leadership within given communities (Cram, 2016; Durie, 1999b; Edwards, 2010; Waldon, 2004). Kaumātua are recognized for their social standing, and the mana and integrity they hold as representatives of iwi (Durie, 1999a). Their role is typically considered as one derived from competence with cultural knowledge and ability to enrich communities through their teachings. Fulfillment and self-worth can be derived from the important roles older Māori hold in society.

Age then, confers both responsibilities and expectations by Māori communities towards older Māori, as well as bestowing respect and recognition of their valued role within the community (McDonald, 2016). Regarded as key support systems for whānau to draw on, Māori communities rely on the cultural knowledge shared by older Māori for inter-generational transfer, making kaumātua treasured taonga within Māori society who are afforded great respect (Dulin, Gavala, Stephens, Kostick, & McDonald, 2012; Dyall et al., 2013; Dyall et al., 2014; Oetzel et al., 2019; Waldon, 2004). Indeed, a deep appreciation for old age and regarding elders as valuable, occurs within a te ao Māori worldview.

However, it is acknowledged colonial processes, in addition to other complex factors, mean some older Māori were not immersed in Māori cultural practices and beliefs throughout their lives. Others may have chosen not to connect with their Māori cultural identity. Not all older Māori want to take up the position of cultural leadership within their communities. Some older Māori do not feel their cultural capacity or skill base meets the requirements of a cultural leadership role, such as that of kaumātua. Others feel that engagement in te ao Māori is not shared consistently (Waldon, 2004). In recognition of the various experiences and diverse realities (Durie, 1999b) of Māori individuals, the term

older Māori, rather than kaumātua, will be used to describe participants in the current study.

A positive view on ageing is not new to Māori but is also not necessarily the standard either (McDonald, 2016). The *Healthy Ageing Strategy* (2016) utilized in Aotearoa New Zealand focuses on positive aging and equipping individuals with tools to help them avoid long-term illnesses/disabilities. This strategy informs the direction of policies and initiatives facilitated by organizations, to promote the wellbeing of older adults. However, the focus is on individual responsibility for maintaining health promoting behaviors, such as physically exercising, ensuring uptake of healthy food/water, and undertaking activities that encourage mental stimulation (Stephens, 2017). Effectively, older adults are held accountable for their ability or inability to maintain their wellbeing. Marginalized groups typically experience negative impacts of inequalities within society, which contribute to engagement/lack of engagement in health promoting behaviors. Yet, such inequalities are often not considered when it comes to older Māori wellbeing.

With various researchers making contributions to strategies and focusing on how older adults navigate this phase of life, it is important to ensure the voices of kaumātua are accounted for in ageing discourse. Predictions also suggest by 2038, Māori over the age of 65 years will account 11.9% of the Māori population (Statistics New Zealand, 2020a), and a substantial proportion of the general Aotearoa population (Statistics New Zealand, 2019). Therefore, it is equally pertinent to focus a lens on older Māori experiences of this later phase of life. The intention of the present research is to explore Māori cultural identity (MCI) and how this may or may not influence wellbeing in older Māori adults. While there is literature exploring determinants of health for older Māori (Allport, Martin, White, 2018; Dyall et al., 2013, 2014; Waldon, 2004), an emphasis on Māori cultural identity as a determinant of wellbeing specifically, may provide a more empowering perspective towards the ageing process.

The research aim for this thesis is to explore the relationship between Māori cultural identity and well-being for older Māori adults.

The research objectives are outlined below:

1. To examine the different levels of MCI present in this sample of older Māori adults.
2. To examine the relationship between each level of MCI and the four dimensions of well-being, as encompassed by Te Whare Tapa Whā.
3. To examine the relationship between demographic variables and well-being for older Māori adults.

Chapter one introduces the study and provides background information about older Māori in Aotearoa. The aim, objectives and scope of the study are detailed. An outline of each chapter is provided.

Chapter two is the literature review. It begins by exploring the concepts of cultural identity and more specifically Māori cultural identity (MCI). An overview of events that took place in Aotearoa during the early phases of colonization will be provided to contextualize how understandings of MCI have can change over-time. It is well documented, Māori experience diverse realities and cultural experiences are not necessarily shared consistently across all individuals (Allport et al., 2018; Bennett & Liu, 2018; Durie, 1995; Ebbett & Clarke, 2010; Greaves et al., 2017; Houkamau & Sibley, 2019; Pere, 2006; Tassell, 2004). Whilst colonization at times is framed as a past process, it has continuing contemporary implications. These implications flow onto understandings of MCI and the diverse realities people experience.

Chapter three seeks to explore the relationships between cultural identity and wellbeing. Importance is placed Māori cultural identity and the relationship with wellbeing. However due to the lack of research specifically focusing on older Māori and MCI, literature will also be drawn from cultural identity and well-being research. Alongside, literature that encompasses variables previously identified as relevant for older adult wellbeing. Well-being is explored through the *Te Whare Tapa Whā* framework, applying a Māori cultural lens to the topic. This information will help shape what wellbeing may look like in later life for older Māori. Alongside, any relationships cultural identity may have with wellbeing.

Chapter four describes the methodology of the research. Secondary data from the Health

and ageing research team (HART) was used to measure MCI and wellbeing variables. Participants, measures and an outline of the analyses conducted are provided.

Chapter five covers an outline of the findings. MCI and the relationship with wellbeing is provided first. Selected demographic variables are their relationship with wellbeing are provided second.

Chapter six provides the discussion component of the research. It integrates the findings of the present research with literature existing in the field. Limitations of the current study and ideas for future research are outlined. Followed by a conclusion of the study.

Chapter Two

Cultural Identity

This chapter will explore the notion of cultural identity, and Māori cultural identity in particular. It will briefly discuss terms often used interchangeably with cultural identity, and how they can be differentiated. It will then seek to detail the socio-historical context of Aotearoa by discussing key events that have shaped understandings of Māori cultural identity. For example, colonial processes that have changed the social and structural frameworks of pre-colonial Māori ways of life. These processes have lasting implications to understanding what it means to be Māori. Colonization is not only a historical process, but it continues to have on-going and lasting contemporary effects, some of which are reflected in how Māori conceptualize their cultural identity today.

Culture, ethnicity and cultural identity have been used in social science research to categorize individuals (Kim, 2007). *Culture* refers to a collective who share common characteristics including; beliefs, values, attitudes, language and dialect that are passed on to future generations (Pere, 2006; Thomas, 1986). These unique characteristics embody culture as a living entity that endures the challenges of time. *Ethnicity* can be described as self-identification to a group who share common descent/ancestry (Cormack, 2010; Kim, 2007; Mio, Barker, & Tumambing, 2006; Thomas, 1986). Ethnicity also encompasses external factors, such as social assignment to particular groups based on assumptions and stereotypes (Gillon et al., 2019). Ethnic identity is not bound to culture and can be derived from other shared commonalities such as religion, myths or historical events (Liebkind, Mähönen, Varjonen, & Jasinskaja-Lahti, 2015a).

Similar to culture and ethnicity, cultural identity is a way of categorizing individuals into collective groups (Oetzel et al., 2019; Pere, 2006; Taylor & Kachanoff, 2015; Thomas, 1986). Cultural identity is described as the degree to which an individual is socialized to cultural knowledge and their engagement in cultural practices (Taylor & Kachanoff, 2015). Social identity theory (SIT) helps to explain cultural identity by providing reference to collective and normative values, beliefs and goals (Coleman, 2018; Taylor & Kachanoff, 2015; Taylor & Usborne, 2010). Self-identification with these norms, help shape individual self-concept, which has been linked to positive psychological well-being (Taylor &

Usborne, 2010). Cultural groups also have ‘gate-keepers’; those who are entrusted with cultural resources and knowledge (Durie, 1997). Sharing of these resources help shape cultural identity. Distinctions between cultural and ethnic identity focus on the assessment of cultural knowledge and engagement in cultural practices. Therefore, an individual may self-select an ethnic identity, whilst simultaneously holding minimal cultural knowledge or engagement in cultural protocols (Liebkind, Mähönen, Varjonen, & Jasinskaja-Lahti, 2015b; Thomas, 1986). In this space, cultural identity can be viewed as a distinctive classification, separate from that of ethnicity.

2.1 Māori Cultural Identity: Socio-Historical Context

2.1.1 Pre-colonial Māori

The people that came to be known by the term Māori, arrived in Aotearoa from Polynesia some 1000 years ago. Māori are commonly referred to as the tāngata whenua of Aotearoa. Although much pre-colonial history of Māori is likely lost or somewhat distorted because of the colonial process, there is some agreement among contemporary Māori, both scholars and the lay public, regarding how Māori may have lived. It is generally accepted that the early arrivals to Aotearoa and subsequent generations, established a way of life grounded in collectivist practices and a holistic belief system (Bennett & Liu, 2018). Iwi, hapū and whānau, which are collective groups based on shared whakapapa (genealogy) to common ancestors and geographical locations, were central to efficient and effective functioning of collectives (Mead, 2016; Roberts, 2013). Ancestral ties were not only humanistic but also connected iwi, hapū, whanau and individuals to the surrounding environment (Bennett & Liu, 2018; Pere, 2006). Māori cosmology and cosmogony speaks to a complex process commencing with the beginning of the universe and extending down through the creation of human beings from the whenua (Cowie et al., 2016). Indeed, all Māori are believed, as a consequence of a common descent back to the creation of the universe, to be embued with both a life force (mauri) and a spiritual essence (wairua). These two ‘entities’, while difficult to explain and define with certainty, remain fundamental components of a Māori worldview, and underpin many contemporary practices, rituals and beliefs. The inherent connection to these, as well as elements of the

wider world, reinforce a holistic belief system where all things are interconnected (Harmsworth & Awatere, 2013; Mead, 2016; Roberts, 2013).

Values, which are abstract concepts or factors that guide behaviours and the way people live their lives (Houkamau & Sibley, 2017, 2019), make up a salient part of te ao Māori, and shaped the obligations and expectations of whānau members (Collins & Wilson, 2008). Although dependent on social context and situation, they also played a role in regulating behaviours and interactions with others, and provided the framework for, as well as being informed by, a Māori worldview. An outline of some values important for Māori is presented below, although it should be noted that this list is by no means exhaustive, and is a generalised descripton of each value. It is acknowledged each value may be interpreted in different ways according to iwi, hapū and whānau delineations, and that each has an inherent spiritual component that is beyond the scope of this chapter to describe.

- *Manaakitanga*: although used colloquially in Aotearoa society, this value may be described as the reciprocity of kindness, respect, caring for others and the environment (Alpass, Szabo, Allen, & Stephens, 2017a; Collins & Wilson, 2008; Harris, MacFarlane, MacFarlane, & Jolly, 2016). When enacted as a behaviour the purpose of manaakitanga is to uplift the mana of others (McDonald, 2016).
- *Whakawhanaungatanga*: refers to the all-embracing relationships fostered between people, the physical world and ātua (spiritual entities) (Gallagher, 2016). These values embrace an inter-generational connection between members of whānau. The process of caring for one another provides a sense of duty to each other in times of need, hurt and vulnerable states.
- *Aroha:* is the ideal of reflecting love for those within kinship ties and is enacted at all times, particulary in times of sickness or trouble (Collins & Wilson, 2008). Equally, aroha is expected to underlie interactions with those who are non-kin, as a means for giving effect to the value of manaakitanga.
- *Tikanga:* encompasses doing things the right way. It is acknowledged that what is ‘right’ can be dependent on context and time, and therefore tikanga is not static but evolves over time. An underlying basis of tikanga however is that all actions

should have manaakitanga as a basis.

- *Māori motuhake* identifies factors unique to Māori cultural identity that distinguish Māori practices and rituals from other cultures, such as language preservation (Bennett & Liu, 2018; Nikora, 2007).
- *Kotahitanga* represents the process individuals go through to establish a sense of unity or belonging. Through this process trust, connectedness and participation can be developed, resulting in a sense of unity (Bennett & Liu, 2018; Nikora, 2007).

The values of manaakitanga, whakawhanaungatanga, aroha, tikanga, Māori motuhake and kotahitanga are important for understanding a Māori worldview. They all embrace the importance of relationships with others. Collectivist practices included social obligation to the group; where individuals were expected to uphold given responsibilities with the intention of establishing social standing and in-group acceptance. Accordingly, collective goals and responsibilities held greater importance than individual desires. The idea of being independent from one's whānau negated the importance of connectedness and commitment to whānau (Durie, 1994; Houkamau & Sibley, 2017), therefore was not encouraged nor tolerated. This connection to traditional and cultural practises was easy to establish and maintain as Māori lived communally situated in rural, tribal areas (Houkamau, 2011). Thus, cultural resources were readily accessible and support could be obtained from the wider whānau, when required (Durie, 1997). For example, regular exposure to te reo (Māori language) and tikanga Māori was ingrained in the day to day lives of Māori, and meant cultural knowledge and practises could be easily passed down through successive generations (Houkamau, 2011).

2.1.2 Post-colonial Māori

The arrival of Pākehā to Aotearoa brought many changes. Perhaps one of the most significant to conceptualizations of cultural identity, was the homogenization of various iwi/hapū/whānau into one cultural group known as "Māori." This classification was based on the assumption that all iwi, hapū and whānau were homogenous and ascribed to the

same cultural practices (Pere, 2006). Through the creation of one group of Māori, distinctions between Māori and Pākehā could then take place.

European settlers also brought many changes to Māori society, which had direct implications on Māori cultural identity. One significant change was mass land confiscation. Additionally, Māori were given the promise of citizenship under the British Crown and ownership of Māori lands. In return, governorship lay with the Crown, alongside ceding exclusive rights to the Crown to purchase Māori land. In reality, by 1870 Māori had lost significant amounts of land to Pākehā through war, land sales and confiscation (Houkamau, 2011). Whilst economic advantage is often put forward as rationale for Māori fighting for land return, there is also a deeper, spiritual connection tying Māori to the environment.

Part of the process of colonization by colonial settlers was the drive to assimilate Māori into a European way of life. “Civilization processes” through the schooling system incorporated active promotion of Pākehā beliefs, values and importantly language. Engagement in te reo Māori became a punishable offence in schools, with severe consequences (Greaves et al., 2017; Jenkins & Matthews, 1998). The importance of language is derived from the underlying assumptions that fluency in te reo Māori may represent engagement with Māori values and beliefs (Stevenson, 2004). Therefore, language and te reo Māori, is thought to be one of the most significant factors for predicting variance in Māori cultural identity. Purposeful steps to assimilate Māori language to English, then has direct implications for the language component of a Māori cultural identity. This is reflected in the low numbers of Māori able to speak and understand te reo Māori fluently. Therefore, whilst language is an important factor for Māori cultural identity, there may still be individuals who embrace a strong Māori cultural identity but do not have the language to articulate it, due to colonization processes.

Another example of how colonization changed Māori cultural identity was the passing of the Tōhunga Suppression Act (1907) (Bennett & Liu, 2018). The Act outlawed the practice of traditional Māori healing systems, in place of Western medicine. Various reasons have been put forward to explain the implementation of the Act. Although some prominent Māori leaders at the time endorsed the idea of the Act, rising health concerns due to

introduced disease and the inability of Tōhunga to aid in the healing of previously unknown illnesses were likely key drivers for its implementation (Stephens, 2000). It was also speculated as a political movement and regarded as a way of suppressing Māori prophets such as Rua Kenana, who symbolized Māori autonomy (Stephens, 2000). Regardless of the reasoning as to why the act was implemented, the consequences for Māori cultural identity are considerable. Direct criticism of an integral part of Māori healing systems including - wairua or spirituality – meant this knowledge system and cultural process was not handed down to successive generations, for all Māori. Lasting implications for contemporary understandings or lack thereof a holistic way of life/healing result.

Aotearoa's economic structure changed for Maori, as colonization continued. Māori began moving away from their traditional lands to urban areas in search of economic opportunities, such as employment (Greaves et al., 2017; Houkamau, 2011). Houkamau (2011) identified the explicit racism Māori faced upon their movement to urban areas. This included unequal distribution of quality housing, income and intentional processes to hasten assimilation such as "pepper pot housing". This process was a means of moving Māori into housing with European families to help them learn eurocentric ways of living (Greaves et al., 2017; Hall, 2008). Some Māori were able to hold tight to their values and belief systems, whilst adapting reasonably well in prominently eurocentric urban areas, thus became able to function relatively well in two worlds. Others struggled to embrace the somewhat contrasting belief systems and chose to learn/function well from one worldview. As can be seen in the generations of urban Māori prior to the 1970's, where active disconnection from Māori culture was discernible. Comparatively, Māori who remained within their rural settings, were more accustomed to engaging in Te Ao Māori (Greaves et al., 2017; Houkamau, 2011).

The establishment of the Waitangi tribunal in 1975, saw breaches to Te Tiriti o Waitangi brought to the attention of the government and prompted attempts at compensation. The intention of these movements and activism was to reinvigorate Māori language and culture (Houkamau, 2011). With regards to Māori cultural identity, an attempt at recovering te reo Māori and embracing cultural beliefs, values and tikanga was a way to

realign Māori of this time period, with their cultural identity. Further it provides opportunities for future generations of young Māori to learn and engage with their culture; a dramatic but necessary shift in the right direction. However, for Māori that grew up during the phases of active cultural denigration, this shift adds another level of complexity to their understanding of their Māori cultural identity.

2.2 Māori Cultural Identity: Older Māori in Contemporary Aotearoa

Attempting to describe how older Māori relate to te ao Māori, and therefore conceptualize their own cultural identity, is perhaps somewhat futile due to the complex interaction of socio-historical factors as well as contemporary realities. Some older Māori may have chosen not to connect with their Māori cultural identity, or more specifically, may not have had the opportunity to connect in a way they or others wanted or expected. Not all older Māori want to take up the position of cultural leadership within their communities. Some older Māori do not feel their cultural capacity or skill base meets the requirements of a cultural leadership role, such as that of kaumātua. Others feel that engagement in te ao Māori is not shared consistently (Waldon, 2004). Previous research does provide some insights that suggest the realities of older Māori are not homogenous, but rather diverse, and reflected by a range of factors.

Given te reo Māori is often considered an important component to understanding a Māori worldview, it is perhaps also a useful indicator of cultural identity. The Oranga Kaumātua study found most older Māori in the sample were able to engage in te reo Māori. Just under half of older Māori were also able to engage in both te reo Māori and English, while 37% of participants engaging in solely English. Older Maori within the 75 plus age group were identified as proportionately the highest number of speakers of te reo Māori (44.2%), followed by the 65-74 year old (36.5%) group. Dyall et al. (2014) also had a high number of participants fluent in te reo Māori between the ages of 80 to 90.

A report conducted by Allport, Martin and White (2018) provides a snapshot into the needs of kaumātua and some of the services that are currently available across Aotearoa. From their research they found older Māori aspired to age in a place of their choosing that was ideally located close to whānau. Upholding active engagement with whānau was central

to kaumātua wellbeing as this provided an opportunity to share knowledge and be of benefit to others. More practically, upholding autonomy over their lives and being able to engage in activities of their choosing over-shadowed the expectation of dependence on whānau. Rather it was desired by kaumātua that they strive to achieve their own goals and when required, help would be provided. The desire for independence and self-reliance in later life, provides a contrasting perspective to the discourse burden on society by older adults.

Heterogenous experiences of older Māori realities can also be broken down into regions. Allport et al. (2018) interviewed different groups of kaumātua residing in different regions across the country. They found kaumātua needs within northland focused primarily on lack of access to service provisions such as, dental care or optometry. The need for greater support provided to older Māori caring for mokopuna who were impacted by alcohol or drugs was also identified. Kaumātua within the Auckland region displayed relatively comfortable financial circumstances where they owned their own homes and were able to meet their financial needs. Kaumātua within the Bay of Plenty region emphasised engagement within Te Ao Māori as important for wellbeing. Marae were central to this engagement. Marae represented a physical space where cultural processes could be engaged in by whānau. For example, learning Te Reo Māori, history and culture. Further, some Marae were able to hold wellbeing clinics where kaumātua could receive physical, mental, spiritual, essentially holistic healing.

Home ownership rates remained relatively high for central north island kaumātua. Though there was discussion of the potentiality of building kaumātua flats for older Māori to age in. Rationale behind this idea related to the importance placed on remaining connected to Te Ao Māori. More specifically, remaining close and connected to marae. Interestingly, participants within this group also touched on the difficulty of navigating discourse that are sacred such as death and sickness. Though this could be a means of moving forward and helping others to prepare for older age. Interviewees representing the East Coast further supported the theme of home ownership. Discussed as a central point of wellbeing due to the long-term intergenerational benefits it could provide the whānau. As well as the capital it could provide if kaumātua chose to relocate.

Findings revealed material wellbeing was as an important factor influencing older Māori wellbeing. This was also evidenced by Edwards (2010) who noted older Māori experienced relatively high levels of material disadvantage and poverty. Material disadvantage has been linked to wellbeing (Allport et al., 2018). What this looks like for older Māori is a reliance on the government to provide financial assistance and support in older age. A range of factors influence this relationship including less financial investment into retirement funds such as kiwi saver, lower home ownership rates and less medical insurance (Edwards, 2010; Houkamau & Sibley, 2017, 2019). Home ownership in particular has been identified as one of many factors contributing to individual level material wellbeing - particularly personal security or a sign of socio-economic advantage (Houkamau & Sibley, 2015). However, the implications of material wealth transcend beyond personal benefits. For older Māori, material wellbeing or lack thereof is transferred to future generations and becomes tied to wider whānau wellbeing. Owning a home can also increase financial capital older Māori have available in later life, providing more economic opportunities and choices that come from opportunities. As a heterogeneous group, there are older Māori who find themselves in a position of advantageous material wealth and those in positions of disadvantage. Both positions have implications for older Māori wellbeing at a personal level but also importantly, at a collective, whānau level.

Research conducted on socially assigned ethnicity, found those older Māori with phenotypically fairer skin were assigned by others as non-Māori (Gillon et al., 2019). This was a result of social assignment by outside groups who assume the identity of individuals, without acknowledging their choice of ethnic group. Implications of this assignment provided advantage within society, for example more employment opportunities for this group of Māori individuals (Gillon et al., 2019). However, internal conflict regarding Māori identity was seen to rise. This is evident in the discourse regarding whether participants with fairer skin, thought they met the standard of being Māori enough.

The combination of the above findings indicates the very heterogenous realities of older Māori, including in terms of cultural capacity, social, economic advantages/disadvantages, as well as aspirations and needs. They also suggest that

these may differ according to region, alongside a host of other factors. Ultimately, they suggest that older Māori do live in diverse realities, and a one-size-fits-all approach should not be taken when considering Māori cultural identity of this group.

2.3 Māori Cultural Identity: Classification for Research Purposes

While diverse realities shape older Māori cultural identity, it is important to remember the socio-historical events comprising Aotearoa's history, and how these shape different understandings of Māori cultural identity. Indeed, scholars have grappled with the idea of whether a Māori cultural identity can be defined, and whether there is merit in doing so. While one's sense of cultural identity is ultimately subjective and something that can only truly be defined by the individual themselves, categorizing Māori cultural identity for the purposes of research has been done, with a view to determining how and in what ways measuring Māori cultural identity can be useful for determining a range of well-being indicators.

Therefore, previous research in Aotearoa has classified Māori cultural identity into groups based on the assumption of diverse realities (Bennett & Liu, 2018; Durie, 1994, 1995; Houkamau, 2011; Nikora, 2007). For example, Durie (1994) attempted to categorise Māori into three groups; the first, were individuals engaged in cultural practises (ability to speak Te Reo Māori was common and perceived to be aligned to Māori values). The second group were described as bicultural, with the ability to be socially competent in both Māori and Pākehā societies. The third group comprised individuals who were "marginalised" and unable to fit in with either Māori or Pākehā cultures (Durie, 1994; Houkamau, 2011; Houkamau & Sibley, 2010).

The present study utilizes Te Hoe Nuku Roa Māori cultural identity measure, which was based on the original conceptualisations outlined by Durie. Te Hoe Nuku Roa research team (1996) utilised cultural indicators representing the degree an individual engages within Te Ao Māori, at a specific point in time (Stevenson, 2004). Seven core indicators were chosen, as they were perceived to be commonly shared across the diverse range of Māori realities. These seven indicators include; self-identification as Māori, perceived

te reo Māori ability, perceived importance of whānau involvement, whakapapa, contact with other Māori people, marae participation and financial interest in Māori land.

Theoretical weightings were given to each indicator, to identify the order of contribution each factor had to Māori cultural identity. Three profiles were identified: secure, positive and notional MCI. The basis of a *secure MCI* encompassed high engagement and access to Māori cultural practices, within day to day life. *A positive MCI* related to a strong sense of connection to Māori culture, but with limitations in access to cultural resources. The final category labelled as *notional MCI*, incorporated individuals who identify as Māori but have limited access to Māori cultural activities (Stevenson, 2004). The MCI measure developed by Te Hoe Nuku Roa was used in the present study. To understand the current context of ageing for older Māori adults, cultural identity will be utilized to explore older Maori experiences of ageing. Firstly, self-identification as Māori is most salient. Māori language is a substantial contributor as language is considered fundamental to understanding a Māori worldview (Stevenson, 2004).

In summary, Māori cultural identity cannot be understood without reflecting on socio-historic factors. Colonisation had and continues to have significant impacts on individual and collective understandings of Māori cultural identity. Whilst, not specific to only older adults within the Māori population, as they are the focus of the study they will take precedence. As Durie (1995) stipulated, it is unreasonable to posit traditional values and active engagement with hapū and iwi, as the sole foundation for Māori cultural identity. Due to colonosation processes there are a range of ways for Māori to embrace their identity and still feel a strong sense of affiliation to Māori culture. For example, older Māori that remain connected despite historical social and political pressures, may affiliate with a traditional meaning of Māori cultural identity. However, for those that do not subscribe to a traditional identity, it is important not to marginalise them. Removal of agency to choose one's identity can occur if there is a singular view of identity, highlighting the importance of understanding Māori cultural identity as heterogenous within society.

In summary Māori cultural identity is a heterogenous term and is experienced differently across Māori realities. Colonisation has impacted this relationship immensely and continues to impact how Māori identify with their culture. Some older Māori may choose

to embrace traditonal understandings of MCI, whilst others may choose not to align with MCI at all. However, MCI does play a role in shaping the realities older Māori experience. For the purpose of the current study MCI will be classified using Te Hiw Nuku Roa (1996) Māori cultural identity measure. Chapter three will now explore the relationship between cultural identity and wellbeing, within the literature.

Chapter Three

Cultural Identity and Wellbeing

This chapter explores the relationships between Māori cultural identity and wellbeing, framed within Te Whare Tapa Whā. Developed by Sir Mason Durie (1984), Te Whare Tapa Whā is a conceptualization of wellbeing based on a Māori worldview regarding the inter-relativity between people and the wider ecosystem, including physical, psychological, social and spiritual domains (McDonald, 2016). Durie (1999) argued that for older Māori to have good mental health there must not only be a balance across a number of facets of lived experience, but they must also have the opportunity for employment, rewarding/meaningful work, positive experiences within social systems and to feel empowered. This suggests that for older Māori, wellbeing is not solely focused on physical and mental decline or health alone; which are perspectives that typically dominate ageing discourse (McDonald, 2016). Rather, wellbeing can be explored by investigating how whānau, wairua, hinengaro and tinana interconnect and influence Māori adults in older age. As there is not a varst amount of literature to draw on that specifically focuses on older Māori adults and MCI, literature will also be drawn from sources that include cultural identity in their studies. Or have variables that have been identified as important during older age.

3.1 Te Whare Tapa Whā

Developed by Sir Mason Durie Te Whare Tapa Whā denotes a concept of a whare with four walls. Each wall or taha of the whare represents a dimension of health. The four key facets are physical, mental, emotional and spiritual. Whilst depicted singularly, the idea is that all four facets need to be balanced for an individual to maintain good health. In terms of the analogy, all four walls will keep the whare strong and standing. If one wall (or taha) is compromised, then there is risk the whare can fall. Regarding the health of the individual if one facet is compromised, an unbalance occurs, which can result in ill health.

3.1.1 Te Taha Whānau Wellbeing

Te Taha Whānau[1] moves away from an individual focus on health to encompass collective wellbeing, which from a te ao Māori perspective, is understood to be a key driver of collective and individual health (Cram, 2016). This taha emphasizes the importance of key social relationships for collective and individual well-being. Accordingly, social environments that foster and enable access to support, protection, aroha and nurturance are important, as they provide a first line of defense when individuals (and collectives) face difficult situations (Collins & Wilson, 2008). However, it is important to recognize that whānau environments (which serve as key social environment for many Māori) are not always 'functional', and can be impacted by, for example, the cohesiveness of inter-generational relationships between members. When dysfunction occurs within the nucleus of a single household unit, extended members can be drawn on to support and guide individuals to address the issue (Cram, 2016; Durie, 1999b).

3.1.2 Te Taha Tinana Wellbeing

Te Taha Tinana focuses primarily on the capacity to achieve optimal physical growth and development. Often at the forefront of discussion around tinana is an individual's physical functioning (Rochford, 2004). However, this taha does not adhere to a materialist reductionist notion of physical wellbeing, but instead recognizes that certain parts of the body are denoted by the concepts of *tapu* and *noa*. In its most general sense, tapu denotes a sense of restriction and signifies the potential for spiritual risk if specific protocols related to certain parts of the body are transgressed (Durie, 2003). For example, the head is considered tapu, so is treated with particular consideration, and care is taken not to 'mix' the head with items deemed noa (i.e., it is considered a transgression if food is placed over or near the head), to avoid the potential for ill physical health. Noa relates to the removal of restriction or the return to a sense of neutrality or relative spiritual safety (Durie, 2003). Personal space is also a consideration within this taha, and transgression or violations of personal space are consequently also associated with ill physical health (Rangatahi Tū Rangatira, 2020).

[1] Although the term 'whānau' is often used in reference to 'family', in the cotext of Te Whare Tapa Whā is is used more generally to refer to social relationships.

3.1.3 Te Taha Hinengaro Wellbeing

Te Taha Hinengaro emphasizes emotional and psychological facets of wellbeing; that is, thoughts and feelings. (Durie, 1985; Rochford, 2004). In particular, this taha is grounded in the need for individuals to develop the capacity for the healthy expression of thoughts and feelings. Aspects of hinengaro that may be considered 'negative' from another perspective, are not shied away from, but instead encouraged to be expressed in an appropriate and empowering way. Ill health as it relates to hinengaro, is believed to arise when an individual is prevented from expressing or achieving the capacity to express, thoughts and feelings in a productive and healthy fashion. In that sense, this taha, while linked to tinana and wairua, has a particularly intimate connection to te taha whanau, as social environments can play a major role in when, how and why emotions and thoughts are expressed, as well as how they are received when expressed.

3.1.4 Te Taha Wairua Wellbeing

Te Taha Wairua encompasses spirituality and has been described as "the source of existent being and life" (Ahuriri-Driscoll, 2014, p.34). Although wairua is often understood through intangible subjective experiences that are felt, perceived and sensed (Ahuriri-Driscoll, 2014; Valentine, 2009; Valentine et al., 2017), the existence of wairua is unquestioned by Māori. Wairua experiences are often considered acceptable behaviors deemed normative within a te ao Māori worldview (Valentine et al., 2017), yet may not be readily acceptable as guiding reality from a Western, academic, scientific psychological perspective (Love, 2008). Considered the key element of Te Whare Tapa Whā, wairua is an integral part of Māori reality. Indeed, well-known *tōhunga* (spiritual practitioner) Māori Marsden stated, "ultimate reality is for Māori the reality of spirit" (Royal, 2003, p.47), while Sir Mason Durie (1985) has suggested that without a sense of connection to wairua the individual is considered to be lacking in well-being (Valentine et al., 2017). Wairua, in relation to wellbeing, is often considered to manifest not just in profound spiritual experiences, but also emotionally and cognitively through feelings of connection and

contentment with life, quality of life, and sense of meaning and purpose (Lindsay et al., 2020).

3.2 Cultural Identity and Wellbeing

Belonging to a group is an important part of cultural identity as it influences feelings of self-acceptance, self-esteem and self-worth, which positively impact wellbeing (Baldwin, Brown, Wayment, Nez, & Brelsford, 2011; Berry, 2009; Biddle, 2012). This may be particularly pertinent for Indigenous peoples, whose orientation to the collective appears to be more prominent than non-Indigenous peoples. Researchers have proposed that connection to culture can act as a protective factor against adverse health, social and psychological outcomes (Bennett & Liu, 2018; Fox, Neha, & Jose, 2018; Houkamau & Sibley, 2011; Marie, Fergusson, & Boden, 2008; Matika et al., 2017; Muriwai et al., 2015). A host of research seems to suggest this may indeed be the case. For example, Indigenous Naskapi who were fluent and comfortable speaking their Indigenous language and found enjoyment partaking in cultural activities, reported fewer internalizing problems such as anxiety and depression (Blacklock et al., 2019). While Baldwin et al. (2011) found cultural identity acted as a moderating variable between stressful life events and risky outcomes in their sample of American Indian adolescents. It appears such relationships also extend to Māori, as discussed in the following section.

3.3 Māori Cultural Identity and Wellbeing

Although it is difficult to definitively define Māori cultural identity, Marie, Fergusson and Boden's (2008) study identified that cultural identity can act as a protective factor against mental health risk factors. Studies that have looked at the relationship between Māori cultural identity and psychological outcome variables, have typically found encouraging results. For example, Matika et al. (2017) found Māori who had greater levels of cultural efficacy tended to ruminate less (have less negative reocurring thoughts) and have higher levels of self-esteem. Houkamau and Sibley (2011) found Māori participants with higher cultural efficacy scores were more likely to experience positive subjective well-being. They defined cultural efficacy as an individual's subjective perception of their access to resources that allow them to engage in Māori social and cultural contexts (e.g., language,

knowledge of tikanga Māori, ability to articulate whakapapa and carrying out appropriate marae etiquette). Overall access to these resources allows an individual to efficaciously navigate themselves within Māori culture (Fox et al., 2018).

While these findings are certainly encouraging, they may not necessarily extend to all Māori, nor to all older Māori. Social disadvantage and childhood experiences of adversity have been found to impact mental health (Bennett & Liu, 2018; Marie et al., 2008). Given the older Māori cohort may have had increased exposure to the overt expressions of colonization during their childhood relative to younger Māori (e.g., not being allowed to speak te reo at school, marginalization in urban environments, forced assimilationist practices, etc), it is possible these may have had a deleterious effect on this group; such that identifying as 'Māori' may not necessarily provide a protective function for all older Māori. Below is an exploration of findings related to older Māori and wellbeing, categorized according to the four dimensions of Te Whare Tapa Whā. While not necessarily explicitly stated below, it is important to note that each dimension is not mutually exclusive, and there is a high degree of inter-relativity between each of the dimensions.

3.3.1 Te Taha Whānau and Older Māori

Te taha whānau is an important source of social support for older Māori, particularly those with a stronger sense of affiliation to Māori culture. Social support is defined as a feeling of being cared for and having access to support networks available when individuals require it (Oetzel et al., 2019). Research conducted by Oetzel et al. (2019) found positive social relationships were important for Māori elders. They had a strong explanatory relationship with QOL and self-rated health. Of particular importance was access to social support when required, rather than the type of support given. Marital status is an example of immediate social support. It was found to protect individuals against high mortality rates, particularly older females (Dyall et al., 2014; Rutledge, Matthews, Cauley, Lui, & Stone, 2003). The uptake of care-giving roles can also provide opportunities to establish connections with others and extend social networks (Alpass et al., 2017a; Alpass, Szabo, Allen, & Stephens, 2017b).

But social support may take the form of wider whānau connections, leadership roles in Māori communities or volunteering (Dulin et al., 2012; Hayman et al., 2012), also known as social capital. Social capital can be defined as the social networks an individual or their whānau are a part of and the position they hold within these groups (Berry, 2009; Biddle, 2012). Typically, there is unequal distribution of social capital across different groups within society, with historically disadvantaged groups having less access to social networks and the opportunities that arise from them (Berry, 2009; Biddle, 2012). Yet, for older Māori this may not be the case at all, given the collective orientation of a Māori worldview.

Marae engagement and access to tribal land are key indicators of cultural identity and social capital within older Māori realities, as well as key indicators of the relative strength of one's wider whanau connections. In his study of kaumātua, Waldon (2004) found increased health status for participants who were actively engaged with their marae, while significantly lower health scores were reported for those with less involvement. The direction of this relationship is unclear, and it has been suggested that kaumātua may experience reduced health first, which then inhibits their levels of participation in marae-based activities. Alternatively, engagement within cultural activities may affect the overall meanings individuals derive from their lives in older age, which may in turn impact their overall perception of health (in a positive direction), despite experiencing physical decline.

Meeting social obligations and maintaining social support also contribute to older Māori lives. Two-thirds of Waldon's (2004) participants perceived themselves to be regarded favorably within their role as kaumātua. However, there were also participants who did not enjoy the role of kaumātua and reported lower health-status. Therefore, whilst meeting social obligations is an important role for older Māori in their later lives, it should not be assumed that this role is a predictor of good health for every individual.

Finally, social support and social capital may also be reflected in roles that reflect a sense of obligation by older Māori to whānau and the next generation. High numbers of kaumātua engage in reciprocal caring relationships with their whānau (Collins & Wilson, 2008; Waldon, 2004). In one study, children were the focus of care for 90% of kaumātua and older whānau members were the focus for 46 percent of kaumātua (Waldon, 2004).

Similarily, Oetzel et al. (2019) found kaumātua were in high demand to take on the responsibility of caring for children from fragmented families, within their extended whānau. In return, participants received care in the form of: financial support, transport and accommodation (Waldon, 2004).

3.3.2 Te Taha Tīnana and Older Māori

It is generally accepted that with age comes physical decline. However, physical decline need not result in poorer overall health. Yet, indigenous peoples in general are more likely to experience decline in physical functioning earlier than non-indigenous people (Hirini et al., 1999; Oetzel et al., 2019). For example, earlier onset of chronic health conditions such as: strokes, dementia and cardiovascular diseases is common (Dyall et al., 2013; Dyall et al., 2011; Hirini et al., 1999; Oetzel et al., 2019). Therefore, while te taha tīnana is about physical functioning in general, for older Māori it also relates to the capacity to ensure that important cultural considerations as they relate to notions of tapu and noa (as outlined above) are able to be enacted, and thus may have a positive influence on physical well-being.

Indeed, research has identified the potential for engagement in cultural practises to improve physical health-related quality of life. Dyall et al. (2014) found that frequent marae visits and ensuring older Maori needs for practical help were met, was associated with better physical health quality of life. They also found that maintaining high functional status was important for greater physical health quality of life. Similarily, Waldon (2004) found self-reported physical health to be good when participants were able to carry out cultural duties and a decline was seen when they could no longer carry out these duties. Such findings suggest then that strength of cultural identity may play a prominent role in physical health, such that it promotes engagement in activities specific to Māori cultural institutions, which then have a positive influence on physical wellbeing.

3.3.3 Te Taha Hinengaro and Older Māori

Emotional and psychological factors are also important for wellbeing. Muriwai et al. (2015) analyzed the relationship between Māori cultural efficacy, ethnic identity and psychological distress. Their findings showed higher levels of Māori cultural efficacy were

associated with lower levels of psychological distress. This relationship was present for both sole-identifying Māori individuals and those who identified as both Māori and Pākehā. The main difference for those who solely identified as Māori was that they experienced significant changes in psychological distress levels, when cultural efficacy ranged from high to low. In contrast, differences in psychological distress for mixed identity participants, when cultural efficacy changed, was marignal. These findings suggest that for sole-identifying Māori, connection to cultural resources is important for psychological health outcomes.

Loneliness has also been stated as a factor associated with older age (Neville et al., 2018; Oetzel et al., 2019). Defined as “a negative emotional state, experienced subjectively and related to a perceived deficiency in one’s social networks and emotional relationships” (Neville et al., 2018, p. 731). Oetzel et al. (2019) found loneliness to be negatively correlated with quality of life and self-rated health. Neville et al. (2018) similarly found participants who did not have a clear sense of purpose in life, more likely to experience feelings of loneliness.

From a Māori perspective, there is potential for loneliness to be off set through whanaungatanga; a core value within Māori culture (Matika, Manuela, Muriwai, Houkamau, & Sibley, 2017), that is about building connections and relationships outside of the immediate familial system. Whanaungatanga is important for extending social networks and having access to wider social and emotional connections may help reduce the experience of loneliness for Māori (Oetzel et al., 2019). In terms of broadening social networks, Houkamau and Sibley (2011) found increased cultural efficacy was related to larger support networks among participant and increased their sense of belonging to the group. Engagement with grandchildren was found to reduce feelings of social isolation for older male participants (Neville et al., 2018). Indicating that engagement with mokopuna or grandchildren may help promote te taha hinengaro wellbeing. Additionally, Morgan et al. (2019) found connection to one’s whakapapa can provide Māori with a sense of belonging, that may help reduce their experience of loneliness.

3.3.4 Te Taha Wairua and Older Māori

Māori continue to engage in holistic healing practises grounded in wairuatanga (spirituality), to help restore individuals back to health through tōhunga (Māori experts) (Bennett & Liu, 2018). Acknowledgement of wairua is still common place alongside the functioning of society around the concepts of tapū and noa (Hall, 2008). However, wairua in relation to wellbeing, is often considered to manifest not just in profound spiritual experiences and healing practices, but also emotionally and cognitively through feelings of connection and contentment with life, quality of life, and sense of meaning and purpose. Because psychological research on spirituality is limited, although growing, few studies have directly assessed the relationship between spirituality and wellbeing in older people, or spirituality and wellbeing in older Māori in particular. However, as noted above, feelings of meaning, purpose and quality of life can often serve as indicators of whether te taha wairua is active in the lives of older Māori. Indeed, many of the previously noted findings suggest a positive relationship between other dimensions of te whare tapa whā and quality of life. Similarly, Dyall et al. (2014) found a significant relationship between quality of life and cultural engagement (measured through frequency of visits to the marae). The marae was identified as a safe space that provided connection, belonging and opportunities to express cultural identity.

Alongside cultural engagement indicators, older Māori have and continue to navigate discrimination and racism (Cram, 2016; Dyall et al., 2014; Gillon et al., 2019; Greaves et al., 2017), which likely influence te taha wairua. Investigated by Dyall et al. (2014), participants who reported experiencing discrimination based on their ethnicty, rated lower quality of life. Ethnic density was investigated to determine whether it could mitigate against the effects of discrimination. No significant relationship was found. This suggests that despite upholding contact with Māori individuals or living in hapū areas (assumed to house high numbers of Māori) where presumably te taha wairua may more readily be accepted and attended to, older Māori were not protected against the effects of discrimination.

Research also shows that *institutional* racism contributes to poorer wellbeing outcomes and inequities for older Māori (Dyall et al., 2014). This relationship is partially explained

by the prevalence of racism within the heath-care system. Of the older Māori within the LILACS NZ study those who experienced discrimination due to their ethnic group affiliation, reported experiencing lower mental health quality of life. Racism has also been reported as a contributing factor to the reduction in accessibility to the following resources: limited access to affordable, high quality housing, job opportunities, high income wages and overall resources within society (Gillon, Cormack, & Borell, 2019; Muriwai, Houkamau, & Sibley, 2015).

3.6 Summary

In summary chapter three explores the relationships between cultural identity and wellbeing. Across different research, cultural identity has been found to impact wellbeing in some form. Notably, cultural identity has been found to provide a sense of belonging and connection to a group of individuals. For Māori specifically, this has encouraging results for their wellbeing. In particular, a strong sense of MCI can promote self-esteem and positive psychological wellbeing. Strength of MCI has also been found to promote social relationships that can be particularly important for Māori in older age. The literature was depicted as information pertaining to the four facets of health, outlined by Te Whare Tapa Whā. However, it is important to remember that each facet does not sit distinctively from the others. Rather they are all intertwined and need to remain in balance. The next chapter will depict the method and outlines the participants, measures and analyses conducted.

Chapter Four

Method

Chapter four details the methods section of the current study. This section will detail participant demographic information, data source, collection and ethics. Measures are then detailed under each taha - representing wellbeing. To conclude this section, a description of the various analyses that took place will be detailed and their rationale provided.

4.1 Participants

A total of 970 participants who self-identified as Māori, aged 55 years and over and provided answers to all MCI items were included in the sample.

As detailed in Table 4.1, most older Māori reported a positive affiliation with their Māori cultural identity (65.6%), with 13.2% reporting a notional affiliation and 21.2% reporting a secure affiliation. Just over half the participants identified as wāhine (females) (57.8%). Participants ages ranged from 32.7% within the 50-60 age bracket, 21.2% were aged between 60-64 years, 20.9% were aged 65-69 years old, 13.4% were aged between 70-74-years old and 11.9% were 75 years and older. Most participants were married or in defacto relationships (64.1%). Participants without educational qualifications made up 28.5% of the sample, followed by post-secondary qualifications or a trade (27.2%), secondary qualifications (24.6%) and tertiary education (16.6%). Older Māori reported living in good living conditions (47.1%), with 21.2% living in comfortable living conditions and 20.0% living in hardship.

Table 4. 1

Demographic Characteristics of Older Māori Adults

Variable	Level	N	% of the Sample
Māori cultural identity	Notional	128	13.2
	Positive	636	65.6
	Secure	206	21.2
Gender	Tāne/Male	407	42.0
	Wāhine/Female	561	57.8
	Gender diverse	2	.2
Age	55-60	317	32.7
	60-64	205	21.2
	65-69	203	20.9
	70-74	130	13.4
	75+	115	11.9
Marital status	Married/Defacto	622	64.1
	Not married/Defacto	323	33.3
Educational Quals	No quals	276	28.5
	Secondary quals	239	24.6
	Post second/trade	264	27.2
	Tertiary	161	16.6
ELSI	Hardship	194	20.0
	Comfortable	205	21.2
	Good	457	47.1

4.2. Procedure

4.2.1. Data Collection

The data for the present study was collected as secondary data, sourced from the 2018 Health, Work and Retirement (HWR) study survey. This longitudinal study began in 2006, with data collection occurring biennially for both Māori and non-Māori. Participants were randomly selected from the Aotearoa electoral roll (Dulin et al., 2012). For further details regarding the HWR study please visit: www.massey.ac.nz/hart/.

The data was collected via postal survey where participants were required to tick the appropriate box or boxes that satisfied their answer to given questions or were able to write a free text response. As a result, a non-probability sample was recruited for the present study through, voluntary response sampling.

4.2.2 Ethical Procedure

Due to the data coming from a secondary source, ethical approval did not need to be obtained for the current study. Ethical approval was obtained from Massey University Human Ethics Committee for the procedures conducted by The Health and Ageing Research Team (HART) to carry out the study.

4.3 Measures

4.3.1. Māori cultural identity (MCI)

MCI was measured using Te Hoe Nuku Roa cultural identity measure. This measure was developed as a tool to identify factors that represent participation within Māori culture and the sense of belonging individuals attain from this participation (Stevenson, 2004) or their sense of Māori cultural identity. There are seven key indicators included in the measure: self-identification as Māori, perceived Te reo Māori ability, perceived importance of whānau involvement, whakapapa, contact with other Māori people, marae participation within the previous year and financial interest in Māori land. Example items include: “Do you identify as Māori*”* and “How would you rate your overall ability with Māori language.” Each item provides a score, which is weighted and combined to form a total MCI score between 0-18. Those with higher scores indicate a greater sense of belonging to Māori culture and higher participation in Māori cultural activities. Within this sample, a

Cronbach's alpha score of 0.61 was attained for Te Hoe Nuku Roa Māori cultural identity measure.

4.3.2. Te Whare Tapa Whā variables

Outlined below are variables that have been chosen to represent the four taha, outlined within Te Whare Tapa Whā. Variables chosen for each taha assessed spiritual wellbeing (Te taha wairua), mental and emotional well-being (Te taha hinengaro), physical wellbeing (Te taha tinana) and whānau wellbeing (Te taha whānau) in some capacity. Variables were derived from the 2018 Health, Work and Retirement (HWR) study survey.

Te Taha Wairua. Te taha wairua was measured using four separate measures. The first was a single item based off the *World Values Survey*; "All things considered, how satisfied are you with your life as a whole these days," (Inglehart, Basañez, Diez-Medrano, Halman, & Luijkx, 2004). Participants rated their sense of life satisfaction on a five-point Likert scale. Scores ranged from 1 to 5 (1= very dissatisfied, 2=dissatisfied, 3=Neither satisfied nor dissatisfied, 4=satisfied and 5=very satisfied).

The second measure also utilized a single item; "How would you rate your quality of life," which was derived from the *World Health Organization Quality of Life* group (WHOQOL) shortened 8-item measure (Group, 1998). Participants rated their sense of life satisfaction on a five-point Likert scale. Scores ranged from 1 to 5 (1= very poor, 2 = poor, 3 = neither good nor poor, 4 = good and 5 = very good). Higher scores indicate greater levels of perceived quality of life.

The third measure was the *Life Engagement Scale*. This scale consisted of six-items, designed to measure an individual perceived purpose in life (Scheier et al., 2006). Three of the items are positively worded and three of the items are negatively worded. The items include: "1. There is not enough purpose in my life," "2. To me, the things I do are all worthwhile," "3. Most of what I do seems trivial and unimportant to me," "4. I value my activities a lot," "5. I don't care very much about the things I do," and "6. I have lots of reasons for living." Participants are asked to indicate the extent to which they agree with each statement, on a five-point Likert scale. Their options range from; Strongly disagree, disagree, neutral, agree and strongly agree. Scoring consists of reverse coding items 1,

3 and 5 and then summating them to produce a scale score. Possible scale scores range between 6 and 30, with higher end scores indicating a greater sense of purpose in life (Elissa et al., 2013). The Cronbach's alpha score for the six-item purpose in life test was 0.85, within the present study.

The fourth measure was the *CASP-12 scale*. This twelve-item scale was developed to measure quality of life (Towers, Yeung, Stevenson, Stephens, & Alpass, 2015; Wiggins, Netuveli, Hyde, Higgs, & Blane, 2008). Participants rate the degree to which they agree with the twelve items on a four-point Likert scale; (1), sometimes (2), not often (3) and never (4). Example items include: "My age prevents me from doing the things that I would like to do," "I enjoy the things that I do," and "I feel that the future looks good for me." Item scores were rescaled to a scoring system of 0-3, as described by Towers et al. (2015) and negatively worded items were reverse coded. Overall quality of life was established through summation of the items, with higher scores indicating greater perceived quality of life. Total scores range between 0 and 36.

Te Taha Hinengaro. Te taha hinengaro was measured using the Centre for Epidemiologic Studies Depression (CESD-10) short form scale and the Geriatric Anxiety Inventory (GAI). The *CESD-10* is a short form measure used to screen for depression in older adults (Andresen, Malmgren, Carter, & Patrick, 1994). This scale is comprised of 10 items (chosen from the original 20 item version of the test). Participants were asked to rate each item, dependent on the frequency it had occurred during the "past week." Example items for the CESD-10 scale include: "I was bothered by things that usually don't bother me" and "I felt hopeful about the future." Each item was rated on a four point Likert scale; ranging from rarely or none of the time (scored as a zero), some or a little of the time (scored as a one), occasionally or a moderate amount of the time (scored as a two) and all the time (scored as a three). Scores are determined by totaling each item score (after reverse coding the positive mood items). An assigned score is given to each participant ranging from 0 to 30. The higher the score, the greater the presentation of depressed mood symptoms (Andresen et al., 1994). The Cronbachs alpha score within the present study is 0.84, indicating good reliability for the CESD-10 measure, in line with

other research (Andresen et al., 1994; Boey, 1999; Irwin, Artin, & Oxman, 1999; Mohebbi et al., 2018).

The *Geriatric Anxiety Inventory* (Pachana et al., 2007) was developed as a self-report screening tool to measure the severity of anxiety in older adults. Rather than measuring one specific form of anxiety, the tool measures the experience of anxiety across multiple forms (Byrne & Pachana, 2011; Pachana & Byrne, 2012). For the present study the short form inventory was used, GAI (Byrne & Pachana, 2011). Five of the original 20 items were chosen to represent the single factor measure of anxiety. Example items include" "My own thoughts often make me nervous" and "I worry a lot of the time" to explain one's feelings in the past week. Each item is marked either agree (1) or disagree (0). Total scores are determined by summating the item scores together, with a possible range of 0 to 5 (Balsamo, Cataldi, Carlucci, & Fairfield, 2018). Higher scores indicating greater levels of anxiety. Psychometric properties have previously, been tested on older women with a mean age of 72.2 years (Byrne & Pachana, 2011). These reliability scores were high with Cronbach alpha of 0.81 (Byrne & Pachana, 2011; Pachana & Byrne, 2012). The short-form GAI was also found to have good validity, when compared to the original GAI, convergent validity was upheld (Johnco, Knight, Tadic, & Wuthrich, 2015). Cronbach alpha score for the five-item General Anxiety Inventory 0.88 within the present study. This score is considered adequate for research purposes.

The *SF-12 Mental health subscale* (Ware, Kosinski, & Keller, 1996) was used to measure Te taha hinengaro. Example items include: "Have you felt calm and peaceful?" "Accomplished less than you would like?" Each item was answered on a five-point Likert scale ranging from: (1) All of the time, (2) Most of the time, (3) Some of the time, (4) A little of the time and (5) None of the time. Negatively worded items were reverse coded. Total scores were then established with higher total scores, indicating better mental health.

Te Taha Tinana. The *SF-12 Physical Health subscale* (Ware et al., 1996) was used to measure te taha tinana. An example item for the physical health sub-scale includes: “Does your health now limit you in climbing several flights of stairs.” Participants are then asked to respond on a 5-point Likert scale, indicating their extent of agreeableness to each statement : (1) All of the time, (2) Most of the time, (3) Some of the time, (4) A little of the time and (5) None of the time. After reverse coding, item scores are summated and those with higher scores indicate better physical health.

Te Taha Whānau. Te taha whānau was measured using multiple identified tools. The *Social Provisions Scale (SPS)* developed by Cutrona and Russell (1987) is a self-report questionnaire that was developed based off Weiss’s Model of Social Provisions (Cutrona & Russell, 1987; Gottlieb & Bergen, 2010). This scale asks participants to respond to 24 statements. Each statement asks participants to: think about their current relationships with friends, family/whānau members, co-workers, community members and to see what extent they agree with the statements presented. Example items include: “There are people I can depend on to help me if I really need it;” “I have close relationships that provide me with a sense of emotional security and well-being.” Respondents were given four possible response choices ‘strongly agree,’ ‘agree,’ ‘disagree,’ ‘strongly disagree.’ Items that were negatively worded, were reverse coded and summated to give an overall total score ranging from low (24) to high (96). Those with higher scores indicate higher levels of social support being present.

The *provision of care to mokopuna or whāngai* was measured used two items: “Do you provide unpaid care for: your grandchildren/mokopuna?” “Do you provide unpaid care for other people’s children/whāngai?” These two items were measured on a five-point scale ranging from “yes daily” to “Not applicable.” Higher scores indicating, more frequent care provided by older Māori adults to mokopuna/whāngai.

An adapted measure of *Housing Satisfaction* was used to gain an understanding of self-reported satisfaction with immediate environment and neighbourhood safety/accessibility (Stephens, Szabo, Allen, & Alpass, 2018). Present home satisfaction consisted of eight items including: “My house enables me to see friends and family/whānau as often as I

like." Present neighbourhood satisfaction consisted of eight items including "I feel safe in my neighbourhood." Each item was measured on a five-point Likert scale, ranging from "No, definitely not" to "yes, definitely." This measure was chosen as it extends the understanding of whānau to include not only people but enabling factors that impact socialization of older people. After reverse coding negatively worded items, they were than summated, with higher scores indicating greater perceived housing satisfaction and greater perceived neighbourhood satisfaction. Within the present study, the Cronbach's alpha for perceived home satisfaction was 0.82 and the Cronbach's alpha for perceived neighbourhood satisfaction was 0.88.

The *DeJong Giervald Loneliness Scale* is a six-item scale that assesses two domains: social loneliness and emotional loneliness. One example item from each domain includes: "I experience a general sense of emptiness" and "There are many people I can trust completely." Three of the items are negatively worded and require reverse coding. The other three are positively worded items. Each item is scored on a three-point scale, with options including yes, more or less and no. The total possible score range is between zero and six. Zero indicating least lonely and six indicating most lonely individuals. Social loneliness subscale was used as a Te taha whānau measure. Emotional loneliness subscale and overall loneliness was used as Te taha hinengaro measures.

4.4 Analysis

Preliminary One-way ANOVA analyses were conducted to assess whether there were statistically significant differences between groups. After conducting these analyses, the Shapiro-Wilk statistic indicated that the assumptions of normality were violated. The decision to carry out nonparametric equivalent tests was made rather than transforming the data (Buthman, 2018). Non-parametric Kruskal-Wallis tests were conducted to identify whether statistically significant differences existed between Māori cultural identity levels. Follow-up Mann Whitney U tests were then conducted to determine where the statistically significant differences lay. A Bonferroni adjusted alpha was calculated for each independent variable based on the number of comparisons that were made (Allen & Bennett, 2008). The adjusted alpha values are placed in the note of each table.

Standard Multiple Regression was then used to determine how much variance each independent variable explained. Here each independent categorical variable was transformed into dummy coded variables, if they had two levels. Independent categorical variables with more than two levels – polytomous variables – were also dummy coded to create dichotomous variables that were entered into the regression model. Dummy coding involved identifying one level of the categorical variable as the reference category. A series of dichotomous variables were then created for each level of the polytomous variable, each representing the presence (coded as 1) or absence (coded as 0) of the categorical variable (Allen and Bennet, 2008).

Of the dependent variables provided, six held statistically significant relationships with MCI at the bivariate level. Further analyses were then conducted with these six variables framing wellbeing within Te Whare Tapa Whā. Dependent variables included: Providing unpaid care for mokopuna, unpaid care for whāngai, social provisions, social loneliness, CASP-12 and overall loneliness. Tables for these relationships are included in text. The independent variables included: MCI, age, gender, marital status, educational level and socio-economic status. Kruskal-Wallis test results for the dependent variables that did not have a statistically significant relationship with MCI are presented in Appendix A and Appendix B.

Effect sizes are presented below for each analysis under-taken. Effect sizes were only calculated and presented in the tables for relationships that were statistically significant.

- Effect sizes for Kruskal-Wallis test are reported as follows; f = .10 considered a small effect size, f = .25 considered a medium effect size and f = .40 considered a large effect size (Allen and Bennett, 2008).
- Effect sizes for Mann-Whitney U test are reported as follows; r = .10 considered small, r = .30 considered medium and r = .50 considered large (Allen and Bennett, 2008).
- Effect sizes for Standard multiple regression are reported as follows; f^2 = .02 considered small, f^2 = .15 considered medium and f^2 = .35 considered large (Allen and Bennett, 2008).

Chapter Five

Results

The results will be presented in the following order. Kruskal-Wallis and follow up Mann-Whitney U tests will be presented for the Māori cultural identity and wellbeing variables. The same tests will also be conducted between the demographic and wellbeing variables. Follow-up multiple linear regressions will then be presented for each dependent variable.

5.1 MCI and Te Whare Tapa Whā- Wellbeing

5.1.1 Kruskal-Wallis and Mann-Whitney U Tests

Te Taha Whānau. Kruskal-Wallis tests showed that there were statistically significant differences in Te Taha Whānau - wellbeing between MCI groups (see table 5.1). There were statistically significant differences in care provided to mokopuna/grandchildren between notional, positive and secure Māori cultural identity groups (H = 24.448, df = 2, p = .000, f = .16), with small effect.

Mann-Whitney U tests showed that older Māori who had a secure MCI (*Mean Rank* = 181.39) provided significantly more unpaid care to mokopuna/grandchildren than older Māori who affiliated with a notional MCI (*Mean Rank* = 130.05) (U = 8363.500, z = -4.974, p = .000, r = .28), with a small to medium effect size present. Similarly, older Māori who had a secure identity provided more unpaid care to mokopuna/grandchildren than older Māori who affiliated with a positive MCI (U = 53381.000, z = -3.376, p = .001, r = .12), with small effect. Older Māori who had a positive MCI provided more unpaid care to mokopuna/grandchildren than older Māori who affiliated with a notional MCI (U = 32368.500, z = -2.787, p = .005, r = .10), with small effect (see Table 5.2).

A Kruskal-Wallis test showed that there was a statistically significant difference in unpaid care to whāngai between notional, positive and secure MCI groups (H = 10.305, df = 2, p = .006, f = .11), with small effect. Mann-Whitney U tests showed that older Māori who had a secure identity (*Mean Rank* = 165.25) provided more unpaid care to whāngai than older Māori with a notional identity (*Mean Rank* = 137.88) (U = 9303.000, z = -2.991, p = .003, r = .17). A small effect size was found. Additionally, older Māori with a secure identity

(*Mean Rank* = 422.84) provided more unpaid care than older Māori with a positive identity (*Mean Rank* = 380.30) (*U* = 49398.000, *z* = -2.561, *p* = .010, *r* = .09), with negligible effects. There were no statistically significant differences between notional and positive MCI groups.

A Kruskal-Wallis test showed that there was a statistically significant difference in social loneliness between notional, positive and secure MCI groups (*H* = 24.001, *df* = 2, *p* = .000, *f* = .16) with small effect. Mann-Whitney U tests indicate that older Māori with a notional MCI (*Mean Rank* = 441.61) experienced more social loneliness than older Māori with a positive MCI (*Mean Rank* = 367.50) (*U* = 32498.000, *z* = -3.759, *p* = .000, *r* = .14), with small effect. Further, older Māori with a notional MCI (*Mean Rank* = 196.99) experienced greater levels of social loneliness than older Māori with a secure MCI (*Mean Rank* = 148.27) (*U* = 9281.000, *z* = -4.864, *p* = .000, *r* = .27), with small to medium effect. Older Māori with a positive MCI experienced more social loneliness than older Māori with a secure MCI (*U* = 58458.500, *z* = -2.279, *p* = .023, *r* = .08). However, this effect size was negligible.

A Kruskal-Wallis test showed that there was a statistically significant difference in social provisions between notional, positive and secure MCI groups (*H* = 11.346, *df* = 2, *p* = .003, *f* = .11), with small effect. Mann-Whitney U test demonstrate that older Māori with a secure MCI (*Mean Rank* = 179.64) reported greater levels of social provisions than older Māori with a notional MCI (*Mean Rank* = 144.38) (*U* = 10224.000, *z* = -3.266, *p* = .001, *r* = .18), with small effect. Older Māori with a positive MCI (*Mean Rank* = 405.94) reported greater levels of social provisions than older Māori with a secure MCI (*Mean Rank* = 451.32) (*U* = 56978.500, *z* = -2.338, *p* = .019, *r* = .08). However, the effect size was negligible. No statistically significant results were found between positive and notional MCI groups.

Te Taha Wairua. One statistically significant relationship was found between MCI and Te Taha Wairua variables. A Kruskal-Wallis test showed that there was a statistically significant difference in QOL, measured by the CASP-12, between notional, positive and secure MCI groups (*H* = 6.330, *df* = 2, *p* = .042, *f* = .081), this effect size would be considered negligible (Allen & Bennett, 2008). Mann-Whitney U tests found older Māori

with a secure MCI (*Mean Rank* = 451.70) reported greater purpose in life than participants with a positive MCI (*Mean Rank* = 405.14) (*U* = 56698.000, *z* = -2.404, *p* = .016, *r* = .08), with negligible effect size. No statistically significant results were found between positive and notional MCI groups or secure and notional groups MCI groups.

Te Taha Hinengaro. One statistically significant relationship was found between MCI and Te Taha Hinengaro variables. A Kruskal-Wallis test showed that there was a statistically significant difference in overall loneliness between notional, positive and secure MCI groups (*H* = 12.234, *df* = 2, *p* = .002, *f* = .11), with small effect. Mann-Whitney U test showed older Māori with a notional MCI reported greater levels of overall loneliness (*Mean Rank* = 428.20) than older Māori with a positive MCI (*Mean Rank* = 369.61) (*U* = 34087.000, *z* = -2.837, *p* = .005, *r* = .10), with small effect. Further, older Māori with a notional MCI (*Mean Rank* = 189.69) reported greater levels of overall loneliness than older Māori with a secure MCI (*Mean Rank* = 152.83) (*U* = 10215.500, *z* = -3.493, *p* = .000, *r* = .19), with small effect. No statistically significant differences were found between secure and positive identity groups (see Table 5.2).

Te Taha Tīnana. There were no statistically significant differences between MCI and Te Taha Tinana at the Kruskal-Wallis level. No Mann-Whitney U follow up analyses were conducted.

Table 5. 1

Kruskal-Wallis Test Results for Te Whare Tapa Whā Variables According to Māori Cultural Identity (MCI)

Measures	MCI	Mean Rank	*n*	*H*	*df*	*p*	*f*
Te Taha Whānau							
Unpaid care to mokopuna	Notional MCI	395.37	122				
	Positive MCI	469.51	627	24.448	2	.000	.16
	Secure MCI	542.81	201				
Unpaid care for whāngai	Notional MCI	414.25	121				
	Positive MCI	444.91	593	10.305	2	.006	.11
	Secure MCI	494.09	187				
Social provisions	Notional MCI	425.41	128				
	Positive MCI	476.84	630	11.346	2	.003	.11
	Secure MCI	528.95	203				
Social Loneliness	Notional MCI	574.10	128				
	Positive MCI	479.86	631	24.001	2	.000	.16
	Secure MCI	433.44	205				
Te Taha Wairua							
CASP-12	Notional MCI	461.07	127				
	Positive MCI	469.93	629	6.350	2	.042	.08
	Secure MCI	523.05	203				
Te Taha Hinengaro							
Overall loneliness	Notional MCI	553.39	128				
	Positive MCI	478.44	630	12.234	2	.002	.11
	Secure MCI	448.36	205				

Note. Effect sizes: $f = .10$ is considered small, $f = .25$ is considered medium and $f = .40$ is considered large (Allen & Bennett, 2008).

*$p < .05$, **$p < .001$

Table 5. 2

Mann-Whitney U Test for Significant Te Whare Tapa Whā Variables According to the Three MCI groups

Measure	Notional	Positive	Secure	
	Mean rank	Mean rank	Mean rank	Mann-Whitney U test
Te taha whānau				
Unpaid care for mokopuna	130.05		181.39	*U* =8363.500, *z* = -4.974**, *r* = .28
	326.82	384.38		*U* = 32368.500, *z* = -2.787*, *r* = .10
		399.14	464.42	*U* = 53381.000, *z* = -3.376*, *r* = .12
Unpaid care for whāngai	137.88		165.25	*U* = 9303.000, *z* = -2.991*, *r* = .17
	337.37	361.61		*U* = 33440.500, *z* = -1.364
		380.30	422.84	*U* = 49398.000, *z* = -2.561*, *r* = .09
Social loneliness	441.61	367.50		*U* = 32498.000, *z* = -3.759**, *r* = .14
	196.99		148.27	*U* = 9281.000, *z* = -4.864 **, *r* = .27
		428.36	388.16	*U* = 58458.500, *z* = -2.279*, *r* = .08
Social provisions	345.53	386.40		*U* = 35972.000, *z* = -1.926
	144.38		179.64	*U* = 10224.000, *z* = -3.266*, *r* = .18
		405.94	451.32	*U* = 56978.500, *z* = -2.338*, *r* = .08
Te taha wairua				
CASP-12	372.13	379.79		*U* = 39132.500, *z* = -.361
	152.94		173.35	*U* = 11296.000, *z* = -1.894
		405.14	451.70	*U* = 56698.000, *z* = -2.404*, *r* = .08
Te taha hinengaro				
Overall loneliness	428.20	369.61		*U* = 34087.000, *z* = -2.837*, *r* = .10
	189.69		152.83	*U* = 10215.500, *z* = -3.493**, *r* = .19
		424.33	398.53	*U* = 60584.000, *z* = -1.374

Note. Effect sizes: *f* = .10 is considered small, *f* = .3 is considered medium and *f* = .5 is considered large.

**p* < .05, ***p* < .001

5.2 Demographic Variables and Te Whare Tapa Whā- Wellbeing

The following section presents Kruskal-Wallis and Mann-Whitney U tests between the demographic and Te Whare Tapa Whā – Wellbeing variables. These variables include social loneliness, social provisions, CASP-12, overall loneliness, unpaid care for mokopuna and unpaid care for whāngai. Demographic variables include age, gender, marital status, educational qualifications and socio-economic status.

5.2.1 Kruskal-Wallis Analyses and Mann-Whitney U Tests

Age and Wellbeing. As Table 5.3 indicates, there were statistically significant differences between the four age bands (55-60, 60-64, 65-69, 70-74) and three Te Taha Whānau variables. A Kruskal-Wallis test showed that there was a statistically significant difference in providing care to mokopuna/grandchildren between age bands (H = 15.866, df = 4, p = .003, f = .13), with small effect. Mann-Whitney U tests (adjusted using the Bonferroni correction) found older Māori adults within the 65-69 age band (*Mean Rank* = 283.03) provided significantly more unpaid care to their mokopuna than older Māori in the 55-60 age band (*Mean Rank* = 239.04) (U = 25604.500, z = -3.380, p =.001, r = .15), with small effect (see Table 5.4). Older Māori within the 70-74 age band (*Mean Rank* = 243.92) also provided more unpaid care to mokopuna than older Māori within the 55-60 age band (*Mean Rank* = 209.86). No statistically significant differences were found between age bands and “providing unpaid care to whāngai.”

A Kruskal-Wallis test showed that there was a statistically significant difference in social provisions between age bands (H = 10.397, df = 4, p = .034, r =.10), with small effect. Mann-Whitney U tests (adjusted using the Bonferroni correction) (see Table 5.4) found no significant differences between age groups when the Bonferroni corrected significance level (p <.005) was implemented.

A Kruskal-Wallis test showed that there was a statistically significant difference in social loneliness between age bands (H = 16.319, df = 4, p =.003, r =.13), with small effect. Mann-Whitney U tests (adjusted using the Bonferroni correction) (see Table 5.4) found older Māori within the 60-64 age band (*Mean Rank* = 178.48) experienced greater levels

of social loneliness than those in the 70-74 age band (*Mean Rank* = 146.21) (*U* = 10459.000, *z* = -3.264, *p* = .001, *r* =.18), with small effect.

One Te Taha Wairua variable - CASP-12 – was found to have significant differences across age group levels (*H* = 25.059, *df* = 4, *p* = .000, *f* = .16), with small effect. Mann-Whitney U tests (adjusted using the Bonferroni correction) (see Table 5.4) found older Māori adults within the 55-60 age band (*Mean Rank* = 240.09) reported lower levels of perceived quality of life (QOL) than those in 65-69 age band (*Mean Rank* = 286.68) (*U* = 25705.000, *z* = -3.462, *p* = .001, *r* =.15), with small effect. Further, older Māori in the 55-60 age band (*Mean Rank* = 210.51) reported lower levels of perceived QOL than those in the 70-74 age band (*Mean Rank* = 199.84) (*U* = 17324.000, *z* = -2.592, *p* = .001, *r* =.12), with small effect. Older Māori in the 60-64 age band (*Mean Rank* = 183.67) reported lower levels of QOL than those in the 65-69 age band (*Mean Rank* = 217.67) (*U* = 16597.500, *z* = -2.947, *p* = .003, *r* =.15), with small effect. Participants aged 70-74 reported greater QOL than participants aged 75 plus (*U* = 5442.500, *z* = -3.404, *p* = .001, *r* =.22), with small effect.

Te Taha Hinengaro variable – overall loneliness – was found to have significant differences across age group levels (*H* = 11.805, *df* = 4, *p* = .019, *f* = .11), with small effect. Mann-Whitney U tests (adjusted using the Bonferroni correction) (see Table 5.4) found older Māori adults within the 60-64 age group experienced greater overall loneliness compared to participants within the 70-74 age group (*U* = 10367.000, *z* = -3.193, *p* = .001, *r* = .18).

Table 5. 3

Kruskal-Wallis Test Results for Te Whare Tapa Whā Variables According to Age Groups

Measures	Age Group	Mean Rank	*n*	*H*	*Df*	*p*	*f*
Te Taha Whānau							
Unpaid care to mokopuna	55-60	430.47	314	15.866	4	.003*	.13
	60-64	492.65	202				
	65-69	515.74	197				
	70-74	503.15	124				
	75 plus	469.46	113				
Unpaid care to whāngai	55-60	441.77	293	2.017	4	.733	
	60-64	469.53	190				
	65-69	446.34	194				
	70-74	457.50	121				
	75 plus	444.24	103				
Social provisions	55-60	468.96	314	10.397	4	.034*	.10
	60-64	452.73	205				
	65-69	512.09	201				
	70-74	530.94	127				
	75 plus	454.53	114				
Social Loneliness	55-60	494.08	316	16.319	4	.003*	.13
	60-64	521.13	203				
	65-69	490.35	203				
	70-74	425.24	128				
	75 plus	431.94	114				
Te Taha Wairua							
CASP-12	55-60	449.72	317	25.059	4	.000**	.16
	60-64	454.95	202				
	65-69	537.36	198				
	70-74	547.54	129				
	75 plus	432.11	113				
Te Taha Hinengaro							
Overall loneliness	55-60	494.63	316	11.805	4	.019*	.11
	60-64	518.46	203				
	65-69	475.85	203				
	70-74	420.21	128				
	75 plus	462.20	113				

Note. Effect sizes: $f = .10$ is considered small, $f = .25$ is considered medium and $f = .40$ is considered large.

*$p < .05$, **$p < .001$

Table 5. 4

Mann-Whitney U Test for significant Te Whare Tapa Whā Variables According to Age Group

Measure	55-60	60-64	65-69	70-74	75+	Mann-Whitney
	Mean Rank	**Mean Rank**	**Mean Rank**	**Mean Rank**	**Mean Rank**	
Te Taha Whānau						
Unpaid care to Mokopuna	239.04		283.03			*U* =25604.500, *z* = -3.380*, *r* = .15
	209.86			243.92		*U* = 16440.500, *z* = -2.623*, p = .009
Social Loneliness	231.68			199.84		*U* = 17324.000, *z* = -2.592, p = .035
		178.48		146.21		*U* = 10459.000, *z* = -3.264*, r = .18
	222.86				195.09	*U* = 15685.000, *z* = -2.236*, p =.025
Social Provisions	212.86			241.13		*U* = 17382.500, *z* = -2.110*, p = .024
		191.65	215.59			*U* = 18173.000, *z* = -2.056*, p = .040
		156.24		183.06		*U* = 10915.000, *z* = -2.475*, p = .013
				130.57	110.34	*U* = 6024.000, *z* = -2.250*, *r* =.024
Te Taha Wairua						
CASP-12	240.09		286.68			*U* = 25705.000, *z* = -3.462*, *r* =.15
	210.51			199.84		*U* = 17324.000, *z* = -2.592*, *r* = .12
		183.67	217.67			*U* = 16597.500, *z* = -2.947*, *r* =.15
				135.81	105.16	*U* = 5442.500, *z* = -3.404*, *r* =.22
Te Taha Hinengaro						
Overall Loneliness		178.93		145.49		*U* = 10367.000, *z* = -3.193*, *r* = .18

Note. Effect sizes: *f* = .10 is considered small, *f* = .3 is considered medium and *f* = .5 is considered large.
*$p < .005$, **$p < .001$

Gender and Wellbeing. As Table 5.5 indicates, there were statistically significant differences found between gender and two Te Taha Whānau variables. A Kruskal-Wallis test showed that there was a statistically significant difference in social support found between gender groups (H = 11.997, df = 2, p = .002, f = .11), with small effect. Mann-Whitney U tests (adjusted using the Bonferroni correction) showed older Māori wahine (*Mean Rank* = 505.06) reported greater access to social support than older Māori men (*Mean Rank* = 445.87) (U = 98400.500, z = -3.271, p = .001, r = .11) with small effect.

Further, a Kruskal-Wallis test also showed that there was a statistically significant difference in social loneliness between gender groups (H = 10.758, df = 2, p =.005, r =.11), with small effect. Mann-Whitney U tests (adjusted using the Bonferroni correction) found older Māori men (*Mean Rank* = 510.57) experienced greater levels of social loneliness than older Māori woman (*Mean Rank* = 460.18) (U = 101109.500, z = -3.022, p = .003, r = .10) with small effect (see table 5.6). No significant differences were found between gender levels and providing unpaid care to whāngai or mokopuna.

Te Taha Wairua variable - CASP-12 – was found to have statistically significant differences between gender levels (H = 10.698, df = 2, p = .005, f = .11), with small effect. Mann-Whitney U tests (adjusted using the Bonferroni correction) found older Māori woman (*Mean Rank* = 497.49) reported greater levels of perceived QOL than older Māori men (*Mean Rank* = 453.80) (U =101573.000, z = -2.420, p = .016, r = .08), with negligible to small effect.

Te Taha Hinengaro variable – overall loneliness – was found to have statistically significant differences between gender groups (H = 10.485, df = 2, p = .005, f = .10), with small effect. Mann-Whitney U tests (adjusted using the Bonferroni correction) found older Māori men (*Mean Rank* = 512.47) experienced greater overall loneliness compared to older Māori woman (*Mean Rank* = 457.98) (U = 99890.000, z = -3.096, p = .002, r = .10).

Table 5. 5

Kruskal-Wallis Test Results for Te Whare Tapa Whā Variables According to Gender

Measures	Gender	Mean Rank	*n*	*H*	*df*	*p*	*f*
Te Taha Whānau							
Unpaid care to mokopuna	Tāne/Male	473.81	397	.652	2	.722	
	Wāhine/Female	476.18	551				
	Gender Diverse	624.50	2				
Unpaid care to whāngai	Tāne/Male	454.47	378	.155	2	.925	
	Wāhine//Female	448.51	522				
	Gender Diverse	436.00	1				
Social provisions	Tāne/Male	447.27	406	11.997	2	.002*	.11
	Wāhine//Female	506.57	553				
	Gender Diverse	257.75	2				
Social Loneliness	Tāne/Male	512.11	407	10.758	2	.005*	.11
	Wāhine//Female	461.62	555				
	Gender Diverse	252.50	2				
Te Taha Wairua							
CASP-12	Tāne/Male	455.69	405	10.698	2	.005*	.11
	Wāhine//Female	499.40	613552				
	Gender Diverse	49.25	22				
Te Taha Hinengaro							
Overall loneliness	Tāne/Male	513.92	406	10.485	2	.005*	.10
	Wāhine//Female	459.30	555				
	Gender Diverse	301.75	2				

Note. Effect sizes: *f* = .10 is considered small, *f* = .25 is considered medium and *f* = .40 is considered large.

*$p < .05$, **$p < .001$

Table 5. 6

Statistically Significant Mann-Whitney Results for Te Whare Tapa Whā Variables According to Gender

Measure	Male or Tāne	Female or Wāhine	Gender Diverse	Mann-Whitney
	Mean Rank	Mean Rank	Mean Rank	
Te Taha Whānau				
Social Provisions	445.87	505.06		*U* = 98400.500, *z* = -3.271*, *r* = .11
Social Loneliness	510.57	460.18		*U* = 101109.500, *z* = -3.022*, *r* = .10
Te Taha Wairua				
CASP-12	453.80	497.49		*U* =101573.000, *z* = -2.420*, *r* = .08
Te Taha Hinengaro				
Loneliness (Overall)	512.47	457.98		*U* = 99890.000, *z* = -3.096*, *r* = .10

Note. Effect sizes: *f* = .10 is considered small, *f* = .3 is considered medium and *f* = .5 is considered large.
*p < 0.017, **p < 0.001

Marital Status and Wellbeing. Table 5.7 indicates, there were statistically significant differences in Te Taha Whānau variables between marital status groups. A Kruskal-Wallis test found a statistically significant difference in social support between marital status groups (*H* = 37.890, *df* = 1, *p* = .000, *f* = .21), with small effect. Mann-Whitney U test found older Māori who were married (*Mean Rank* = 507.87) reported greater access to social support than older Māori who were not married (*Mean Rank* = 393.43) (*U* = 74680.000, *z* = -6.155, *p* = .000, *r* =.20) with small effect.

There were no statistically significant differences found between marital status and social loneliness or providing unpaid care to mokopuna or whāngai.

Te Taha Wairua variable - CASP-12 – was found to have significant differences across marital status levels (*H* = 28.737, *df* = 1, *p* = .000, *f* = .18), with small effect. Mann-Whitney U tests (adjusted using the Bonferroni correction p <.05) found older Māori who were married reported greater levels of perceived quality of life (QOL) than older Māori who were not married (*U* = 77167.500, *z* = -5.361, *p* = .000, *r* =.18) (see table 5.8).One Te

Table 5. 7

Kruskal-Wallis Test Results for Te Whare Tapa Whā Variables According to Marital Status

Measures	Marital Status	Mean Rank	*n*	*df*	*H*	*p*	*f*
Te Taha Whānau							
Unpaid care to mokopuna	Married/Defacto	474.74	612	1	3.423	.064	
	Not married or Defacto	441.58	314				
Unpaid care to whāngai	Married/Defacto	436.05	584	1	1.042	.307	
	Not married or Defacto	452.19	298				
Social provisions	Married/Defacto	507.87	614	1	37.890	.000**	.21
	Not married or Defacto	393.43	322				
Social loneliness	Married/Defacto	458.71	618	1	3.726	.054	
	Not married or Defacto	491.74	321				
Te Taha Wairua							
CASP-12	Married/Defacto	501.52	615	1	28.737	.000**	.18
	Not married or Defacto	401.90	319				
Te Taha Hinengaro							
Overall loneliness	Married/Defacto	447.82	617	1	12.268	.000**	.12
	Not married or Defacto	511.16	321				

Note. Effect sizes: $f = .10$ is considered small, $f = .25$ is considered medium and $f = .40$ is considered large.

*$p < .05$, **$p < .001$

Taha Hinengaro variable – overall loneliness – was found to have significant differences across marital status groups ($H = 12.268$, $df = 1$, $p = .000$, $f = .12$), with small effect. Mann-Whitney U tests (adjusted using the Bonferroni correction) found participants who were married reported lower levels of overall loneliness compared to non-married participants ($U = 85654.500$, $z = -3.503$, $p = .000$, $r = .11$) with small effect.

Table 5. 8

Statistically Significant Mann-Whitney Results for Te Whare Tapa Whā Variables According to Marital Status

Measure	Married or Defacto	Not Married or Defacto	Mann-Whitney
	Mean Rank	Mean Rank	
Te Taha Whānau			
Social provisions	507.87	393.43	*U* = 74680.000, *z* = -6.155**, *r* =.20 .
Te Taha Wairua			
CASP-12	501.52	401.90	*U* = 77167.500, *z* = -5.361**, *r* =.18 .
Te Taha Hinengaro			
Loneliness (Overall)	447.82	511.16	*U* = 85654.500, *z* = -3.503**, *r* =.11

Note. Effect sizes: *f* = .10 is considered small, *f* = .3 is considered medium and *f* = .5 is considered large.
**p* < 0.05, ***p* < 0.001

Education Level and Wellbeing. Table 5.9 presents statistically significant differences between Te Whare Tapa Whā- wellbeing and educational levels (see table 5.9). A Kruskal-Wallis test showed that there was a statistically significant difference between education levels and providing unpaid care to mokopuna (*H* = 7.902, *df* = 3, *p* = .048, *f* = .09) with negligible effect. Mann-Whitney U tests found older Māori adults who had no qualification (*Mean Rank* = 269.96) provided more unpaid care to mokopuna than those with a secondary qualification (*Mean Rank* = 234.22) (*U* = 27311.500, *z* = -2.858, *p* = .004, *r* =.13). There were no statistically significant differences between education level and unpaid care to whāngai or social loneliness.

A Kruskal-Wallis test showed that there was a statistically significant difference between educational level and social provisions (*H* = 61.451, *df* = 3, *p* = .000, *f* = .27), with small to medium effect. Mann-Whitney U tests (see table 5.10) found older Māori who had a

post-secondary or trade qualification (*Mean Rank* = 297.02) reported greater access to social support than the no qualification group (*Mean Rank* = 238.41) (*U* = 27684.500*, z* = - 4.394, *p* =.000, *r* =.19). Older Māori with a tertiary qualification (*Mean Rank* = 274.00) reported greater access to social support than the no qualification group (*Mean Rank* = 184.18) (*U* = 12880.500, *z* = -7.209, *p* = .000, *r* =.35), with medium effect. Additionally, older Māori with a tertiary educational level had greater access to social support than the secondary qualification group (*Mean Rank* = 172.20) (*U* = 12609.000, *z* = -5.746, *p* = .000, *r* =.29) and post-secondary/trade qualification group (*Mean Rank* = 192.85) (*U* = 16211.000, *z* = -3.891, *p* = .000, *r* =.19).

A Kruskal-Wallis test showed that there was a statistically significant difference in Te Taha Wairua wellbeing- CASP-12 and educational level (*H* = 48.172, *df* = 3, *p* = .000, *f* = .23), with small effect. Mann-Whitney U tests (adjusted using the Bonferroni correction) found older Māori reported greater levels of perceived QOL when they had either a secondary (*U* = 26410.000, *z* = -3.441, *p* = .001, *r* =.15), post-secondary (*U* = 29214.000, *z* = -3.669, *p* = .000, *r* =.16) or tertiary educational qualification (*U* = 13143.000, *z* = -6.851, *p* = .000, *r* =.33) compared to no qualifications. Older Māori who reported a tertiary level education, experienced greater levels of QOL than secondary (*U* = 14683.500, *z* = -3.614, *p* = .000, *r* =.18) and post-secondary educational groups (*U* = 16241.500, *z* = -3.798, *p* = .000, *r* =.19).

A Kruskal-Wallis test showed that there was a statistically significant difference in Te Taha Hinengaro wellbeing – overall loneliness and educational level (*H* = 19.352, *df* = 3, *p* = .000, *f* = .15), with small effect. Mann-Whitney U tests (adjusted using the Bonferroni correction, *p* < .008) found older Māori who had no qualifications (*Mean Rank* = 235.83) reported higher levels of overall loneliness than participants with a tertiary qualification (*Mean Rank* = 185.18) (*U* = 16773.000, *z* = -4.208, *p* = .000, *r* =.20), with small effect. Older Māori with a secondary qualification (*Mean Rank* = 214.79) reported greater levels of loneliness than participants with a tertiary education (*Mean Rank* = 192.84) (*U* = 15454.500, *z* = -3.341, *p* = .001, *r* =.17). Older Māori with a tertiary education (*Mean Rank* = 192.84) reported lower levels of overall loneliness than those with a post-tertiary/trade qualification (*Mean Rank* = 224.54) (*U* = 18005.500, *z* = -2.695, *p* = .007, *r* =.13).

Table 5. 9

Kruskal-Wallis Test Results for Te Whare Tapa Whā Variables According to Education Level

Measures	Educational level	Mean Rank	*n*	*df*	*H*	*p*	*f*
Te Taha Whānau							
Unpaid care to mokopuna	No quals	486.31	273	3	7.902	.048	.09
	Secondary	423.00	233				
	Post-second	464.62	256				
	Tertiary	467.40	159				
Unpaid care to whāngai	No quals	441.14	248	3	1.546	.672	
	Secondary	421.37	223				
	Post-second	444.36	245				
	Tertiary	441.18	157				
Social provisions	No quals	391.58	273	3	61.451	.000	.27
	Secondary	437.43	237				
	Post-second	492.17	260				
	Tertiary	591.99	161				
Social Loneliness	No quals	476.95	273	3	6.912	.075	
	Secondary	477.82	237				
	Post-second	476.97	263				
	Tertiary	420.80	161				
Te Taha Wairua							
CASP-12	No quals	388.89	273	3	48.172	.000	.23
	Secondary	471.82	235				
	Post-second	472.73	262				
	Tertiary	572.84	159				
Te Taha Hinengaro							
Overall loneliness	No quals	504.68	272	3	19.352	.000	.15
	Secondary	480.74	237				
	Post-second	460.94	263				
	Tertiary	393.01	161				

Note. Effect sizes: $f = .10$ is considered small, $f = .25$ is considered medium and $f = .40$ is considered large.

*$p < .05$, **$p < .001$

Table 5. 10

Mann-Whitney U Test for significant Te Taha Whānau and Te Taha Wairua Variables According to Education Level

Measure	No Quals	Secondary Quals	Post-Secondary/ Trade	Tertiary	Mann-Whitney
	Mean Rank	Mean Rank	Mean Rank	Mean Rank	
Te Taha Whānau					
Unpaid care to Mokopuna	269.96	234.22			*U* = 27311.500, *z* = -2.858*, *r* =.13
Social Provisions	238.41		297.02		*U* = 27684.500, *z* = -4.394**, *r* =.19
	184.18			274.00	*U* = 12880.500, *z* = -7.209**, *r* =.35
		172.20		239.68	*U* = 12609.000, *z* = -5.746**, *r* =.29
			192.85	240.31	*U* = 16211.000, *z* = -3.891**, *r* =.19
Te Taha Wairua					
CASP-12	233.74	278.62			*U* = 26410.000, *z* = -3.441*, *r* =.15
	244.01		293.00		*U* = 29214.000, *z* = -3.669**, *r* =.16
	185.14			270.34	*U* = 13143.000, *z* = -6.851**, *r* =.33
		180.48		222.65	*U* = 14683.500, *z* = -3.614**, *r* =.18
			193.49	239.85	*U* = 16241.500, *z* = -3.798**, *r* =.19
Te Taha Hinengaro					
Overall Loneliness	235.83			185.18	*U* = 16773.000, *z* = -4.208**, *r* =.20
		214.79		176.99	*U* = 15454.500, *z* = -3.341*, *r* =.17
			224.54	192.84	*U* = 18005.500, *z* = -2.695*, *r* =.13

Note. Effect sizes: *f* = .10 is considered small, *f* = .3 is considered medium and *f* = .5 is considered large.
*p < .008, **p < .001

Socio-Economic Status and Wellbeing. Table 5.11 presents statistically significant differences between socio-economic status (SES) level and Te Whare Tapa Whā-wellbeing. A Kruskal-Wallis test showed that there was a statistically significant difference between socio-economic status and social support (H = 94.528, df = 2, p = .000, f = .33) with medium effect. Mann-Whitney U tests (adjusted using the Bonferroni correction, $p < .017$) (see table 5.12) found older Māori who reported comfortable SES (*Mean Rank* = 220.29) experienced greater social support than older Māori in hardship (*Mean Rank* = 175.58) (U = 15165.500, z = -3.889, p = .007, r = .20) with small effect. However, older Māori who reported a comfortable SES (*Mean Rank* = 272.69) experienced less social support than older Māori who reported a good SES (*Mean Rank* = 352.84) (U = 34651.000, z = -5.015, p = .000, r = .20) with medium effect. Older Māori who reported good SES (*Mean Rank* = 366.49) experienced greater social support than those in hardship (*Mean Rank* = 221.15) (U = 23960.500, z = -9.075, p = .000, r = .36) with medium effect. There were no statistically significant differences found between SES and providing unpaid care to whāngai or mokopuna.

A Kruskal-Wallis test showed that there was a statistically significant difference found between SES and social loneliness (H = 60.087, df = 2, p = .000, f = .25) with medium effect. Mann-Whitney U tests found older Māori who reported living in hardship experience greater social loneliness than those who reported either comfortable (U = 16750.000, z = -2.718, p = .000, r =.14) or good SES (U = 30657.500, z = -6.677, p = .000, r =.26), with small effect. Older Māori who reported good SES experienced lower levels of social loneliness than older Māori in the comfortable SES group (U = 39518.000, z = -3.420, p = .001, r =.13).

One Te Taha Wairua variable - CASP-12 – was found to have significant differences across SES groups (H = 259.695, df = 2, p = .000, f = .60), with large effect. Mann-Whitney U tests found older Māori reported a comfortable SES experienced greater levels of QOL than older Māori who reported hardship (U = 13661.500, z = -5.284, p = .000, r = .27) with medium to large effect. Older Māori who reported good SES reported significantly greater QOL than older Māori who reported living in hardship (U = 13199.500, z = -14.174, p =

.000, r = .57) with large effect or participants who were comfortable (U = 23130.000, z = -10.261, p = .000, r = .40) with medium to large effect.

One Te Taha Hinengaro variable – overall loneliness – was found to have significant differences across SES (H = 114.266, df = 2, p = .000, f = .36), with medium effect. Mann-Whitney U tests (adjusted using the Bonferroni correction) found participants who reported hardship experienced greater overall loneliness than those who were comfortable (U = 15036.500, z = -4.135, p = .000, r = .21) or had good SES (U = 23932.500, z = -9.488, p = .000, r = .37) with medium effect. Older Māori who reported good SES experienced lower overall loneliness than older Māori who reported comfortable SES (U = 35539.500, z = -5.030, p = .000, r = .20) with small effect.

Table 5. 11

Kruskal-Wallis Test Results for Te Whare Tapa Whā Variables According to Socio-Economic Status

Measures	Socio-Economic Status	Mean Rank	*n*	*df*	*H*	*p*	*f*
Te Taha Whānau							
Unpaid care to mokopuna	Hardship	419.24	192	2	.464	.793	
	Comfortable	431.89	200				
	Good	418.79	451				
Unpaid care to whāngai	Hardship	447.82	204	2	.865	.649	
	Comfortable	432.90	204				
	Good	431.21	462				
Social provisions	Hardship	326.45	218	2	94.528	.000	.33
	Comfortable	429.26	218				
	Good	532.55	481				
Social Loneliness	Hardship	562.89	219	2	60.087	.000	.25
	Comfortable	476.39	219				
	Good	409.95	485				
Te Taha Wairua							
CASP-12	Hardship	260.16	220	2	259.695	.000	.60
	Comfortable	380.33	218				
	Good	590.27	485				
Te Taha Hinengaro							
Overall loneliness	Hardship	605.66	219	2	114.266	.000	.36
	Comfortable	490.88	219				
	Good	384.09	485				

Note. Effect sizes: $f = .10$ is considered small, $f = .25$ is considered medium and $f = .40$ is considered large.

*$p < .05$, **$p < .001$

Table 5. 12

Statistically Significant Mann-Whitney Results for Te Whare Tapa Whā Variables According to Socio-Economic Status

Measure	Hardship	Comfortable	Good	Mann-Whitney
	Mean Rank	Mean Rank	Mean Rank	
Te Taha Whānau				
Social Provisions	175.58	220.29		U = 15165.500, z = -3.889**, r = .20
	221.15		366.49	U = 23960.500, z = -9.075**, r = .36
		272.69	352.84	U = 34651.000, z = -5.015**, r = .20
Social Loneliness	214.21	184.61		U = 16750.000, z = -2.718**, r =.14
	393.15		295.38	U = 30657.500, z = -6.677**, r =.26
		363.78	314.85	U = 39518.000, z = -3.420*, r =.13
Te Taha Wairua				
CASP-12	167.92	228.70		U = 13661.500, z = -5.284**, r = .27
	165.54		392.99	U = 13199.500, z = -14.174**, r = .57
		215.94	380.16	U = 23130.000, z = -10.261**, r = .40
Te Taha Hinengaro				
Loneliness (Overall)	223.09	176.21		U = 15036.500, z = -4.135**, r = .21
	428.00		280.60	U = 23932.500, z = -9.488**, r = .37
		383.29	306.11	U = 35539.500, z = -5.030**, r = .20

Note. Effect sizes: f = .10 is considered small, f = .3 is considered medium and f = .5 is considered large.
*p < 0.017, **p < 0.001

5.3 Standard Multiple Linear Regression

Standard multiple regression analyses were conducted to determine which independent variables were responsible for the most variance in older Māori well-being (Te Whare Tapa Whā dependent variables). Results are presented as: assumption testing summary, model fit summary, a brief description of the significant predictors, followed by the results table displaying both significant and non-significant predictors.

5.3.1 Te Taha Whānau Regressions

Social Provisions Multiple Linear Regression. Assumption testing illustrated that were no outliers detected and assumptions of linearity, homoscedascity and independence of residuals were met after inspection of the normal probability plot of standard residuals and the scatter plot. Second, Mahalanobis distance did not exceed the critical x^2 for df = 13 (at α = .001) of 34.528 for any cases in the data file, indicating multivariate outliers were not of concern. Third, relatively high tolerances for all predictors in the regression model indicated that multicollinearity would not interfere with interpretation of the multiple regression outcome. For example, tolerances were higher than 0.2 for all independent variables. Independence of residuals were observed, as assessed by a Durbin-Watson statistic of 1.941.

The combined variables accounted for 19% of the variance in social provisions scores, R^2 for the overall model was 0.191 with an adjusted R^2 of .178, F (13, 810) = 14.690, p = .000, f^2 = .24 – medium effect size. As shown in Table 5.13, a secure or positive MCI, gender, education level, marital status and SES were significant predictors of social support.

Participants with a secure MCI were predicted to receive 4.001 units more social support than participants with a notional MCI. Older Māori with a positive MCI were predicted to experience 2.132 units more social support than participants with a notional MCI. Older Māori females were predicted to experience 2.817 units more social support than older Māori men. Participants within the 70-74 age group were predicted to experience 2.321 units more social support than the 50-54 age group. Older Māori with good SES were predicted to report 6.105 units more social support than older Māori in hardship. Similarly,

older Māori with a comfortable SES were predicted to report 3.307 units more social support than those in hardship (see Table 5.13). Participants with a tertiary education (4.364 units) or post-secondary education (2.417 units) reported more social support than no qualifications. Older Māori who were unmarried reported .3570 units less social support than those who were married.

Table 5. 13

Standard Multiple Regression Analysis for Significant Predictor Variables and Social Provisions

Predictor Variable	***B***	***β***	***t***	***p***
MCI - Secure	4.001	.160	3.538	.000**
MCI – Positive	2.132	.101	2.243	.025*
Gender	2.817	.139	4.301	.000**
75 plus	-.141	-.004	-.125	.901
70-74	2.321	.078	2.226	.026*
65-69	1.526	.061	1.676	.094
60-64	-.043	-.002	-.049	.961
SES-Good	6.105	.304	7.075	.000**
SES-Comfortable	3.307	.141	3.479	.001*
Tertiary	4.364	.167	4.372	.000**
Post-Secondary	2.417	.109	2.840	.005*
Secondary	.463	.020	.522	.602
Marital Status	-3.570	-.168	-4.987	.000**

Note. *$p < .05$, **$p < .001$

Social Loneliness Multiple Linear Regression. Assumption testing illustrated that were no outliers detected and assumptions of linearity, homoscedascity and independence of residuals were met after inspection of the normal probability plot of standard residuals and the scatter plot. Second, Mahalanobis distance did not exceed the critical x^2 for df = 13 (at α = .001) of 34.528 for any cases in the data file, indicating multivariate outliers were not of concern. Third, relatively high tolerances for all predictors in the regression model indicated that multicollinearity would not interfere with interpretation of the multiple regression outcome. For example, tolerances were higher than 0.2 for all independent variables. Independence of residuals were observed, as assessed by a Durbin-Watson statistic of 1.978.

The combined variables accounted for 10.7% of the variance in social loneliness, R^2 for the overall model was 0.107 with an adjusted R^2 of .093, F (13, 814) = 7.513, p = .000, f^2 = .12 – small effect size. As shown in Table 5.14, good SES was the most significant predictor followed by a secure MCI, positive MCI, gender and age groups.

Older Māori adults who reported a secure identity experienced .583 units less social loneliness than older Māori who reported a notional identity. Further, older Māori adults with a positive identity reported .396 units less social loneliness than those with a notional identity. Older Māori who reported good SES experienced .656 units less social loneliness than those in hardship. Further older Māori who reported a comfortable SES experienced .333 units less social loneliness than those in hardship. Older Māori within the 70-74 age group experienced .284 units less social loneliness than those in the 50-54 age bracket. Wāhine experienced .214 units less social loneliness than tāne.

Table 5. 14

Standard Multiple Regression Analysis for Significant Predictor Variables and Social Loneliness

Predictor Variable	*B*	*β*	*t*	*p*
MCI - Secure	-.583	-.204	-4.276	.000**
MCI – Positive	-.396	-.163	-3.446	.001*
SES - Good	-.656	-.284	-6.300	.000**
SES-Comfortable	-.333	-.123	-2.897	.004*
75 plus	-.207	-.056	-1.523	.128
70-74	-.284	-.084	-2.264	.024*
65-69	-.007	-.002	-.060	.952
60-64	.142	.051	1.331	.183
Gender	-.214	-.092	-2.707	.007*
Tertiary	-.050	-.017	-.416	.678
Post-Secondary	.065	.026	.638	.524
Secondary	.094	.035	.879	.380
Marital Status	.066	.027	.762	.447

Note. $*p < .05$, $**p < .001$

Te Taha Whānau – Unpaid Care for Mokopuna - Multiple Regression. Assumption testing illustrated that were no outliers detected and assumptions of linearity, homoscedascity and independence of residuals were met after inspection of the normal probability plot of standard residuals and the scatter plot. Second, Mahalanobis distance did not exceed the critical x^2 for $df = 13$ (at $\alpha = .001$) of 34.528 for any cases in the data file, indicating multivariate outliers were not of concern. Third, relatively high tolerances for all predictors in the regression model indicated that multicollinearity would not interfere with interpretation of the multiple regression outcome. For example, tolerances were higher than 0.2 for all independent variables. Independence of residuals were observed, as assessed by a Durbin-Watson statistic of 2.051.

The combined variables accounted for 5.3% of the variance in providing unpaid care to mokopuna, R^2 for the overall model was 0.053 with an adjusted R^2 of .037, F (13, 805) = 3.446, p = .000, f^2 = .06 – small effect size.

Older Māori with a secure or positive MCI were more likely to provide unpaid care to mokopuna than individuals with a notional identity. Older Māori within the 65-69 and 60-64 age groups were more likely to provide unpaid care to mokopuna than the 50-54 age group. Older Māori with a secondary education provided .375 units less care than older Māori with no qualifications. Older Māori who were married provided .216 units more care to mokopuna than those who were not (see table 5.15).

Table 5. 15

Standard Multiple Regression Analysis for Significant Predictor Variables and Unpaid Care for Mokopuna

Predictor Variable	***B***	***β***	***t***	***p***
MCI - Secure	.632	.216	2.335	.000**
MCI – Positive	.287	.115	4.345	.020*
Gender	.037	.015	.437	.662
75 plus	-.056	-.015	-.391	.696
70-74	.165	.047	1.234	.217
65-69	.307	.104	2.650	.008*
60-64	.238	.083	2.119	.034*
SES-Good	-.082	-.035	-.746	.456
SES-Comfortable	.032	.012	.265	.791
Tertiary	-.194	-.063	-1.528	.127
Post-Secondary	-.161	-.062	-1.488	.137
Secondary	-.375	-.138	-3.319	.001*
Marital Status	-.216	-.086	-2.349	.019*

Note. *p < .05, **p < .001

Te Taha Whānau – Unpaid Care for Whāngai - Multiple Regression. Assumption testing illustrated that were no outliers detected and assumptions of linearity, homoscedascity and independence of residuals were met after inspection of the normal probability plot of standard residuals and the scatter plot. Second, Mahalanobis distance did not exceed the critical x^2 for df = 13 (at α = .001) of 34.528 for any cases in the data file, indicating multivariate outliers were not of concern. Third, relatively high tolerances for all predictors in the regression model indicated that multicollinearity would not interfere with interpretation of the multiple regression outcome. For example, tolerances were higher than 0.2 for all independent variables. Independence of residuals were observed, as assessed by a Durbin-Watson statistic of 1.930.

The combined variables accounted for 2.9% of the variance in providing unpaid care to whāngai, R^2 for the overall model was .029 with an adjusted R^2 of .013, F (13, 769) = 1.776, p = .043, f^2 = .03 – small effect size. The combined variables account for very minimal variance in providing unpaid care to whāngai. The only significant predictor was A secure MCI (see table 5.16).

Table 5. 16

Standard Multiple Regression Analysis for Significant Predictor Variables and Unpaid Care for Whāngai

Predictor Variable	***B***	***B***	***t***	***p***
MCI - Secure	.317	.164	.164	.001*
MCI – Positive	.126	.077	.077	.127
Gender	-.065	-.042	-.042	.251
75 plus	-.063	-.025	-.639	.523
70-74	-.007	-.003	-.074	.941
65-69	-.013	-.007	-.167	.867
60-64	.067	.036	.873	.383
SES-Good	-.146	-.094	-1.947	.052
SES-Comfortable	-.149	-.081	-1.794	.073
Tertiary	-.019	-.009	-.218	.827
Post-Secondary	.016	.009	.213	.831
Secondary	-.059	-.033	-.770	.442
Marital Status	.042	.026	.678	.498

Note. *$p < .05$, **$p < .001$

5.3.2 Te Taha Wairua Regressions

CASP-12 Multiple Linear Regression. Assumption testing illustrated that were no outliers detected and assumptions of linearity, homoscedascity and independence of residuals were met after inspection of the normal probability plot of standard residuals and the scatter plot. Second, Mahalanobis distance did not exceed the critical x^2 for df = 13 (at α = .001) of 34.528 for any cases in the data file, indicating multivariate outliers were not of concern. Third, relatively high tolerances for all predictors in the regression model indicated that multicollinearity would not interfere with interpretation of the multiple regression outcome. For example, tolerances were higher than 0.2 for all independent variables. Independence of residuals were observed, as assessed by a Durbin-Watson statistic of 1.927.

The combined variables accounted for 32.4% of the variance in quality of life (QOL), R^2 for the overall model was .324 with an adjusted R^2 of .313, F (13, 814) = 29.982, p = .000, f^2 = .48 – large effect size. As shown in Table 5.17, SES was the most significant predictor followed by a secure MCI, gender and tertiary education.

Older Māori adults who reported good or comfortable SES were predicted to report greater QOL. Older Māori with a secure MCI was predicted to report 2.058 units more QOL than those with a notional MCI. Wāhine Māori reported 1.009 units more QOL than Tāne. Older Māori with a tertiary education were predicted to score 1.329 units more QOL than the no educational qualification group.

Table 5. 17

Standard Multiple Regression Analysis for Significant Predictor Variables and Quality of Life (CASP-12)

Predictor Variable	***B***	***β***	***t***	***p***
SES - good	6.779	.602	15.393	.000**
SES- comfortable	2.854	.217	5.879	.000**
Gender	1.009	.089	3.017	.003*
MCI - Secure	2.058	.148	3.569	.000**
MCI – Positive	.734	.062	1.507	.132
75 plus	-1.096	-.061	-1.899	.058
70-74	.519	.032	.982	.326
65-69	.815	.058	1.754	.080
60-64	-.424	-.031	-.941	.347
Tertiary	1.329	.090	2.603	.009*
Post-Secondary	.843	.068	1.946	.052
Secondary	.400	.031	.884	.377
Marital Status	-.672	-.056	-1.838	.066

Note. $*p < .05$, $**p < .001$

5.3.3 Te Taha Hinengaro Regressions

Overall Loneliness Linear Multiple Regression. Assumption testing illustrated that were no outliers detected and assumptions of linearity, homoscedascity and independence of residuals were met after inspection of the normal probability plot of standard residuals and the scatter plot. Second, Mahalanobis distance did not exceed the critical x^2 for df = 13 (at α = .001) of 34.528 for any cases in the data file, indicating multivariate outliers were not of concern. Third, relatively high tolerances for all predictors in the regression model indicated that multicollinearity would not interfere with interpretation of the multiple regression outcome. For example, tolerances were higher than 0.2 for all independent variables. Independence of residuals were observed, as assessed by a Durbin-Watson statistic of 2.041.

The combined variables accounted for 16% of the variance in overall loneliness, R^2 for the overall model was .160 with an adjusted R^2 of .146, F (13, 814) = 11.890, p = .000, f^2 = .19 – medium effect size. As shown in Table 5.18, good and comfortable SES were the most significant predictors, followed by a secure MCI, gender, a positive MCI and the age group 70-74.

Older Māori adults who reported good SES also reported 1.317 units less loneliness than those in hardship. Similarly, older Māori adults who reported comfortable SES also reported .721 units less loneliness than those in hardship. Older Māori with a secure identity reported .616 units less loneliness than participants with a notional MCI. Participants with a positive identity also reported less loneliness than the notional MCI group, by .461 units. Older Māori wāhine reported .334 units less loneliness than tāne. Older Māori who identified as part of the 70-74 age group reported .351 units less loneliness than the 50-54 age group.

Table 5. 18

Standard Multiple Regression Analysis for Significant Predictor Variables and Loneliness

Predictor Variable	*B*	*β*	*t*	*p*
SES - good	-1.317	-.402	-9.210	.000**
SES- comfortable	-.721	-.189	-4.571	.000**
Gender	-.334	-.101	-3.078	.002*
MCI - Secure	-.616	-.187	-3.293	.001*
MCI – Positive	-.461	-.158	-2.921	.004*
75 plus	-.089	-.017	-.477	.633
70-74	-.351	-.073	-2.037	.042*
65-69	-.093	-.023	-.619	.536
60-64	.206	.052	1.404	.161
Tertiary	-.241	-.056	-1.455	.146
Post-Secondary	-.161	-.045	-1.142	.254
Secondary	.049	.013	.331	.741
Marital Status	-.55	.045	1.303	.193

Note. $*p < .05$, $**p < .001$

5.4 Summary of Results

Overall, six variables used to depict Te Whare Tapa Whā - wellbeing were found to have statistically significant differences across the three MCI groups. Older Māori with a secure MCI were found to report better overall wellbeing. This meant older Māori adults with a secure MCI reported greater social support, lower social loneliness, provided more care to mokopuna and whāngai, reported better quality of life and lower levels of overall loneliness, than older Māori with a notional or positive MCI. A secure MCI was also found to be a significant predictor in explaining the variance in all six dependent wellbeing

variables (QOL, social loneliness, overall loneliness, social support, providing care to whāngai and providing care to mokopuna).

Chapter Six

Discussion

The overall aim of this study was to explore the relationship between Māori cultural identity and wellbeing, as conceptualized by the Te Whare Tapa Whā framework, for older Māori adults. The objectives of the study were to examine the different levels of MCI present in this sample of older Māori adults. Secondly, to examine the relationship between each level of MCI and the four dimensions of well-being, as encompassed by Te Whare Tapa Whā. Lastly, to examine the relationship between demographic variables and well-being for older Māori adults.

This chapter begins by providing a brief overview of the main findings. Each objective of the study will then be discussed in relation to the findings and relevance to other literature. Where appropriate, further research suggestions are placed with each objective. A brief outline of limitations is then provided, followed by a concluding paragraph.

Overall, Māori cultural identity influenced well-being for older Māori adults within Aotearoa. Older Māori adults who reported a secure MCI also reported better wellbeing. Wellbeing within the present study was constructed utilizing the Te Whare Tapa Whā framework. The measures chosen to reflect Te Taha Tinana – physical wellbeing – did not have any statistically significant relationships with MCI. The loneliness measure used to reflect Te Taha Hinengaro – emotional/psychological wellbeing - found older Māori with a secure MCI reported experiencing lower levels of loneliness, compared to both notional and positive MCI groups. Four variables reflected Te Taha Whānau – family wellbeing-social provisions, social support, providing unpaid care to whāngai and mokopuna. Older Māori with a secure MCI provided more care to both whāngai and mokopuna and reported experiencing less social loneliness and more social support. Overall, this group reported better whānau wellbeing than older Māori with a notional/positive MCI. Quality of life was used to reflect Te Taha Wairua – spiritual wellbeing. Older Māori with a secure MCI reported greater perceived quality of life than older Māori in the notional or positive MCI groups; thus reflecting higher levels of spiritual wellbeing.

Demographic variables were taken into consideration in exploring the relationship between Māori cultural identity and wellbeing, as they enhance the understanding of the relationship for older Māori adults. Age, socio-economic status, gender, marital status and educational level were included in the multiple regressions alongside MCI. From this analysis, a secure MCI was found to be a significant predictor in helping to explain the variance in wellbeing. Therefore, Māori cultural identity appears to be a significant determinant of wellbeing, for older Māori adults.

6.1 Objective One: Different levels of MCI within older Māori adults

The first objective of the present study was to examine older Māori adults MCI in Aotearoa. From the sample, most older Māori adults had a positive MCI (65.6%). Older Māori adults with a notional MCI made up 13.2% of the sample and older Māori adults with a secure MCI made up 21.2%. These results reflect previous findings of heterogeneity in expression of Māori cultural identity, identified by other researchers (Durie, 1994; Edwards, 2010; Greaves et al., 2017; Houkamau & Sibley, 2010). This finding also supports previous literature conducted within Aotearoa with older Māori adults, who reported heterogeneity in MCI expression (Cram, 2016; Dyall et al., 2011; Stevenson, 2004; Waldon, 2004).

6.2 Examine the relationship between MCI and wellbeing, as encompassed by Te Whare Tapa Whā

As depicted in the beginning of the discussion, Māori cultural identity was found to influence wellbeing for older Māori adults. The results of this study were not able to depict how or why there was a statistically significant relationship between MCI and wellbeing. However, it was observed that older Māori adults with a secure MCI reported better overall wellbeing than older Māori adults with either a notional or positive MCI. Previous literature has highlighted the significance of engagement within cultural activities and this relationship to wellbeing (Dyall et al. 2014; Waldon, 2004). In both studies older Māori with a secure MCI were more engaged with Māori cultural activities such as, spending time on the marae or holding high proficiency in Te Reo Māori. Both indicators were relevant in the present study and can be drawn on to help understand the relationship MCI has with wellbeing. As mentioned in Dyall et al. (2014) study the marae is a place

where whānau gather and can engage within Te Ao Māori. For those proficient in Te Reo Māori it can also be a safe space to engage freely in their language, with others who also understand, thus providing a place where belonging and connection is associated (Dyall et al. 2014). When focusing on the indicators measuring MCI, participants with high engagement in cultural activities are typically also those with a secure MCI (Waldon, 2004). Therefore, within the present sample of older Māori with a secure MCI, it could be assumed that they are actively engaged in cultural activities. This engagement may enhance the connection and belonging older Māori experience, which leads to enhanced feelings of wellbeing.

6.2.1 Te Taha Wairua and older Māori

Wairua or spirituality is considered one of the most essential elements of wellbeing for Māori (Durie, 1985; Kennedy et al., 2015). Wairua can be described as a perceived sensation that transcends beyond boundaries of time and space and is the core of Māori existence (Valentine et al., 2017). Therefore, differentiating wairua from terms such as religion. In order to have a complete understanding of wellbeing from a Māori perspective, incorporating wairua or a spiritual element within the present study was important. For this purpose, a proxy measure - CASP-12 – was used to capture perceived QOL and represent wairua. Older Māori with a secure MCI reported greater perceived QOL than older Māori with either a positive or notional MCI, within the present study. Whilst, it is acknowledged that the measure used has limitations in understanding the full extent to which, wairua or spirituality may exist and influence wellbeing for older Māori. It does provide some evidence of an association between MCI and understanding perceived QOL for Māori in later life.

Wairua is often acknowledged as a salient part of Māori reality for Māori with varying degrees of immersion within Te Ao Māori (Valentine et al., 2017). Therefore, it is not an element of wellbeing that is specifically reserved for Māori with a secure MCI. Rather, older Māori adults with a secure MCI typically have more access to Māori cultural resources (Stevenson, 2004), which in themselves could be laden with understandings that reflect wairua. Therefore, they may have more access to knowledge and

understanding of wairua, are able to practice wairuatanga when immersed in such environments, which in turn has a beneficial influence on quality of life.

Historic incidences such as the passing of the Tōhunga Suppression Act and open under-valuing of indigenous spirituality, positioned wairua to be misunderstood within mainstream health systems and importantly psychological services (Valentine et al., 2017). For older Māori with a notional MCI, they may feel the implications of this process more deeply. For some they have access to cultural knowledge, yet choose not to identify as Māori (Stevenson, 2004). For others, they may choose to identify but do not have access to knowledge that could help their understanding of wairua within Te Ao Māori. This knowledge was not lost, but it also not widely accessible either. What is important, is that MCI has a role in influencing the wairua taha of wellbeing.

Despite the fact, wairua plays a vital role in wellbeing for Māori people. Understanding wairua and how it works to influence wellbeing, within western science is limited. Future research should consider the fundamental aspect of wairua in a more meaningful way than what was under-taken within the present study. Utilization of a measure that better reflects the understanding of wairua from a Te Ao Māori perspective would be key. This may shape a deeper understanding of what wairua means for older Māori during the later stages of their life. An understanding that the present research does not capture as deeply as it could.

6.2.2 Te Taha Whānau and older Māori

Te Taha Whānau wellbeing as measured through providing unpaid care for mokopuna was found to differ between MCI groups. Older Māori who reported a secure MCI were found to provide more unpaid care to mokopuna than older Māori with a notional or positive MCI. In terms of uptake of a caring relationship, Māori have been found to be more likely to under-take a caring role than other ethnic groups within Aotearoa (Alpass et al., 2017b). This finding is specified to caring in general, rather than specifically tailored to mokopuna - which was the finding of the present study.

Although dependent on the social context and situation, values can help shape understandings of behaviours and why interactions occur. The finding of a caring

relationship between Māori who report a secure MCI and mokopuna can be explored through the enactment of values, informed by a Māori worldview. *Manaakitanga*, *whanaungatanga* and *aroha* can be viewed as some of the values being enacted during the process of caring for mokopuna. Choosing to engage in a process of caring for one's mokopuna draws upon whanaungatanga and embracing inter-generational relationships. Here cultural knowledge can be passed on to mokopuna alongside an understanding that they are always connected with others, never alone. Manaakitanga is also enacted between kaumātua and mokopuna. Under-pinned by the value of aroha or love, care is expressed to mokopuna, in a way that uplifts their mana (Collins & Wilson, 2008; McDonald, 2016). The ability to manaaki others and uplift mana is a sign of wellness for Māori (Russell, 2018). As indicated earlier, these values are by no means exhaustive however, they are important to reflect on in understanding wellbeing. The significance of engaging in behaviours that align to Māori values, help Māori determine how to behave in a moral way (McDonald, 2016). It also helps keep the four dimensions of Te Whare Tapa Whā in balance, promoting wellbeing and minimizing the risk of illness.

Additionally, as depicted within the introduction, older Māori are relied upon as key support systems for whānau to draw on. From a cultural perspective, this reliance can be partially understood as a result of the cultural knowledge older Māori have and their ability to share this knowledge inter-generationally (Dulin, Gavala, Stephens, Kostick, & McDonald, 2012; Dyall et al., 2013; Dyall et al., 2014; Oetzel et al., 2019; Waldon, 2004). This relationship may therefore be depicted as vital for inter-generational, cultural, knowledge transfer rather than one of hinderance to older Māori.

It should also be noted, that whilst cautionary due to the low variance the overall model predicted in providing unpaid care to whāngai – a secure MCI was the significant predictor. As no other predictor was found to be significant including: SES, gender, marital status, education level or age group, it could cautiously be assumed that there are cultural under-pinning's that may influence the uptake of unpaid care for whāngai. In combination with providing care to mokopuna, it could be derived that maintaining a strong connection between older Māori and their mokopuna/whāngai as important for overall whānau cohesion, closeness and wellbeing (Collins & Wilson, 2008). This relationship may also

be derived based off the enactment of values, as Māori also engage in this manner with people who are non-Māori and non-kin related.

Previous research investigating the uptake of care-giving roles has highlighted lower SES, less work opportunities and lower attachment to the workforce as one explanation for uptake (Alpass et al., 2017a; Alpass et al., 2017b). This portrayal of caring emphasizes individualistic, economic drivers as the main rationale as to why care is provided. This perspective may well provide some reasoning as to why care is provided, derived from an economic basis. However, in a sense it also demeans the nature of manaakitanga where providing care to loved ones is not conducted due to the basis of financial needs. Rather older Māori may choose to engage in behaviors that align with their values and therefore, have a preference to care for their mokopuna. Alpass et al. (2017b) found that there was a preference for older Māori to care for their mokopuna if they resided in the same place of residence as their whānau (Alpass et al., 2017b). Findings from the present study indicated that SES did not contribute significantly to older Māori adults providing unpaid care to mokopuna. Indicating that care was not necessarily provided off the basis that older Māori were living in hardship and did not have other economic alternatives. Marital status and the 60-69 age band contributed alongside MCI, to the variation in care provided to mokopuna. This relationship indicates that support in some form may still be required for older Māori who are providing care to mokopuna.

Whilst support needs for older Māori who provide care to mokopuna, cannot be derived from the current findings, other research conducted with older Māori adults may shed some light. Waldon (2004) identified health as a source of worry for kaumātua within his study. As health typically declines with age, social support by spouses may aid during the caring relationship to maintain physical and mental wellbeing. Additionally, economic support may also be a factor, particularly for older Māori within the 60-64 age group. As 65 is the inception for the current universal pension offered within Aotearoa, (Alpass et al., 2017a) financial assistance may not be the leading reason for support by older Māori in the 65-69 age band. Further research could be conducted that explores key factors of the caring relationship between older Māori and their mokopuna. Inter-generational

knowledge transfer is important for the longevity of Māori culture, but also ensuring the workload is balanced to maintain overall wellbeing.

The findings regarding a secure MCI and providing unpaid care for mokopuna/whāngai do not reflect the experiences of older Māori with a notional or positive MCI. Therefore, whilst the findings may demonstrate a positive relationship for older Māori who report a secure MCI and unpaid care, this relationship cannot be assumed to reflect all Māori experiences. There is research that suggests older Māori may feel burdened by the added stress of looking after children. In particular older Māori with chronic illnesses, lower socio-economic status and less access to information-based support systems (if a child or person has a disability or long-term illness) (Collins & Wilson, 2008). Therefore, it is important to acknowledge that Māori realities and experiences are heterogenous and shaped by many different factors.

6.2.3 Te Taha Hinengaro and older Māori

Te Taha Hinengaro wellbeing as measured using the loneliness scale, demonstrated a statistically significant relationship with MCI. Older Māori adults who reported a secure MCI also reported experiencing lower levels of loneliness than older Māori with a notional or positive MCI. This finding adds to the literature on the topic of loneliness by identifying a cultural component that may mitigate the effects of loneliness. Though further research needs to be conducted to fully understand this relationship, it provides a positive starting point for embracing MCI. As identified in the literature loneliness from a Māori perspective, focused on connection to one's whakapapa. In this sense, when an individual was connected to their whakapapa, they knew where they belonged (Morgan et al., 2019). However, Māori also experienced loneliness when physically separated from whānau. Of importance, due to the cultural expectation of whānau under-taking a duty of care to older Māori, as a part of tikanga (Morgan et al., 2019). Therefore, based off this rationale older Māori with a secure MCI may feel more connected to their whakapapa and derive a sense of belonging from that connection.

However, based off their strong understanding of tikanga Māori, they may also experience loneliness to a deeper extent than older Māori with a notional or positive MCI, when tikanga is not upheld. Additionally, research has found that the importance placed upon

connections with others within Te Ao Māori means Māori individuals are more likely to experience greater negative effects to their overall wellbeing than non-Māori when they experience loneliness (Oetzel et al., 2019; Towers et al., 2015). As Māori are at higher risk of experiencing loneliness and loneliness is often associated with depression and anxiety, it is an important area to conduct research in. As previous research has identified, the influence of culture and loneliness is not a straightforward relationship (Oetzel et al., 2019; Towers et al., 2015).

Marae can also be a source of social support and provide opportunities to socialize with others outside of one's immediate whanau group. Activities occur on marae such as tangihanga that can draw vast amounts of people together. There are also events such as marae meetings that provide additional opportunities for socialization (Waldon, 2004). The findings from this study depict that this relationship may hold true for older Māori with secure MCI in the present study, as participants reported lower social loneliness and greater social support. Older Māori may be able to draw on opportunities for social support and engagement from cultural activities, in addition to other resources they may have. However, it should also be noted that non-engagement with cultural activities does not necessarily imply participants do not have a secure MCI. Waldon's (2004) study found that there was an association between low health scores and low participation rates in marae involvement. It can be drawn from this finding that participants may no longer be able to engage in marae-based activities once their health starts deteriorating.

6.2.4 Te Taha Tinana and older Māori

Despite the present study not identifying any significant findings between MCI and te taha tinana for older Māori adults, this relationship may still exist. As illustrated by Waldon's (2004) findings, physical wellbeing can contribute to the level of participation older Māori were able to have in cultural activities and processes. When physical wellbeing deteriorated to an extent of insufficient functioning, older Māori were unable to enjoy activities they once did (Waldon, 2004). Therefore, physical wellbeing is still important to focus on when discussing the wellbeing of older Māori.

6.3 Demographic variables and well-being for older Māori adults

To help enhance understandings of MCI and wellbeing, demographic variables were included in the multiple regressions. As these variables are typically identified as established determinants of wellbeing, measuring MCI alongside them captures more detail as to how much variance MCI contributes. For all of the Te Whare Tapa Whā - wellbeing variables a secure MCI helped explain a significant amount of difference in wellbeing.

Older Māori with a secure MCI are more likely to feel connected to Te Ao Māori and have access to resources that allow for cultural engagement and social connections. These opportunities may allow participants with a secure MCI to feel comfortable engaging within Te Ao Māori, develop a strong sense of belonging and broaden their social networks. The same access to cultural resources and networks may not be as readily available to individuals with a notional MCI. As Māori have a collectivist orientation sharing resources and caring for one another, may enhance wellbeing in later life for older Māori adults with a secure MCI.

Whilst loneliness is an aversive emotional experience felt by many, it is typically assumed more noticeable amongst the older population (Morgan et al., 2019; Neville et al., 2018). Demographic factors such as marital status, education, SES and gender have also been linked to loneliness. In particular, being of lower-socio economic status and uneducated have been identified as predisposing factors for experiencing loneliness. It is also assumed that with older age comes the experience of age-related factors such as loss of a spouse. Typically, spouses are associated with providing quality connections and socialization that may help reduce the experience of loneliness (Neville et., 2008). These relationships seem to be established within the literature and supported within the present study. Older Māori who reported good or comfortable SES also reported lower experiences of loneliness compared to those in hardship. Educational levels were not found to be as important within the present study.

Gender differences were found in experiences of loneliness between tāne and wāhine. Older Māori wāhine reported experiencing less loneliness than older Māori tāne. As there is a dearth of literature investigating loneliness in older Māori tāne and wāhine, findings

will be discussed alongside general literature. In general men have tended to report less social networks and therefore greater experiences of loneliness than women (Neville et al. 2018). However, it also brings attention to a concern for older Māori tāne, as men have been identified as reporting more adverse conditions when experiencing loneliness. Such as depression, suicidal ideology and poorer mental health (Neville et al. 2018). Given suicide is a concern within the general population of Māori, it is appropriate to ensure Māori in the later stages of life are protected.

Beautrais and Fergusson (2002) study conducted on suicide data found older Māori adults' rates of suicide were low or in line with non-Maori rates. This trend was thought to be under-pinned by culturally specific factors, acting as protective mechanisms against suicide for older Māori adults. As a secure MCI was also consistent with the findings in the present study, there is support that Māori cultural identity may help to alleviate the experience of loneliness and/or the consequences that arise from loneliness. How this relationship occurs was beyond the scope of the present study. However, quality of life and social connectedness have been found by other researchers to mediate the experience of loneliness (Morgan et al., 2019; Neville et al., 2018). As described earlier, due to the collective nature of Māori culture, quality relationships may still be obtained through cultural connections despite the well-established reductions in social networks with age. As older Maori with a secure MCI were identified at the bivariate level as reporting less loneliness than Māori with a notional identity, a secure MCI may be seen as a protective factor against loneliness.

6.4 Limitations

The findings of this study should be considered in light of several limitations. Firstly, participants for the study were self-selected and chose to participate in the surveys. Self-selection has the potential for only participants who are motivated, interested or have the capacity to carry out the survey to take part. Therefore, it is highly likely that a proportion of the older Māori population who were not interested, able or had access or opportunity, did not take part in the research. This means the results may be biased to those who have capacity, time, motivation and interest to take part in surveys. The majority of this sample also had good SES, which may bias the results towards older Māori who are in

good living conditions. Despite the sample size being large, sample bias cannot be ruled out.

Another limitation of this research is the use of measures to try and capture wellbeing within Te Whare Tapa Whā. Because data was collected by another research team who are non-Māori, the researcher of this study had to 'retrofit' concepts and ideas from te ao Māori onto the present study and its design. It can be difficult to reflect understandings of wellbeing from a Māori perspective, using approaches, methods, theories, and measures that were not designed from a te ao Māori worldview. In particular, the use of QOL to measure wellbeing, does not accurately capture the spiritual nature of wairua. Whilst positive, significant, relationships were still obtained between MCI and the wellbeing measures, understanding of the complex interplay between dimensions of Te Whare Tapa Whā could not be done in as meaningful a way as was hoped.

Additionally, the measure used to assess Māori culture identity is somewhat out-dated. While the Te Hoe Nuku Roa meaure of Māori cultural identity served a purpose for its time, it is inherently oriented to measuring behavioural and quantitative aspects of Māori cultural identity. The diverse realities of Māori mean not all who identify as Māori have the opportunity to engage in Māori practices and rituals, nor have access to relevant resources (i.e., te reo, kaumātua, whanau). Therefore, there is likely a chasm between affiliation and identification as Māori, and access and engagement as Māori, which may not accurately be reflected in the Te Hoe Nuku Roa measure. Therefore, future research could look to using an alternative measure, such as the Multi-Dimensional Model of Māori Identity and Cultural Engagement (MMM-ICE2: Houkamau & Sibley, 2015), which may more accurately reflect the diversity of Māori cultural identity in contemporary Aotearoa.

6.5 Conclusion

The aim of the present study was to explore MCI and wellbeing for older Māori adults. There is no prescribed way of being Māori or specified steps denoting how to demonstrate MCI. Individuals interpret and engage in ways that are meaningful to their identities and realities of what it is to be Māori.

Findings of the current study demonstrate MCI contributes significantly as a determinant of wellbeing for older Māori. Thereby, supporting other literature that suggests there are meaningful relationships between MCI and wellbeing. It is important to acknowledge that Māori realities and experiences are heterogenous and shaped by many different factors. Some of these factors may not have been explored within the present study yet contribute meaningfully to the wellbeing of older Māori adults. However, the findings from the present study recognize that a secure Māori cultural identity is a positive determinant of wellbeing for older Māori adults in this sample. If one were to afford a recommendation for the future, it would be to recognize that for some older Māori cultural identity is a strong determinant of health. In this way, services could be provided that are tailored to allow older Māori to engage with their culture/ engage in cultural practices.

References

Ahuriri-Driscoll, A. (2014). He kōrero wairua: Indigenous spiritual inquiry in rongoā research. *MAI Journal, 3*(1), 33-44. Retrieved from http://www.journal.mai.ac.nz/sites/default/files/MAI_Jrnl_V3_Iss1_Driscoll.pdf

Allen, P., & Bennett, K. (2008). *SPSS: For the health and behavioural sciences*. South Melbourne, Australia: Cengage Learning Australia.

Allport, T., Martin, G., & White, H. (2018). *Kaumatuatanga: The needs and wellbeing of older Maori*. Retrieved from https://whanauora.nz/assets/resources/b437437c5d/research-kaumatuatanga-wellbeing-older-maori.pdf

Alpass, F., Keeling, S., Allen, J., Stevenson, B., & Stephens, C. (2017). Reconciling work and caregiving responsibilities among older workers in New Zealand. *Journal of cross-cultural gerontology, 32*(3), 323-337.

Alpass, F., Szabo, A., Allen, J., & Stephens, C. (2017a). Health effects of informal care in New Zealand: Longitudinal findings from health, work and retirement study. *International Journal of Care and Caring, 1*(3), 309-329. doi: 10.1332/239788217X15040798472015

Alpass, F., Szabo, A., Allen, J., & Stephens, C. (2017b). Health effects of informal caring in New Zealand: Longitudinal findings from the Health, Work and Retirement study. *International Journal of Care and Caring, 1*(3), 309-329. doi:10.1332/239788217X15040798472015

Andresen, E. M., Malmgren, J. A., Carter, W. B., & Patrick, D. L. (1994). Screening for depression in well older adults: Evaluation of a short form of the CES-D. *American Journal of Preventive Medicine, 10*(2), 77-84.

Baldwin, J. A., Brown, B. G., Wayment, H. A., Nez, R. A., & Brelsford, K. M. (2011). Culture and context: Buffering the relationship between stressful life events and risky behaviors in American Indian youth. *Substance use & misuse, 46*(11), 1380-1394.

Balsamo, M., Cataldi, F., Carlucci, L., & Fairfield, B. (2018). Assessment of anxiety in older adults: A review of self-report measures. *Clinical Interventions in Aging*, *13,* 573-593. Retrieved from https://doaj.org/article/475b75db446b43b498279a49c44217ee

Beautrais, A.L. & Fergusson, D.M. (2006). Indigenous suicide in New Zealand. *Archives of Suicide Research, 10*(1), 159-168. Retrieved from https://doi.org/10.1080/13811110600556913

Bennett, S. T., & Liu, J. H. (2018). Historical trajectories for reclaiming an indigenous identity in mental health interventions for Aotearoa/New Zealand—Māori values, biculturalism, and multiculturalism. *International Journal of Intercultural Relations, 62*, 93-102. Retrieved from http://www.sciencedirect.com/science/article/pii/S0147176716303662

Berry, H. L. (2009). Social capital and mental health among Aboriginal Australians, New Australians and other Australians living in a coastal region. *Australian e-Journal for the Advancement of Mental Health, 8*(2), 142-154. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edsihc&AN=edsihc.265949380382309&site=eds-live&scope=site

Biddle, N. (2012). Measures of Indigenous social capital and their relationship with well-being. *Australian Journal of Rural Health, 20*(6), 298-304. doi:10.1111/j.1440-1584.2012.01293.x

Blacklock, A., Schmidt, L. A., Fryberg, S. A., Klassen, G. H., Querengesser, J., Stewart, J., . . . Tootoosis, C. (2019). Identification with ancestral culture is associated with fewer internalizing problems among older Naskapi adolescents. *Transcultural Psychiatry, 57* (2), 321-331. Retrieved from https://doi.org/10.1177/1363461519847299

Boey, K. W. (1999). Cross-validation of a short form of the CES-D in Chinese elderly. *International journal of geriatric psychiatry, 14*(8), 608-617. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edsfra&AN=edsfra.1910153&site=eds-live&scope=site

Buthman, A. (2018). *Dealing with Non-normal Data: Strategies and Tools.* Retrieved from https://www.isixsigma.com/tools-templates/normality/dealing-non-normaldata-strategies-and-tools/

Byrne, G. J., & Pachana, N. A. (2011). Development and validation of a short form of the Geriatric Anxiety Inventory — the GAI-SF. *International psychogeriatrics, 23*(1), 125-131. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edsfra&AN=edsfra.23865420&site=eds-live&scope=site

Coleman, P. (2018). Cultural differences in general and psychiatric nurses: A critical analysis using Social Identity Theory. *Aporia, 10*(2), 17-27. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=135424992&site=eds-live&scope=site

Collins, A., & Wilson, G. (2008). *Maori and informal caregiving: A background paper prepared for the national health committee*. Wellington, NZ: Ministry of Health.

Cormack, D. (2010). *The politics and practice of counting : Ethnicity in official statistics in Aotearoa/New Zealand*. Wellington, NZ: Te Rōpū Rangahau Hauora a Eru Pōmare.

Cowie, L., Greaves, L., Milfont, T., Houkamau, C., & Sibley, C. (2016). Indigenous identity and environmental values: Do spirituality and political consciousness predict environmental regard among Māori? *International Perspectives in Psychology: Research, Practice, Consultation, 5*(4), 228-244. doi:10.1037/ipp0000059

Cram, F. (2016). Older Māori: Downsizing experiences, outcomes and needs. Retrieved from 10.13140/RG.2.2.22354.15040

Cutrona, C. E., & Russell, D. W. (1987). The provisions of social relationships and adaptation to stress. In W.H. Jones & D. Perlman (Eds.), *Advances in personal relationships,* (pp. 37-67). Retrieved from https://www.researchgate.net/publication/271507385_The_Provisions_of_Social_Relationships_and_Adaptation_to_Stress

Dulin, P. L., Gavala, J., Stephens, C., Kostick, M., & McDonald, J. (2012). Volunteering predicts happiness among older Māori and non-Māori in the New Zealand health, work, and retirement longitudinal study. *Aging & mental health, 16*(5), 617-624. doi:10.1080/13607863.2011.641518

Durie, M. (1984). Te taha Hinengaro: An integrated approach to mental health. *Community Mental Health in New Zealand, 1*(1), 4-11.

Durie, M. (1985). A Maori perspective of health. *Social Science & Medicine, 20*(5), 483-486. doi:https://doi.org/10.1016/0277-9536(85)90363-6

Durie, M. (1994). *Whaiora: Māori Health Development*. Auckland, New Zealand: Oxford University Press.

Durie, M. (1995). Te Hoe Nuku Roa framework A Māori identity measure. *The Journal of the Polynesian Society, 104*(4), 461-470. Retrieved from http://www.jstor.org.ezproxy.massey.ac.nz/stable/20706636

Durie, M. (1997). Maori cultural identity and its implications for mental health services. *International Journal of Mental Health, 26*(3), 23-35. Retrieved from

http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.41344834&site=eds-live&scope=site

Durie, M. (1999a). Kaumatautanga Reciprocity: Maori elderly and whanau. *New Zealand Journal of Psychology, 28*(2), 102-106.

Durie, M. (1999b). Mental health and Maori development. *Australian and New Zealand Journal of Psychiatry, 33*(1), 5-12.

Durie, M. (2004). Understanding health and illness: Research at the interface between science and indigenous knowledge. *International Journal of Epidemiology, 33*(5), 1138-1143. doi:10.1093/ije/dyh250

Dyall, L., Kepa, M., Hayman, K., & Kerse, N. (2013). Navigation: Process of building relationships with kaumātua (Māori leaders). *New Zealand Medical Journal, 126*(1368), 1-10. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edselc&AN=edselc.2-52.0-84873509618&site=eds-live&scope=site

Dyall, L., Kepa, M., Teh, R., Mules, R., Moyes, S. A., Kerse, N., . . . Jatrana, S. (2014). Cultural and social factors and quality of life of māori in advanced age. Te puawaitanga o nga tapuwae kia ora tonu – life and living in advanced age: A cohort study in New Zealand (LiLACS NZ). *New Zealand Medical Journal, 127*(1393), 62-79. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edselc&AN=edselc.2-52.0-84903178370&site=eds-live&scope=site

Dyall, L., Kerse, N., Hayman, K., & Keeling, S. (2011). Pinnacle of life-Māori living to advanced age. *New Zealand Medical Journal, 124*(1331), 1-7. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edselc&AN=edselc.2-52.0-79953651821&site=eds-live&scope=site

Ebbett, E., & Clarke, D. (2010). Maori identification, alcohol behaviour and mental health: A Review. *International Journal of Mental Health and Addiction, 8*(2), 214-

231. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edselc&AN=edselc.2-52.0-77952093592&site=eds-live&scope=site

Edwards, W. J. W. (2010). *Taupaenui : Maori positive ageing.* (Doctoral dissertation, Massey University, Palmerston North, New Zealand). Retrieved from http://hdl.handle.net/10179/1331

Elissa, L. P., Tim, D. W., Dimity, A. C., Peter, B., Pamela, D. P., & Kaarin, J. A. (2013). Normative data and longitudinal invariance of the Life Engagement Test (LET) in a community sample of older adults. *Quality of Life Research, 22*(2), 327-331. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.24722706&site=eds-live&scope=site

Fox, R., Neha, T., & Jose, P. E. (2018). Tū Māori Mai: Māori cultural embeddeness improves adaptive coping and wellbeing for Māori adolescents. *New Zealand Journal of Psychology, 47*(2), 14-24. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=pbh&AN=133863677&site=eds-live&scope=site

Gallagher, T. (2016). Tikanga Maori pre-1840*. Te Kāhui Kura Māori, 0*(1). Retrieved from http://nzetc.victoria.ac.nz/tm/scholarly/tei-Bid001Kahu-t1-g1-t1.html.

Gillon, A., Cormack, D., & Borell, B. (2019). Oh, you don't look Mäori: Socially assigned ethnicity. *MAI journal, 8*(2), 126-141. doi:10.20507/MAIJournal.2019.8.2.3

Gottlieb, B. H., & Bergen, A. E. (2010). Social support concepts and measures. *Journal of Psychosomatic Research, 69*(5), 511-520. doi:https://doi.org/10.1016/j.jpsychores.2009.10.001

Greaves, L., Manuela, S., Emerald, M., Cowie, L., Lindsay, C., Matika, C., . . . Sibley, C. (2017). The multidimensional model of Māori identity and cultural engagement: Measurement equivalence across diverse Māori groups. *New Zealand Journal of*

Psychology, 46(1), 24-35. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=pbh&AN=124564216&site=eds-live&scope=site

Group, T. W. (1998). Development of the World Health Organization WHOQOL-BREF Quality of Life Assessment. *Psychological Medicine, 28*(3), 551-558. doi:10.1017/S0033291798006667

Hall, L. (2008). *Maori and Pacific peoples' housing needs in the Auckland region: A literature review*. Auckland, New Zealand: Auckland Regional Council.

Harmsworth, G. R., & Awatere, S. (2013*). Indigenous Māori knowledge and perspectives of ecosystems. Ecosystem services in New Zealand—conditions and trends.* Manaaki Whenua Press, Lincoln, New Zealand, 274-286.

Harris, F., MacFarlane, S., MacFarlane, A., & Jolly, M. (2016). Maori values in the workplace: Investing in diversity. *MAI journal, 5*(1), 48-62. doi: 10.20507/MAIJournal.2016.5.1.4

Hayman, K. J., Kerse, N., Dyall, L., Kepa, M., Teh, R., Wham, C., . . . Jatrana, S. (2012). Life and living in advanced age: A cohort study in New Zealand -Te Puāwaitanga o Nga Tapuwae Kia Ora Tonu, LiLACS NZ: Study protocol. *BMC Geriatrics*(1), 1-13. doi:10.1186/1471-2318-12-33

Hirini, P. R., Flett, R. A., Long, N. R., Millar, M. A., & MacDonald, C. (1999). Health care needs for older Māori : A study of kaumātua and kuia. *Social policy journal of New Zealand* (13), 136-153. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edsinz&AN=edsinz.993192903602837&site=eds-live&scope=site

Hossain, B., & Lamb, L. (2019). Cultural attachment and wellbeing among canada's indigenous people: A rural urban divide. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being*, *21*(4), 1-22. doi:10.1007/s10902-019-00132-8

Houkamau, C. (2011). Transformations in Māori women's identity: Some things change, some stay the same. *Qualitative Research in Psychology, 8*(3), 292-313. doi:10.1080/14780880903304501

Houkamau, C., & Sibley, C. (2010). The multi-dimensional model of Māori identity and cultural engagement. *New Zealand Journal of Psychology, 39*(1), 8-28.

Houkamau, C. A., & Sibley, C. G. (2015a). The revised multidimensional model of Māori identity and cultural engagement (MMM-ICE2). *Social Indicators Research*, *122*(1), 279-296.

Houkamau, C., & Sibley, C. (2015). Looking Māori predicts decreased rates of home ownership: Institutional racism in housing based on perceived appearance. *PloS one, 10*(3), 1-14. Retrieved from https://doi.org/10.1371/journal.pone.0118540

Houkamau, C., & Sibley, C. (2017). Cultural connection predicts perceptions of financial security for Māori. *Social Indicators Research, 133*(1), 395-412. doi:10.1007/s11205-016-1367-5

Houkamau, C., & Sibley, C. (2019). The role of culture and identity for economic values: A quantitative study of Māori attitudes. *Journal of the Royal Society of New Zealand*, *49*(1), 1-19. doi:10.1080/03036758.2019.1650782

Houkamau, C., & Sibley, C. G. (2011). Maori Cultural Efficacy and Subjective Wellbeing: A Psychological Model and Research Agenda. *Social Indicators Research*(3), 379-398. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edsfra&AN=edsfra.24412373&site=eds-live&scope=site

Inglehart, R., Basañez, M., Diez-Medrano, J., Halman, L., & Luijkx, R. (2004). *Human beliefs and values: A cross-cultural sourcebook based on the 1999-2002 values surveys*. Mexico city: Siglo Vientiuno.

Irwin, M., Artin, K. H., & Oxman, M. N. (1999). Screening for depression in the older adult: Criterion validity of the 10-item Center for Epidemiological Studies Depression

Scale (CES-D). Archives of internal medicine, 159(15), 1701-1704. doi: 10.1001/archinte.159.15.1701

Jenkins, K., & Matthews, K. M. (1998). Knowing their place: the political socialisation of Maori women in New Zealand through schooling policy and practice, 1867-1969. *Women's History Review, 7*(1), 85-105. Retrieved from https://doi.org/10.1080/09612029800200163

Johnco, C., Knight, A., Tadic, D., & Wuthrich, V. M. (2015). Psychometric properties of the Geriatric Anxiety Inventory (GAI) and its short-form (GAI-SF) in a clinical and non-clinical sample of older adults. *International psychogeriatrics, 27*(7), 1089-1097. doi:10.1017/s1041610214001586

Kim, Y. Y. (2007). Ideology, identity, and intercultural communication: An analysis of differing academic conceptions of cultural identity. *Journal of Intercultural Communication Research, 36*(3), 237-253. doi:10.1080/17475750701737181

King, M., Smith, A., & Gracey, M. (2009). Indigenous health part 2: The underlying causes of the health gap. *The Lancet, 374*(9683), 76-85. doi:https://doi.org/10.1016/S0140-6736(09)60827-8

Liebkind, K., Mähönen, T. A., Varjonen, S., & Jasinskaja-Lahti, I. (2015b). Ethnic Identity, Psychology of. In J. D. Wright (Ed.), *International Encyclopedia of the Social & Behavioral Sciences (Second Edition)* (pp. 113-117). Oxford: Elsevier.

Lindsay, N., Haami, D., Tassell-Matamua, N. A., Pomare, P., Valentine, H., Pahina, J., Ware, F., & Pidduck, P. (2020). *The spiritual experiences of contemporary Māori in Aotearoa New Zealand: A qualitative analysis.* Manuscript submitted for publication.

Love, C. (2008). An indigenous reality check. *New Zealand Journal of Psychology, 37*(3), 26-33.

Marie, D., Fergusson, D. M., & Boden, J. M. (2008). Ethnic identification, social disadvantage, and mental health in adolescence/young adulthood: Results of a 25 year longitudinal study. *Australian and New Zealand Journal of Psychiatry, 42*(4), 293-300. Retrieved from https://journals.sagepub.com/doi/abs/10.1080/00048670701787644

Matika, C., Manuela, S., Muriwai, E., Houkamau, C., & Sibley, C. (2017). Cultural efficacy predicts increased self esteem for Māori: The mediating effect of rumination. *New Zealand Journal of Psychology, 46*(3), 176-185. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=pbh&AN=129142601&site=eds-live&scope=site

McDonald, M. (2016). *Manaaki Tāngata-The secret to happiness: Narratives from older Māori in the Bay of Plenty.* (Doctoral thesis, Auckland University, Auckland, New Zealand). Retrieved from https://researchspace.auckland.ac.nz/docs/uoa-docs/rights.htm.

Mead, H. M. (2016). *Tikanga Maori (revised edition): Living by Maori values*. Auckland: Huia Publishers.

Mio, J. S., Barker, L. A., & Tumambing, J. (2006). *Multicultural psychology: Understanding our diverse communities*. McGraw-Hill: Boston, MA.

Mohebbi, M., Nguyen, V., McNeil, J. J., Woods, R. L., Nelson, M. R., Shah, R. C., . . . Berk, M. (2018). Psychometric properties of a short form of the Center for Epidemiologic Studies Depression (CES-D-10) scale for screening depressive symptoms in healthy community dwelling older adults. *General Hospital Psychiatry, 51*, 118-125. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edselp&AN=S0163834317301986&site=eds-live&scope=site

Morgan, T., Wiles, J., Moeke-Maxwell, T., Black, S., Park, H.J., Dewes, O., …Gott, M. (2019). 'People haven't got that close connection:' Meanings of loneliness and

social isolation to culturally diverse older people. *Ageing & Mental Health,* 1-9. doi: 10.1080/13607863.2019.1633619

Muriwai, E., Houkamau, C., & Sibley, C. (2015). Culture as cure? The protective function of Māori cultural efficacy on psychological distress. *New Zealand Journal of Psychology, 44*(2), 14-24. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=pbh&AN=112206563&site=eds-live&scope=site

Naja, S., Makhlouf, M., & Chehab, M. (2017). An ageing world of the 21st century: A literature review. *International Journal of Community Medicine and Public Health, 4*(12), 4363-4369. doi:10.18203/2394-6040.ijcmph20175306

Neville, S., Montayre, J., Adams, J., Larmer, P., Garrett, N., Stephens, C., & Alpass, F. (2018). Loneliness in men 60 years and over: The association with purpose in life. *American Journal of Men's Health, 12*(4), 730-739. doi:10.1177/1557988318758807

Nikora, L. W. (2007). *Māori social identities in New Zealand and Hawai'i.* (Doctoral thesis, University of Waikato, Waikato, New Zealand). Retrieved from https://hdl.handle.net/10289/2574

Oetzel, J. G., Hokowhitu, B., Simpson, M., Reddy, R., Cameron, M., Meha, P., . . . Smith, L. T. (2019). Correlates of health-related quality of life for Māori elders involved in a peer education intervention. *Journal of Health Communication*, 24(5), 1-11. doi:10.1080/10810730.2019.1637483

Pachana, N. A., & Byrne, G. J. (2012). The Geriatric Anxiety Inventory: International use and future directions. *Australian Psychologist, 47*(1), 33-38. doi:10.1111/j.1742-9544.2011.00052.x

Pachana, N. A., Byrne, G. J., Siddle, H., Koloski, N., Harley, E., & Arnold, E. (2007). Development and validation of the Geriatric Anxiety Inventory. *International psychogeriatrics, 19*(1), 103-114. doi:10.1017/S1041610206003504

Pere, L. M. (2006). *Oho mauri : Cultural identity, wellbeing, and tāngata whai ora/motuhake.* (Doctoral Thesis, Massey University, Palmerston North, New Zealand). Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ir00033a&AN=massnz.10179.1567&site=eds-live&scope=site

Rangatahi Tū Rangatira. (2020). *Whare Tapa Whā.* Retrieved from https://www.r2r.org.nz/maori-health/whare-tapa-wha.html

Roberts, M. (2013). Ways of seeing: Whakapapa. *SITES: New Series, 10(1)*, 93-120.

Rochford, T. (2004). Whare Tapa Wha: A Mäori model of a unified theory of health. *Journal of Primary Prevention, 25*(1), 41-57.

Rutledge, T., Matthews, K., Cauley, J. A., Lui, L. Y., & Stone, K. L. (2003). Social networks and marital status predict mortality in older women: Prospective evidence from the study of osteoporotic fractures (SOF). *Psychosomatic Medicine, 65*(4), 688-694. doi:10.1097/01.PSY.0000041470.25130.6C

Scheier, M. F., Wrosch, C., Baum, A., Cohen, S., Martire, L. M., Matthews, K. A., . . . Zdaniuk, B. (2006). The life engagement test: Assessing purpose in life. *Journal of Behavioral Medicine, 29*(3), 291-298. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=106355169&site=eds-live&scope=site

Sheridan, N. F., Kenealy, T. W., Connolly, M. J., Mahony, F., Barber, P. A., Boyd, M. A., . . . Moffitt, A. (2011). Health equity in the New Zealand health care system: A national survey. *International Journal for Equity in Health, 10*(1), 45. doi:10.1186/1475-9276-10-45

Statistics New Zealand (2019). *New Zealand's population reflects growing diversity.* Retrieved from https://www.stats.govt.nz/news/new-zealands-population-reflects-growingdiversity#:~:text=Results%20from%20the%202018%20Census,2018%20who%20were%20born%20overseas.

Statistics New Zealand. (2020a). *National ethnic population projections, characteristics, 2013(base)-2038(update).*Retrieved from http://nzdotstat.stats.govt.nz/wbos/Index.aspx?_ga=2.189202283.1112804347.1589673174-262893962.1587182613#

Statistics New Zealand. (2020b). *National ethnic population projections, projection assumptions, 2013 (base) - 2038 update*. Retrieved from http://nzdotstat.stats.govt.nz/wbos/Index.aspx?_ga=2.189202283.1112804347.1589673174-262893962.1587182613#

Stephens, C. (2017). From success to capability for healthy ageing: Shifting the lens to include all older people. *Critical Public Health, 27*(4), 490-498. doi:10.1080/09581596.2016.1192583

Stephens, C., Szabo, A., Allen, J., & Alpass, F. (2018). Livable environments and the quality of life of older people: An ecological perspective. *The Gerontological Society of America, 59*(4), 675-685.

Stephens, M. (2001). A Return to Tohunga Suppression Act 1907. *Victoria University Of Wellington Law Review, 32*(2), 437-462. Retrieved from https://ojs.victoria.ac.nz/vuwlr/article/view/5888

Steptoe, A., Deaton, A., & Stone, A. A. (2015). Subjective wellbeing, health, and ageing. *Lancet (London, England), 385*(9968), 640-648. doi:10.1016/S0140-6736(13)61489-0

Stevenson, B. (2004). Te hoe nuku roa: A measure of Māori cultural identity. *He Pukenga Korero Raumati, 8*(1), 37-44.

Tassell, N. A. (2004). *Individualism/collectivism, cultural identity, and self-enhancement : A study of New Zealand Māori.* (Master's thesis, Massey University Palmerston North, New Zealand). Retrieved from https://mro.massey.ac.nz/handle/10179/5810

Taylor, D. M., & Kachanoff, F. J. (2015). Managing cultural diversity without a clearly defined cultural identity: The ultimate challenge. *Peace and Conflict: Journal of Peace Psychology, 21*(4), 546-559. doi:10.1037/pac0000131

Taylor, D. M., & Usborne, E. (2010). When I know who "we" are, I can be "me": The primary role of cultural identity clarity for psychological well-being. *Transcultural Psychiatry, 47*(1), 93-111. doi:10.1177/1363461510364569

Thomas, D. R. (1986). Culture and ethnicity: Maintaining the distinction. *Australian Journal of Psychology, 38*(3), 371-380. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edsfra&AN=edsfra.7389467&site=eds-live&scope=site

Towers, A., Yeung, P., Stevenson, B., Stephens, C., & Alpass, F. (2015). Quality of life in indigenous and non-indigenous older adults: Assessing the CASP-12 factor structure and identifying a brief CASP-3. Quality of Life Research, 24(1), 193-203. doi:10.1007/s11136-014-0756-y

Valentine, H. (2009). *Kia Ngāwari ki te Awatea : the relationship between wairua and Maori well-being.* (Doctor of Clinical Psychology, Massey University, Palmerston North, New Zealand). Retrieved from http://hdl.handle.net/10179/1224

Valentine, H., Tassell-Mataamua, N., & Flett, R. (2017). Whakairia ki runga: The many dimensions of wairua. *New Zealand Journal of Psychology, 46*(3), 64-71. Retrieved from http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=129142589&site=eds-live&scope=site

Waldon, J. (2004). Oranga Kaumatua: Perceptions of health in older Maori people. *Social policy journal of New Zealand, 23*, 167-180.

Ware, J. E., Kosinski, M., & Keller, S. D. (1996). A 12-Item short-form health survey: Construction of scales and preliminary tests of reliability and validity. *Medical Care, 34*(3), 730-739. Retrieved from

http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.3766749&site=eds-live&scope=site

Wayne, R. V., & Johnsrude, I. S. (2015). A review of causal mechanisms underlying the link between age-related hearing loss and cognitive decline. *Ageing Research Reviews, 23*, 154-166. doi:https://doi.org/10.1016/j.arr.2015.06.002

Wiggins, R. D., Netuveli, G., Hyde, M., Higgs, P., & Blane, D. (2008). The Evaluation of a self-enumerated scale of quality of life (CASP-19) in the context of research on ageing: A combination of exploratory and confirmatory approaches. *Social Indicators Research, 89*(1), 61-77. doi:10.1007/s11205-007-9220-5

Appendix A: Non-Significant MCI Results Table 1

Table 5.19

Non-significant Kruskal-Wallis Test Results for Te Taha Whānau and Te Taha Wairua Variables According to Māori Cultural Identity (MCI)

Measures	MCI	Mean Rank	*n*	*H*	*df*	*p*
Te Taha Whānau						
Housing Satisfaction	Notional MCI	455.50	122	1.602	2	.449
	Positive MCI	439.97	587			
	Secure MCI	466.10	185			
Neighbourhood Satisfaction	Notional MCI	461.63	122	3.091	2	.213
	Positive MCI	456.64	614			
	Secure MCI	493.73	193			
Te Taha Wairua						
Life satisfaction	Notional MCI	464.12	128	2.895	2	.235
	Positive MCI	474.89	629			
	Secure MCI	505.97	202			
Quality of life	Notional MCI	456.36	128	1.788	2	.409
	Positive MCI	488.36	633			
	Secure MCI	475.90	201			
Purpose in life	Notional MCI	435.95	125	4.736	2	.094
	Positive MCI	466.85	614			
	Secure MCI	500.97	200			

Note. Effect sizes: $f = .10$ is considered small, $f = .25$ is considered medium and $f = .40$ is considered large.

*$p < .05$, **$p < .001$

Appendix B: Non-Significant MCI Results Table 2

Table 5.20

Non-significant Kruskal-Wallis Test Results for Te Taha Hinengaro and Te Taha Tinana Variables According to Māori Cultural Identity (MCI)

Measures	MCI	Mean Rank	*n*	*H*	*df*	*p*
Te Taha Hinengaro						
CES-D	Notional MCI	454.26	127	2.392	2	.302
	Positive MCI	491.44	634			
	Secure MCI	469.81	202			
GAI	Notional MCI	465.35	123	4.110	2	.128
	Positive MCI	479.33	617			
	Secure MCI	441.44	198			
SF-12 Mental	Notional MCI	507.53	128	1.567	2	.457
	Positive MCI	479.47	630			
	Secure MCI	469.02	203			
Emotional Loneliness	Notional MCI	483.63	128	.179	2	.914
	Positive MCI	480.27	631			
	Secure MCI	488.66	205			
Te Taha Tinana						
SF-12 Physical	Notional MCI	456.35	128	1.797	2	.407
	Positive MCI	489.13	630			
	Secure MCI	471.33	203			

Note. Effect sizes: *f* = .10 is considered small, *f* = .25 is considered medium and *f* = .40 is considered large.

*p < .05, **p < .001